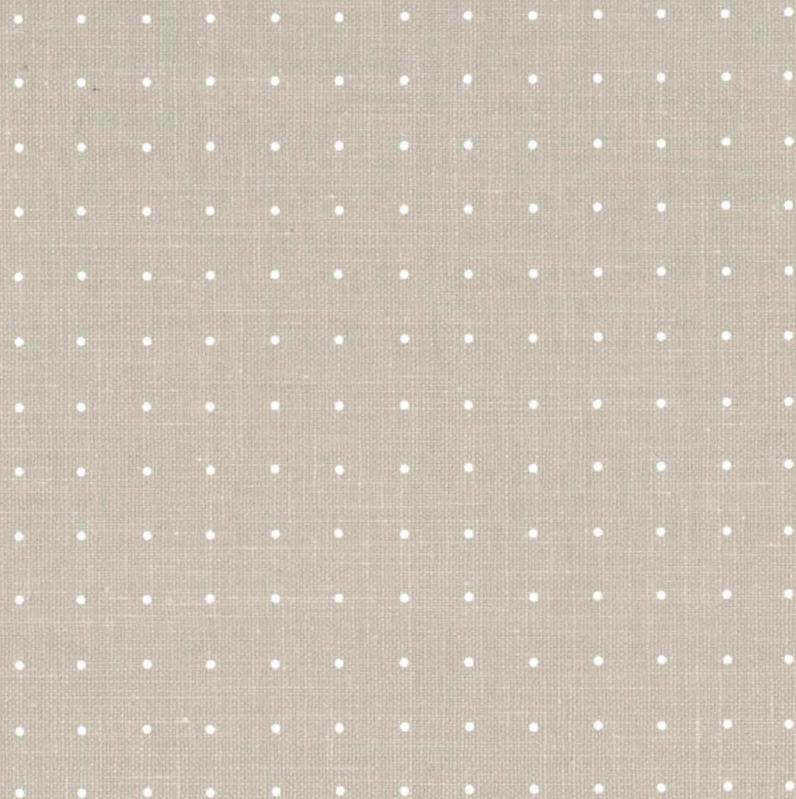




LisaGraph

*Lisa*

LisaGraph



# ***LisaGraph***

# ***LisaGraph***

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# ***LisaGraph***

# Guide to Lisa Manuals

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Set up your Lisa following the setup procedures in the Lisa accessories box or in Appendix 1, Setup Procedures, in the *Lisa Owner's Guide*.

---

Go through Section A, LisaGuide, in the *Lisa Owner's Guide*, for an introduction to the Lisa.

---

If your dealer or service representative did not set your system Preferences so that the Lisa knows what external devices are attached, follow the instructions in Section D, Desktop Manager Reference Guide, under Set, in the *Lisa Owner's Guide*.

---

- ▶ Go to Section A, Getting Started, in the manual for each office tool that you want to learn, for the essentials of using that tool.
- 

Go to Section B, Lisa Fundamentals, in the *Lisa Owner's Guide*, for the background information you need before beginning long-term work on the Lisa.

---

You are now ready to start doing your own work on the Lisa:

- If you want self-paced instructions for using a tool, go to Section B, Tutorial, in that tool manual.
  - If you want instructions for performing specific tasks with a tool, go to Section C, Reference Guide, in that tool manual.
- 

For specific instructions on filing and desktop management, go to Section D, Desktop Manager Reference Guide, in the *Lisa Owner's Guide*.

---

For more information on the Lisa hardware, tips on caring for the Lisa, and suggestions for troubleshooting when the system isn't working properly, go to the other sections of the *Lisa Owner's Guide*.

# Contents

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## ***Preface***

---

### ***A. Getting Started with LisaGraph***

A quick introduction to the basic skills needed to use LisaGraph.

---

### ***B. LisaGraph Tutorial***

Self-paced instructions on LisaGraph using examples on the Lisa.

---

### ***C. LisaGraph Reference Guide***

Complete information on LisaGraph consisting of an overview and step-by-step procedures.

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### ***D. Appendixes***

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### ***E. Index***

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# Preface

---

LisaGraph is used to create clear, concise graphs from even the most complex data. When you enter data in the LisaGraph table, a graph appears automatically. LisaGraph can make bar graphs, line graphs, pie charts, and scattergrams.

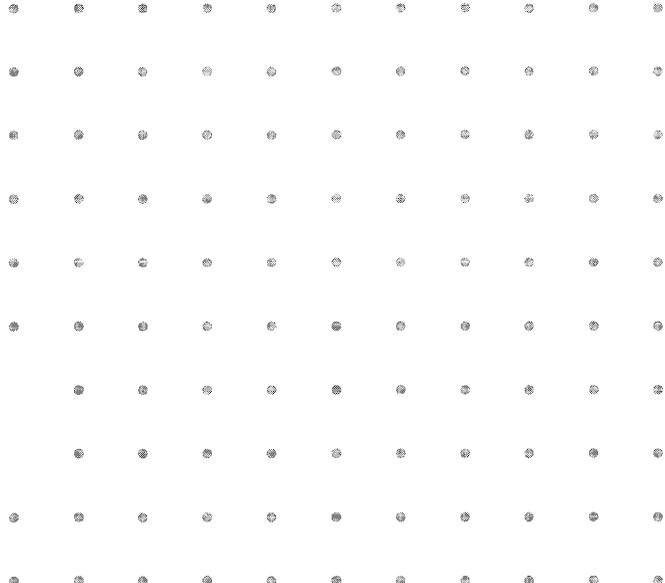
This manual contains three kinds of documentation of LisaGraph:

- Section A, *Getting Started with LisaGraph*, is a quick introduction to the tool. It is designed to give you the basic skills for using LisaGraph.
- Section B, *LisaGraph Tutorial*, is a step-by-step guide to the major features of LisaGraph. It includes suggestions on how to use LisaGraph efficiently and effectively.
- Section C, *LisaGraph Reference Guide*, is a complete reference section. It contains instructions for performing specific tasks, including the details of how each feature works.

The material in this manual assumes that you have used LisaGuide, which teaches you the fundamentals of using the Lisa. The LisaGuide diskette came in the front pocket of the *Lisa Owner's Guide*, and instructions for using it appear in Section A of that manual.

Section B, *Lisa Fundamentals*, of the *Lisa Owner's Guide*, contains important background information about setting up and using the Lisa for long-term work. Make sure you understand the concepts in that section before going on to either the Tutorial or the Reference Guide. Refer to Section D, *Desktop Manager Reference Guide*, of the *Lisa Owner's Guide*, when you need to know how to do filing or how to perform any of the other tasks outlined in Section B, *Lisa Fundamentals*.

The material in this manual can be used in either short or long blocks of time. You can complete Getting Started in about 30 minutes. Then you can either go through the Tutorial one chapter at a time or start creating your own documents, looking up procedures in the Reference Guide as you need them.



***Section A  
Getting Started  
with LisaGraph***

# **Getting Started with LisaGraph**

---

With LisaGraph you can produce all kinds of graphs: bar graphs, line graphs, scattergrams, and pie charts.

LisaGraph can help you compare and communicate important information quickly and effectively, with the graph of your choice.

Getting Started with LisaGraph is a hands-on exercise. By going step by step through an easy example, you will quickly become familiar with the basic skills for using LisaGraph, and afterward be able to create, edit, file, and print your own LisaGraph documents.

# What You Need to Get Started

---

## Here's what you need

---

- A Lisa set up and plugged in, with the keyboard and mouse attached.
- A ProFile set up and plugged in, with the Office System and LisaGraph tool on it.
- A Printer set up and plugged in if you want to print. Make sure your printer is hooked up to your Lisa and turned on. Printing is optional.
- About 30 minutes.

**Note:** If your system is not already set up and configured, refer to the *Lisa Owner's Guide*, Appendix 1, Setup Procedures.

ProFile

Lisa

Keyboard

Mouse



If you haven't yet gone through LisaGuide, in which Lisa introduces Lisa, now is a good time to do so — it will make Getting Started even easier. For instructions on starting LisaGuide, refer to the *Lisa Owner's Guide*, Section A, LisaGuide.

If you've already gone through a Getting Started for another Lisa tool, you'll see many similarities in using LisaGraph — the basic concepts for using each Lisa tool are the same.

# Starting Up

---

## What You're About To Do

---

Follow the numbered steps below and on the next page to:

- Turn on and start up your ProFile and Lisa.
- Learn how to brighten the screen if it has dimmed automatically.

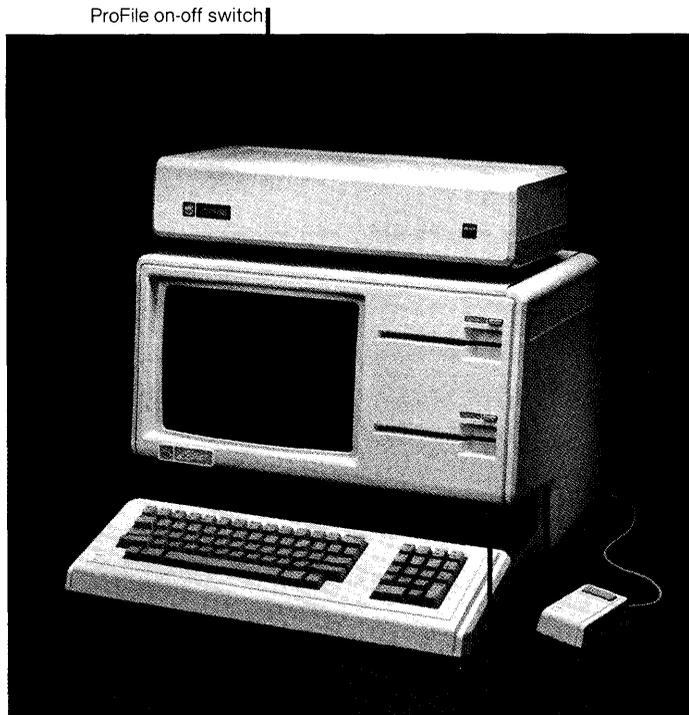
**Note:** If your ProFile and Lisa are already on, skip to step 3. The red ProFile light is lit when the ProFile is on, and the Lisa on-off button is lit when the Lisa is on.

---

## Do This

---

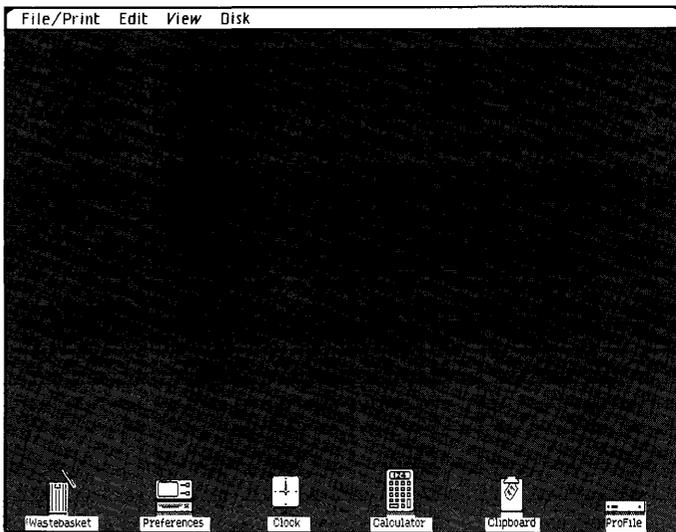
- 1** Turn on your ProFile by pressing the on-off switch on the back, left-hand side of the ProFile, as shown.
- 2** Turn on your Lisa by pressing the on-off button, at the lower, right-hand side of the Lisa, as shown.



Lisa on-off button

## Do This

- 3 After several minutes, when the red ProFile light stops flashing, your screen should look something like the one to the right. (See something different? Refer to the *Lisa Owner's Guide*, Section G, Troubleshooting.)



- 4 If your Lisa has been on for a period of time with no activity, the screen may have automatically dimmed. If your screen is dim, just move the mouse to brighten it.



Screen dim? Move the mouse

# The Desktop and the Mouse

---

## **What You're About To Do**

The gray area of your screen is called the **desktop**. Like the desktop of an office desk, it's where you do your work.

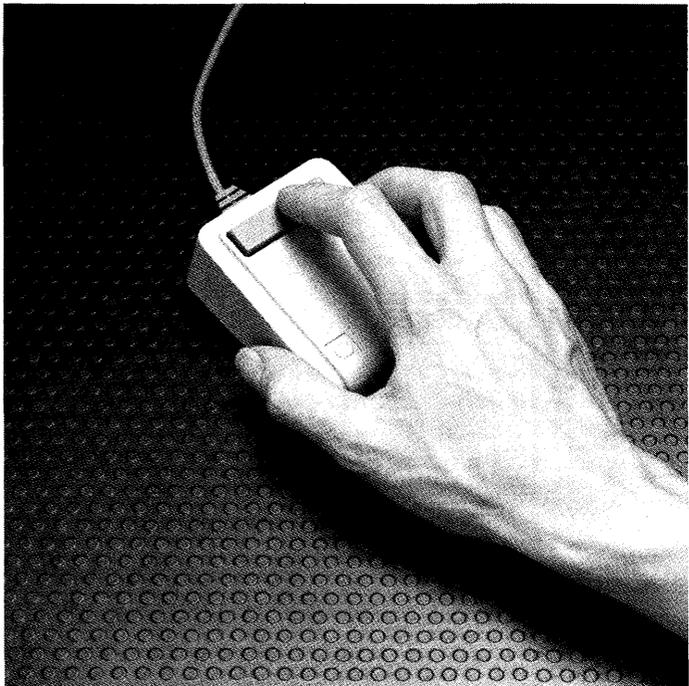
The **mouse** is what you use to communicate with your Lisa — you use it to point out what it is you want done.

To get familiar with your Lisa's desktop and how to use the mouse, follow the steps below.

---

## **Do This**

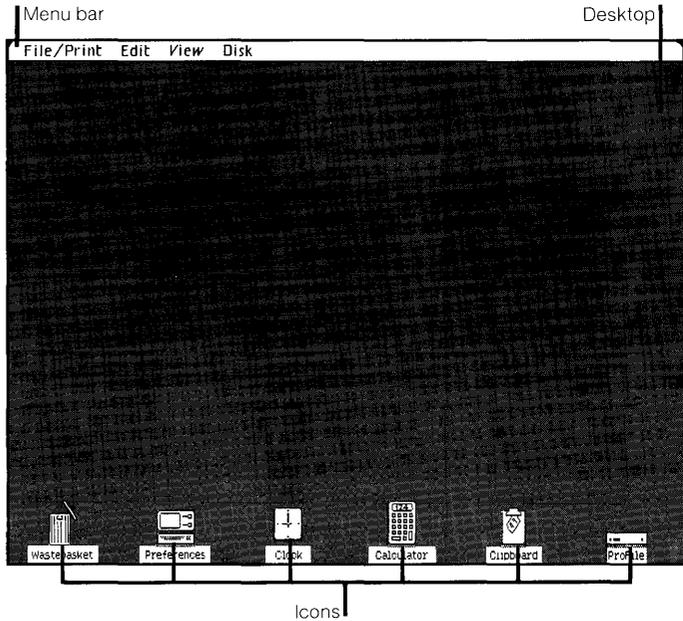
- 1 Hold the mouse as shown. (Don't press the mouse button yet.)



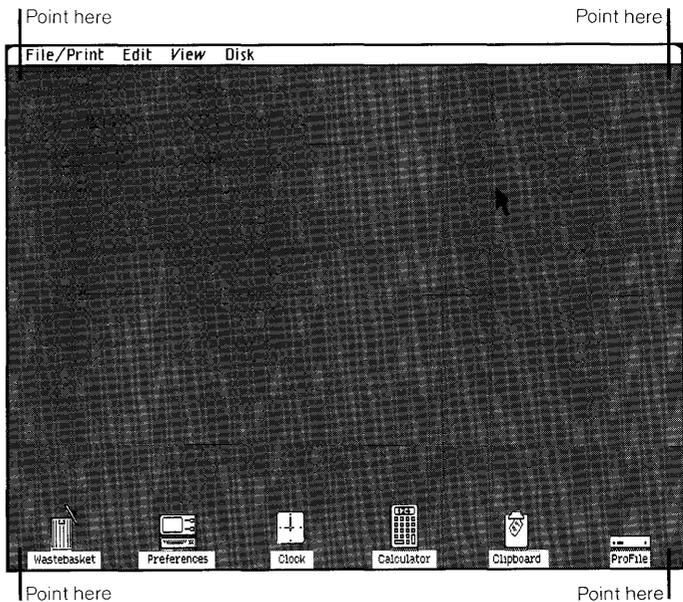
## Do This

- Slide the mouse on your desk to move the pointer around the Lisa desktop — the gray part of your screen.

Notice the **menu bar** across the top of your screen — it contains **menus** of different actions you can take. Along the bottom of your screen are various **icons** — graphic symbols that stand for different things.



- To get oriented, move the pointer to the different spots shown to the right. (Trouble making the pointer go where you want it to go? Lift up and reposition the mouse.)



# Seeing What's on a Disk

---

## What You're About To Do

To get at the document you'll work with, you first need to open the ProFile disk icon as described in the steps below.

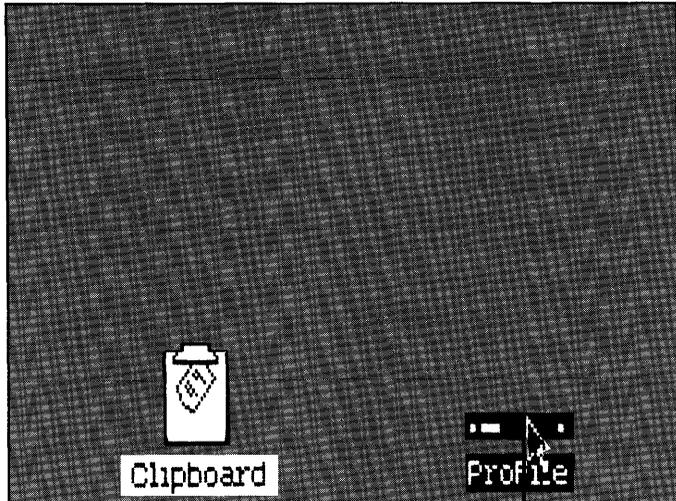
The way you'll open the disk will illustrate your Lisa's most general principle:

- First you select something.
- Then you do something to what you've selected.

---

## Do This

- 1 Select (highlight) the ProFile disk icon by placing the tip of the pointer on it and clicking the mouse button, as shown. (Icon not highlighted? Try again.)



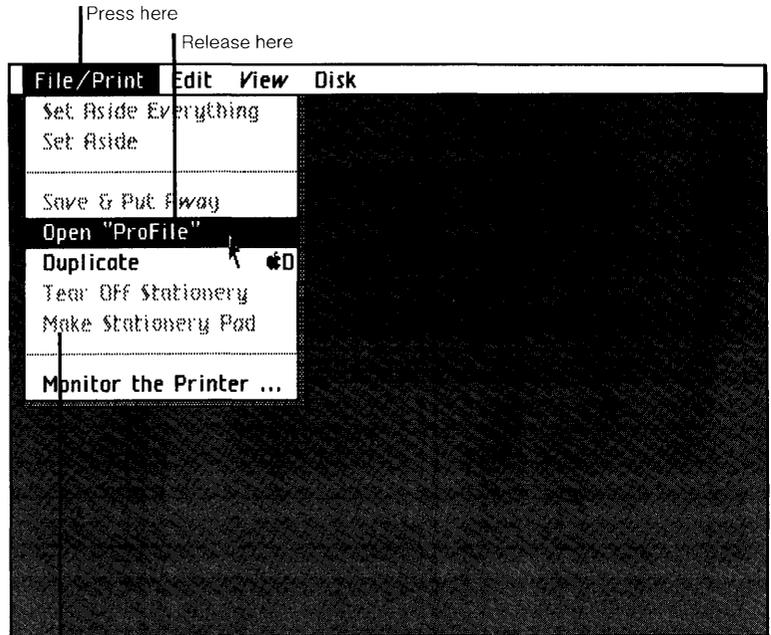
Click on ProFile to select

## Do This

- 2 Open the selected disk icon by choosing Open "ProFile" from the File/Print menu.

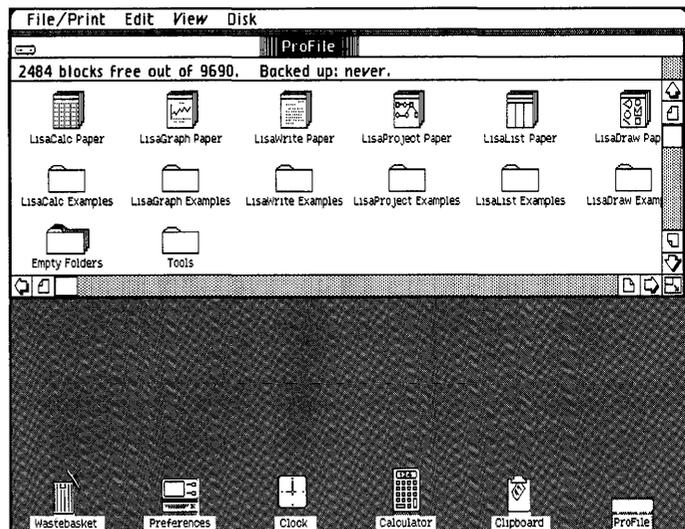
### Here's how

- Press and hold with the pointer's tip on File/Print in the menu bar.
- Move the pointer down and release when Open "ProFile" is highlighted. (Is the Open menu item dim? You probably clicked somewhere on the gray part of the screen and deselected the ProFile icon. Go back to step 1 and make sure the ProFile icon is selected.)



Note: When a menu item is dim, you can't choose it

- 3 Notice the window to the ProFile that zooms open on your Lisa's desktop. Your ProFile is like a very large file drawer — it's where you'll keep most of your work.



# Pulling a Document

## What You're About To Do

Inside the ProFile window you should see several stationery pads and folders. The LisaGraph Examples folder contains the example you'll be working on here. In the steps below, you will:

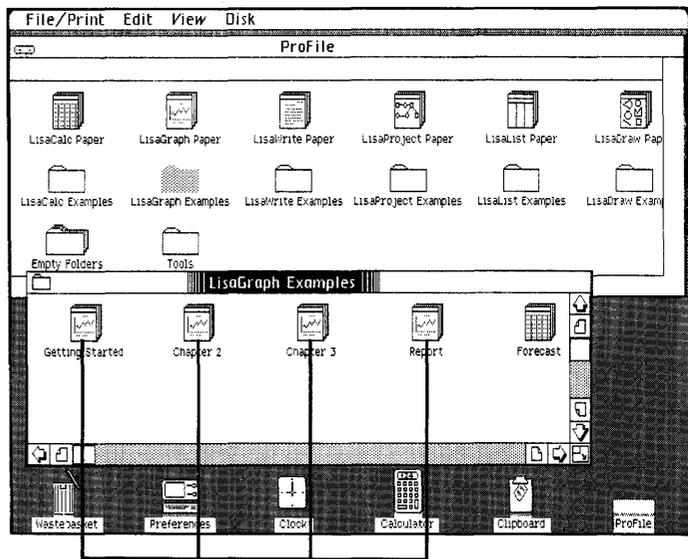
- Open the LisaGraph Examples folder.
- Tear off a sheet from the Getting Started stationery pad that's inside the folder.
- Move the new sheet, or document, to a clear spot in the folder.
- Give the new document the name Phone Sales.
- Open the document.

## Do This

- To open the LisaGraph Examples folder:

- 1 Select the LisaGraph Examples folder by clicking on it.
- 2 Choose Open "LisaGraph Examples" from the File/Print menu.

*Notice the window to the LisaGraph Examples folder that zooms open, and its contents, as shown. The "graph-like" patterns on some of the icons in the folder show they are LisaGraph icons.*

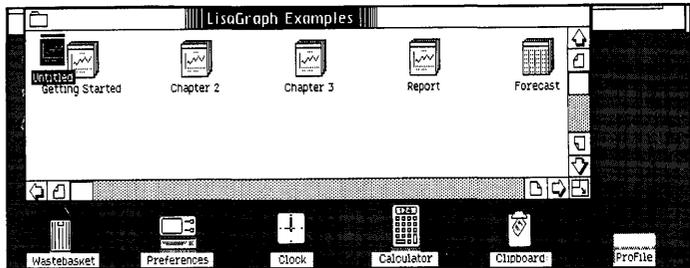


LisaGraph icons

## Do This

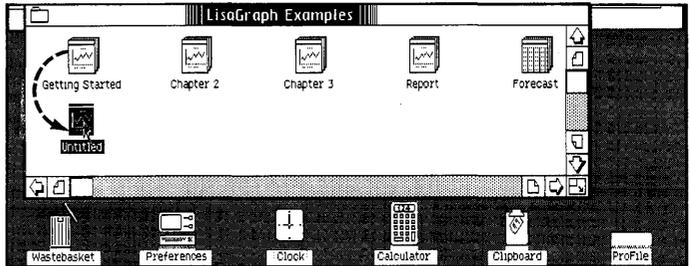
- Copies of the Getting Started example are on the Getting Started stationery pad. To tear off a sheet from the pad:

- 1 Select the Getting Started pad icon.
- 2 Choose Tear Off Stationery from the File/Print menu and wait a moment until the new document appears, as shown.



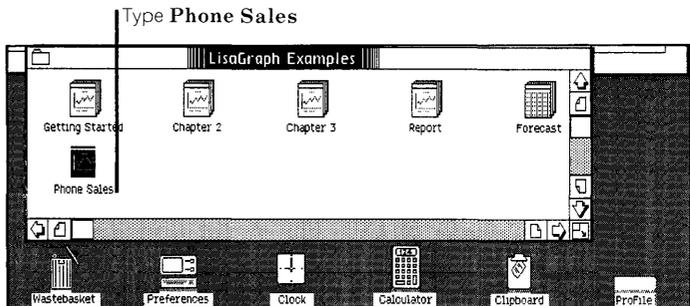
- To move the new icon out of the way, to a clear spot in the folder:

- 1 Place the pointer on the icon.
- 2 Press and hold down the mouse button and move the icon as shown; then release the mouse button.



- To rename the new document:

- 1 Make sure the untitled document icon is still selected (highlighted). If you've deselected the icon by clicking elsewhere on the screen, select it again by clicking on it.
- 2 Type the name **Phone Sales**. (Typing mistake? Use the **(Backspace)** key to correct it.)

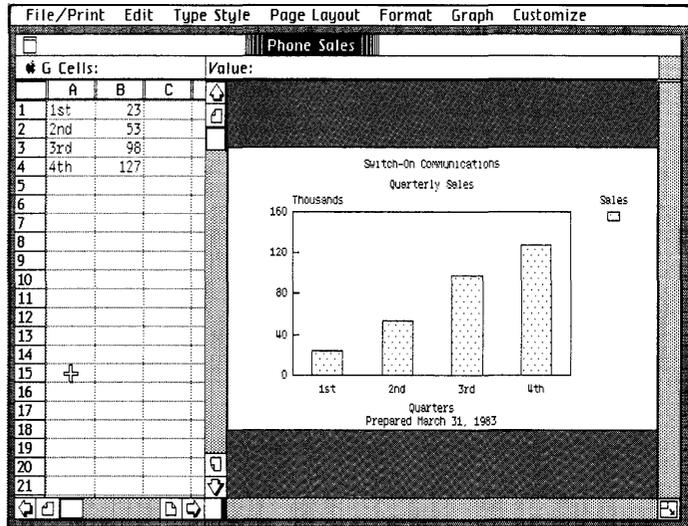


## Do This

- To open the Phone Sales document:

- 1 Make sure the document icon is selected (highlighted).
- 2 Choose Open "Phone Sales" from the File/Print menu.

*Notice how the icon zooms open into a window. Wait a minute — the hourglass, ⏸, means wait — until the LisaGraph tool displays the Phone Sales document, as shown.*



# The LisaGraph Document

The Phone Sales document is now open on your Lisa's desktop.

Across the menu bar at the top of the screen are the **LisaGraph menu names**. Each menu contains a list of actions you can take with a LisaGraph document.

On the left side of the Phone Sales document is a **table**; on the right side a **graph**. The table is composed of **lettered columns** and **numbered rows** which intersect to form the **cells** into which you enter information. For example, cell C5 is in column C, row 5. Figures entered into the cells of the table are plotted on the graph.

The **status panel**, above the table and graph, contains areas labeled Cells and Value, which display a selected cell's coordinates (column and row location), and value.

Without pressing the mouse button, move the pointer around the screen and notice how the shape of the pointer changes to an **arrow pointer**,  $\blacktriangleright$ , when it's over the menu bar, to a **cross-hair pointer**,  $\oplus$ , when it's over the table, and to a **text pointer**,  $\text{I}$ , when it's over text in the graph.

The screenshot shows the LisaGraph application window titled "Phone Sales". The menu bar includes "File/Print", "Edit", "Type Style", "Page Layout", "Format", "Graph", and "Customize". The window is divided into three main sections: a table on the left, a status panel at the top, and a graph on the right.

**Table:** A table with columns labeled A, B, and C, and rows numbered 1 through 21. The data in the table is as follows:

	A	B	C
1	1st	23	
2	2nd	53	
3	3rd	98	
4	4th	127	
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			

**Status Panel:** Located at the top, it contains a "G Cells:" field showing "A B C" and a "Value:" field.

**Graph:** A bar graph titled "Switch-On Communications Quarterly Sales". The y-axis is labeled "Thousands" and ranges from 0 to 160. The x-axis is labeled "Quarters" and has four categories: "1st", "2nd", "3rd", and "4th". The bars represent sales values of 23, 53, 98, and 127 respectively. A legend indicates "Sales" with a square symbol. The text "Prepared March 31, 1983" is at the bottom of the graph.

Labels on the left side of the image point to specific features: "LisaGraph menu names" points to the menu bar; "Status panel" points to the top section; "Cell C5" points to the fifth row of the table; and "Cross-hair pointer" points to the cross-hair symbol in the table.

# ***What You Are Going To Do***

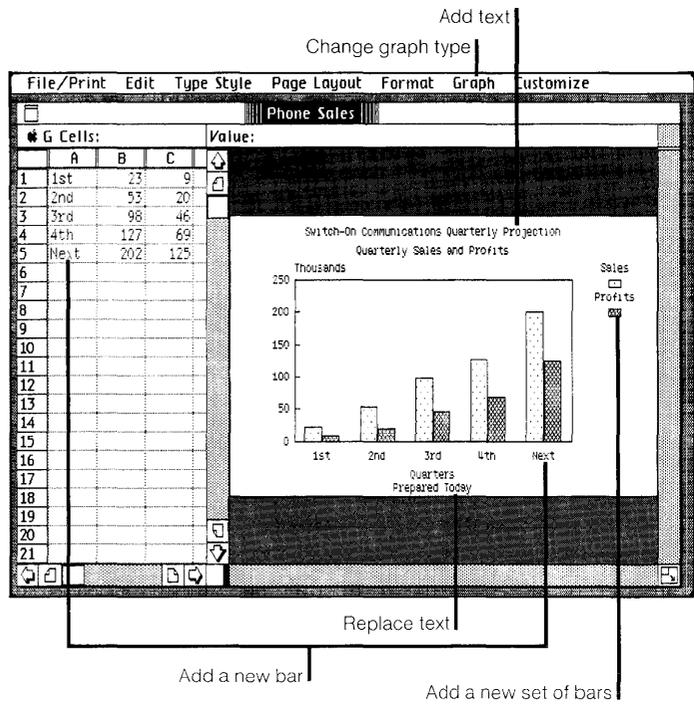
---

Imagine you work for a fictional company called Switch-On Communications, Inc. You want to plot next quarter's sales and profit goals on a graph with the sales and profit figures from the last four quarters. To do this, you must update and edit your current Phone Sales graph.

In the next several pages you will learn to:

- 1.** Examine the current data plotted as a line graph, scattergram, and pie chart, and then again as a bar graph.
- 2.** Add next quarter's sales projection as a new bar on the graph.
- 3.** Add the profit information for each quarter as a new set of bars on the graph.
- 4.** Add text to the graph to update the graph's title.
- 5.** Replace text on the graph to change the graph's legend label and preparation date.

When you are finished, your graph will look like the one below. Compare it with the graph now on your screen.



# Changing the Graph Type

---

## What You're About To Do

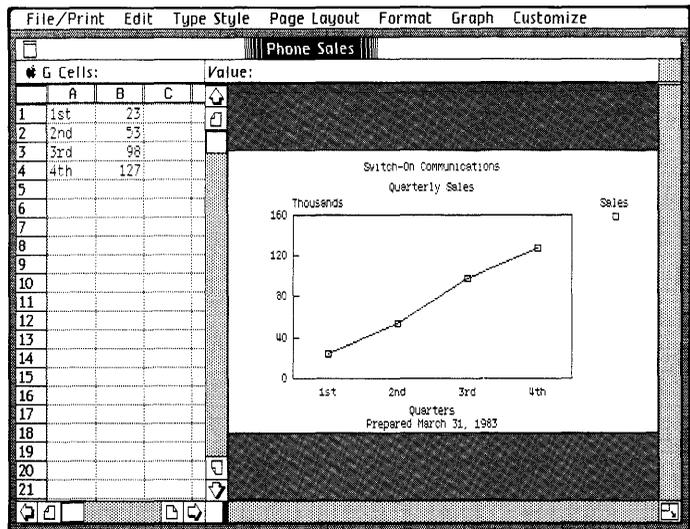
Follow the steps below to examine the current data plotted as:

- a Line Graph.
- a Scattergram.
- a Pie Chart.
- and then again as a Bar Graph.

---

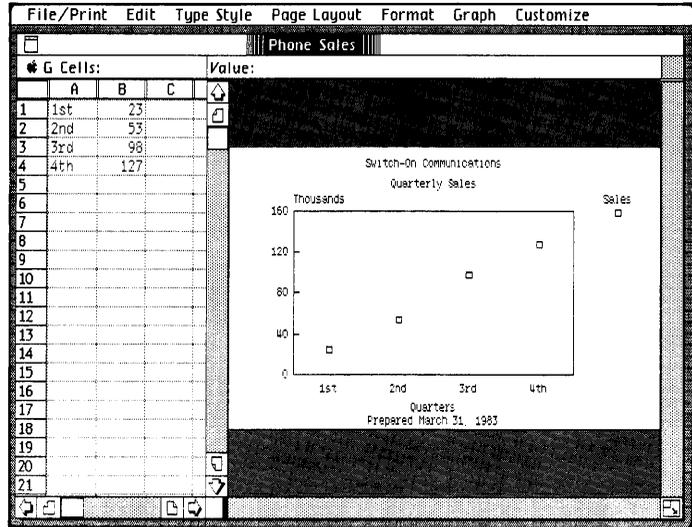
## Do This

- 1 Choose Line from the Graph menu. (Press and hold on Graph in the menu bar; move down and release on Line).

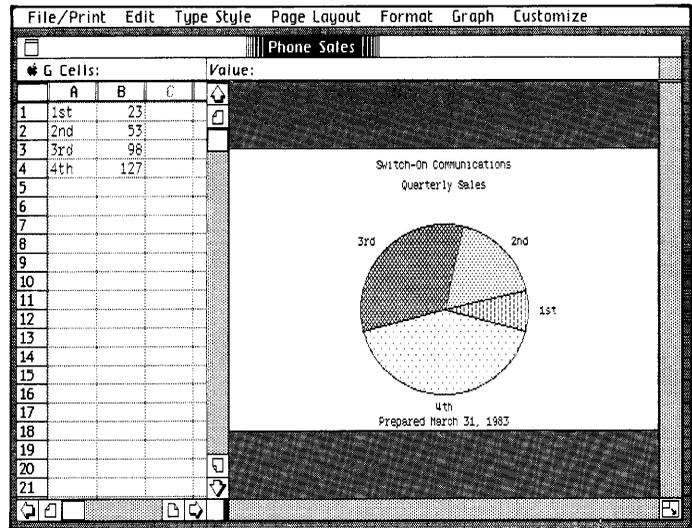


## Do This

- 2 Choose Scatter from the Graph menu.

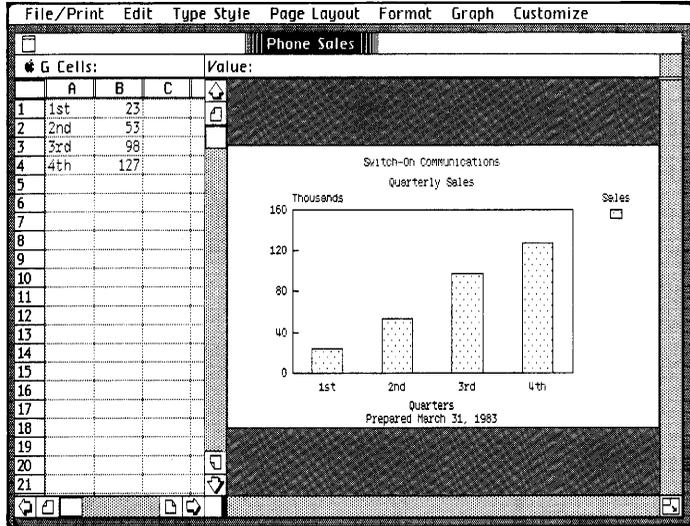


- 3 Choose Pie from the Graph menu.



## Do This

- 4 Choose Bar from the Graph menu.



# Adding a New Bar to the Graph

---

## What You're About To Do

You need to add next quarter's projected sales figure (202 thousand dollars) as a new bar on the graph.

Follow the steps below to:

- Add a new x-axis label to the graph.
- Add the projected sales figure to the graph.

---

## Do This

- To add the new x-axis label to the graph:
  - 1 Select cell A5 by placing the pointer in the cell and clicking the mouse button once, as shown. (Select the wrong cell? Move the pointer to the cell you want and click.)

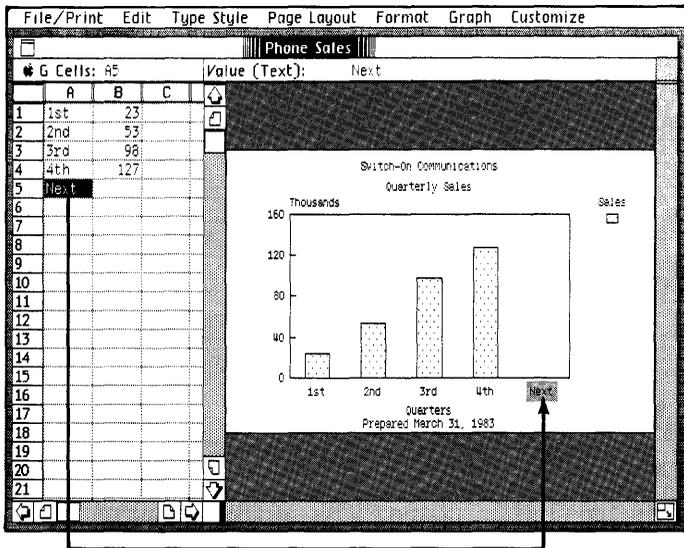
	A	B	C	
1	1st	23		
2	2nd	53		
3	3rd	98		
4	4th	127		
5				
6				
7				
8				

Click in cell to Select

## Do This

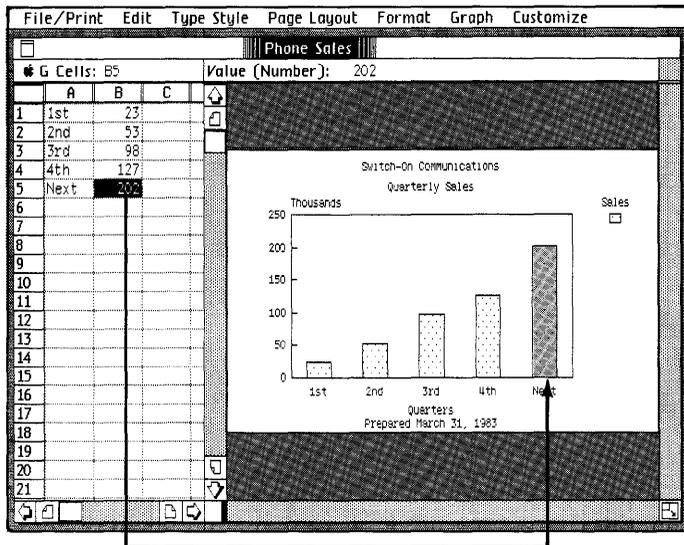
- 2 Type the word **Next** and press the **(Enter)** key. (Make a mistake? **(Backspace)** or choose **Clear Entries** from the **Edit** menu.)

*Notice the new label on the x-axis of the graph and the space made for a new bar of information.*



- To add the projected sales figure to the graph:
- 1 Select cell B5, type **202**, and press **(Enter)**.

*Notice how the sales figure for next quarter is immediately added to the graph.*



# Adding a New Set of Bars to the Graph

---

## What You're About To Do

---

Follow the steps below to add the profit information for each quarter as a new set of bars on the graph.

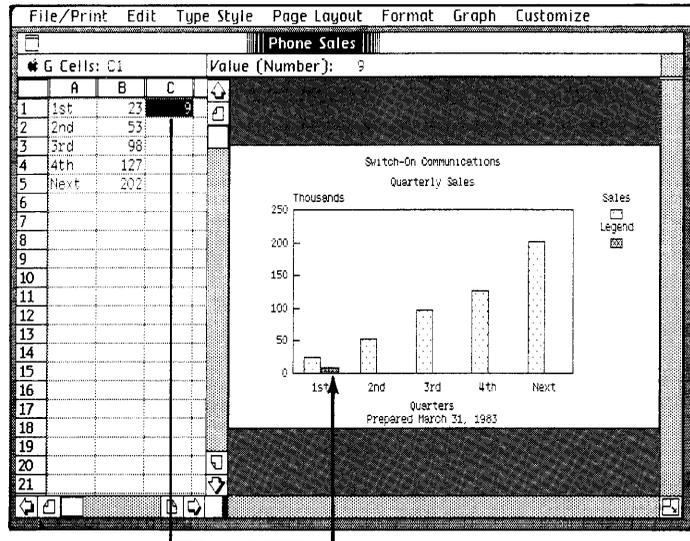
---

## Do This

---

1 Enter the number 9 into cell C1. (Select the cell, type, and **Enter**.)

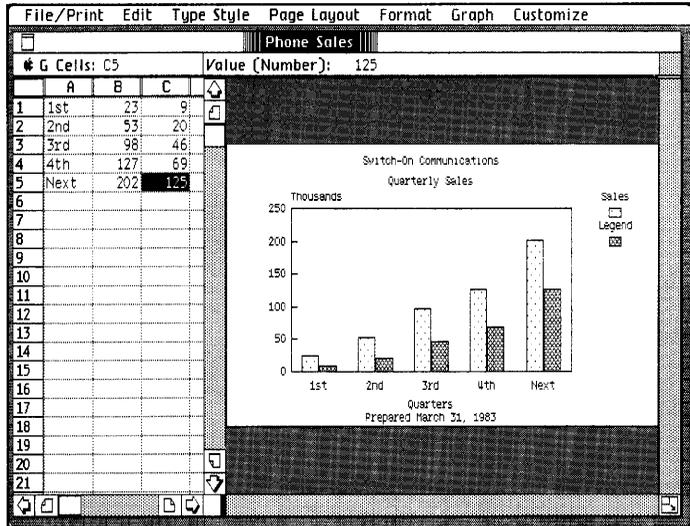
*Notice the second bar that is automatically graphed next to the Sales bar for the 1st quarter.*



## Do This

2 Follow the same procedure to graph the remaining profit information, as shown to the right. (Make a mistake? **Backspace** or choose Clear Entries from the Edit menu.)

Quarter	Profits
"2nd"	20
"3rd"	46
"4th"	69
"Next"	125



# Adding Text To The Graph

---

## What You're About To Do

---

You can add text anywhere on the graph.

Follow the steps below to add to the current graph title, so that it reads:

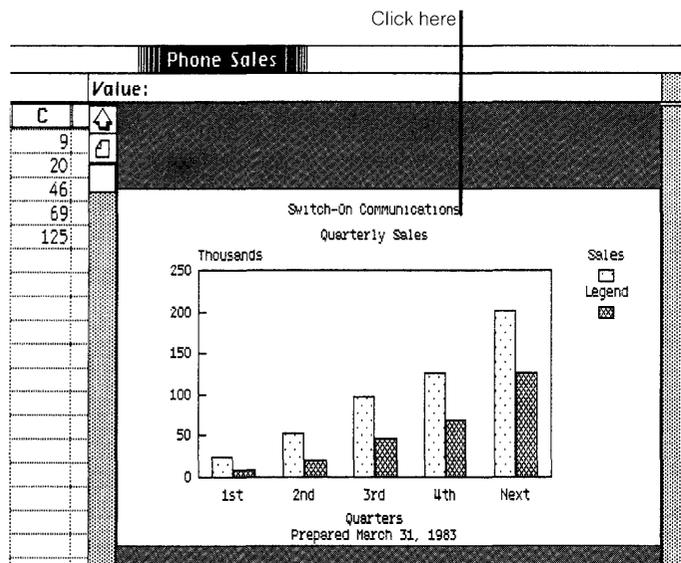
“Switch-On Communications Quarterly Projection”  
“Quarterly Sales and Profits”

---

## Do This

---

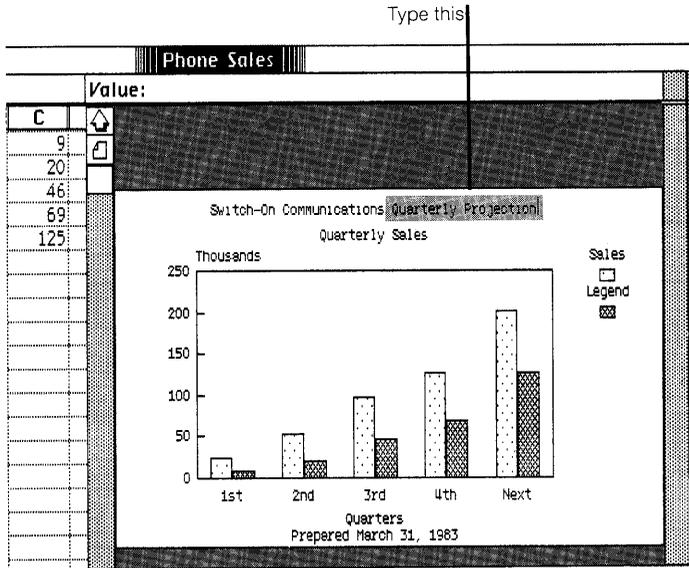
- 1 Use the text pointer to select an insertion point, a blinking vertical line, after the word “Communications” by clicking once just after the “s”, as shown.



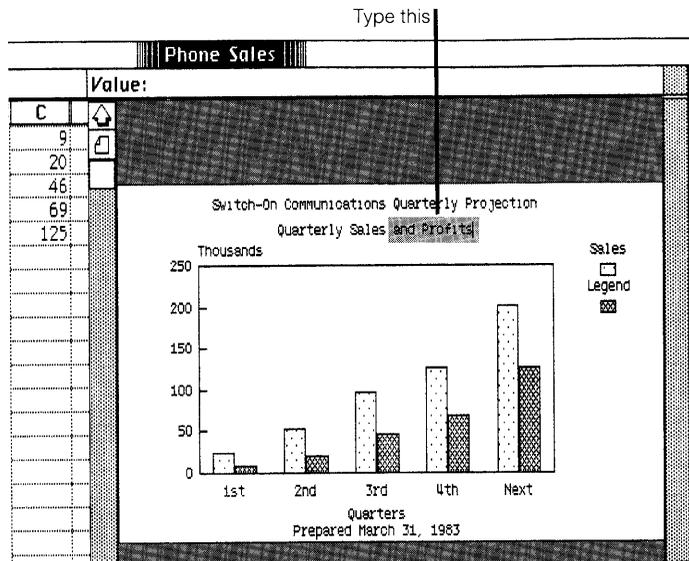
## Do This

- 2 Press the **(Spacebar)** and type the words **Quarterly Projection**. (Typing mistake? Use the **(Backspace)** key to correct it.)

**Note:** You don't have to press **(Enter)** when you add text to the graph.



- 3 Follow the same procedure to make "Quarterly Sales" read "Quarterly Sales and Profits", as shown.



# Replacing Text on the Graph

---

## What You're About To Do

---

Two more items on the graph need changing: the legend, which describes what the bars stand for, and the preparation date.

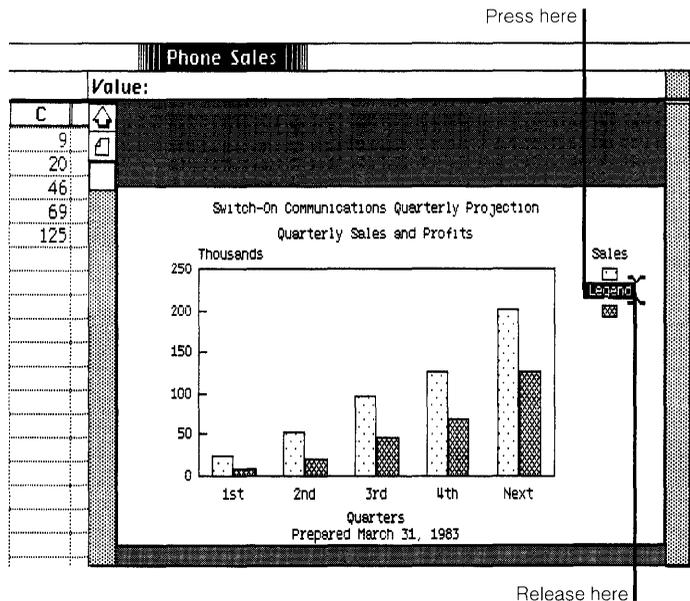
Replace the word "Legend" with the word "Profits", and "March 31, 1983" with "today's date", as described in the steps below.

---

## Do This

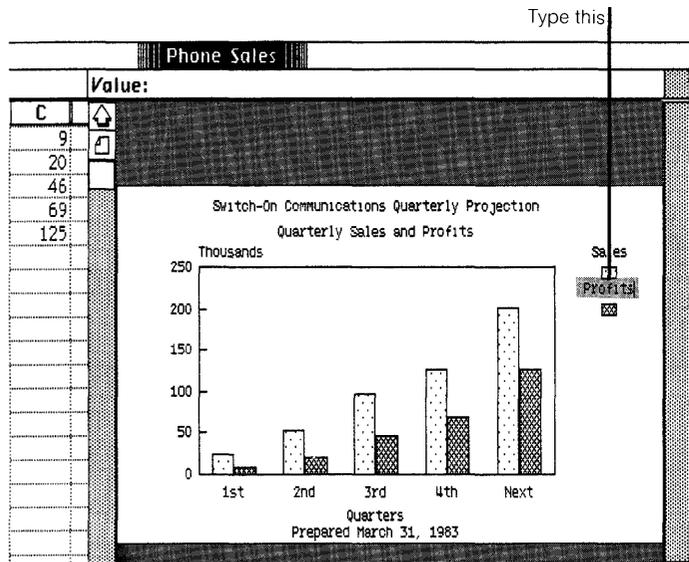
---

- 1 Select (highlight) the word "Legend" by pressing and holding before the "L", and then moving the pointer across and releasing after the "d", as shown. (Didn't get it? Just try again. Move the pointer right before the "L" and make sure that it changes to a text pointer, **I**, before you press.)



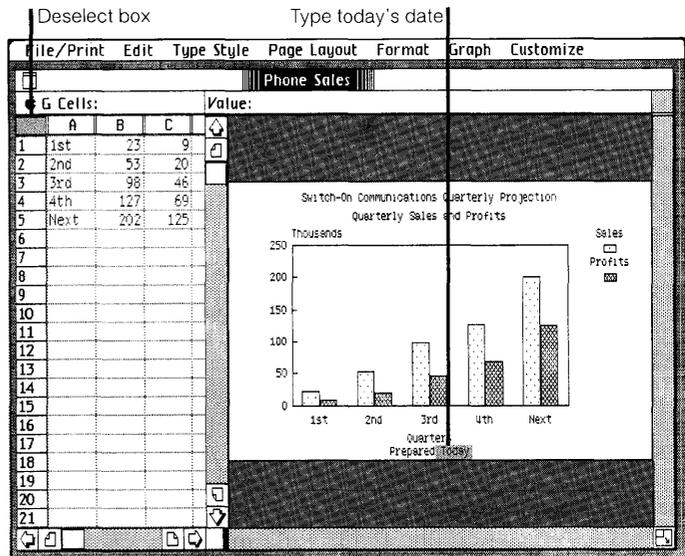
## Do This

- 2 Type Profits.** (Typing mistake? Use the **Backspace** key to correct it.)



- 3 Follow the same procedure to replace "March 31, 1983" with "today's date".**

Your graph is now complete. To see it without the blinking insertion point after today's date, click in the deselect box, as shown.



# Printing Your Document (Optional)

---

## What You're About To Do

---

If you don't want to print your graph now, or don't have a printer available, you can skip this section and go on to **Putting Your Document Away**.

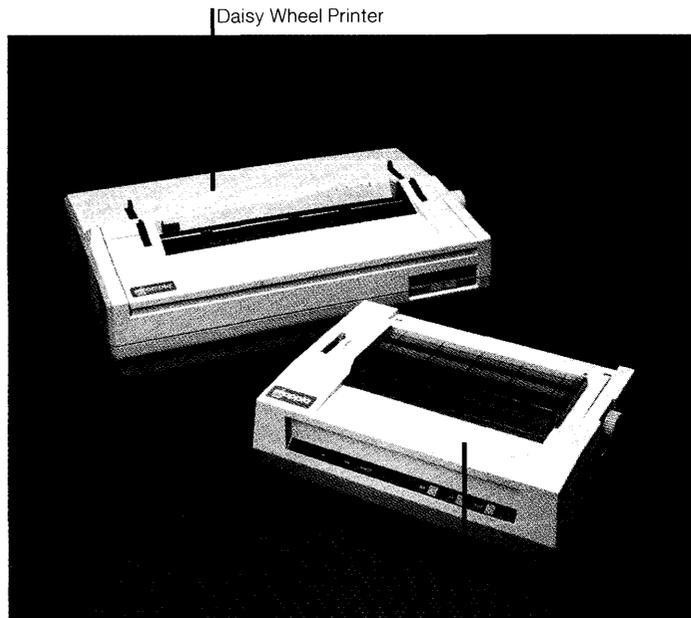
To print a copy of your finished graph, follow the steps below.

---

## Do This

---

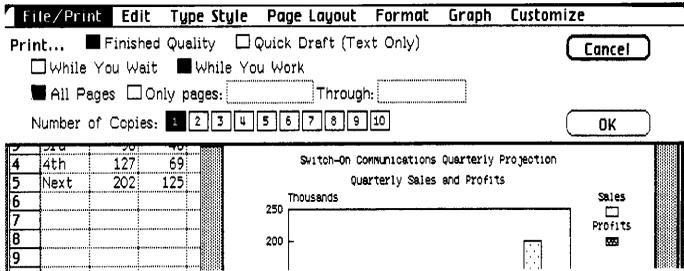
- 1 To ensure that your work is saved on the ProFile before you print, choose Save & Continue from the File/Print menu.
- 2 Make sure your printer is hooked up and turned on. (Refer to the manual that came with your printer for information on connecting the printer and loading paper and print ribbons.)



Dot Matrix Printer

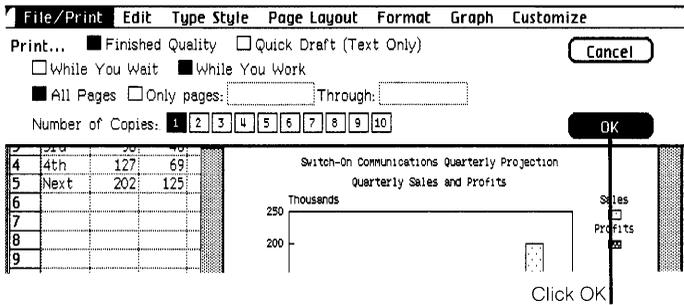
## Do This

**3** Choose Print Graph from the File/Print menu to bring up the Print dialog box shown to the right. (See a different message on the screen? Go to the next page and read the “Trouble with printing?” section.)



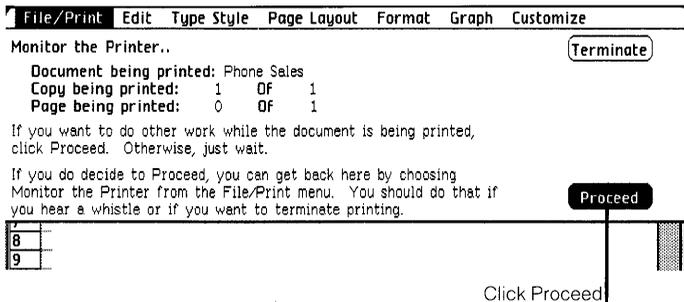
**4** The current settings in the Print dialog box are fine, so use the mouse to check “OK”, as shown. (Trouble? See “Trouble with printing?” on the next page.)

*Notice that the hourglass appears for a few moments — the hourglass means wait — as your Lisa records the information necessary to print the document.*



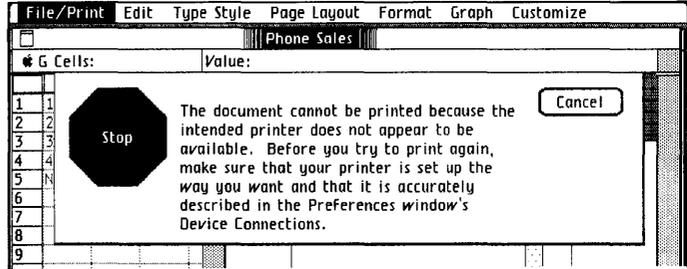
**5** When your document begins printing and you see the Monitor the Printer dialog box, check “Proceed”, as shown. (Trouble? See “Trouble with printing?” on the next page.)

*Notice that once the hourglass disappears and printing begins, you can use your Lisa to do other work.*



## Trouble with printing?

- If you see the alert message to the right, refer to the *Lisa Owner's Guide*, Section D, Desktop Manager Reference Guide, under Set Printer Configuration.
- If you see any other alert message, follow its instructions. If needed, refer to the *Lisa Owner's Guide*, Section G, Troubleshooting, under Printers, or see the manual that came with your printer.
- To learn more about printing, refer to Section C, LisaGraph Reference Guide, Chapter 2, under Print.



# Putting Your Document Away

---

## What You're About To Do

---

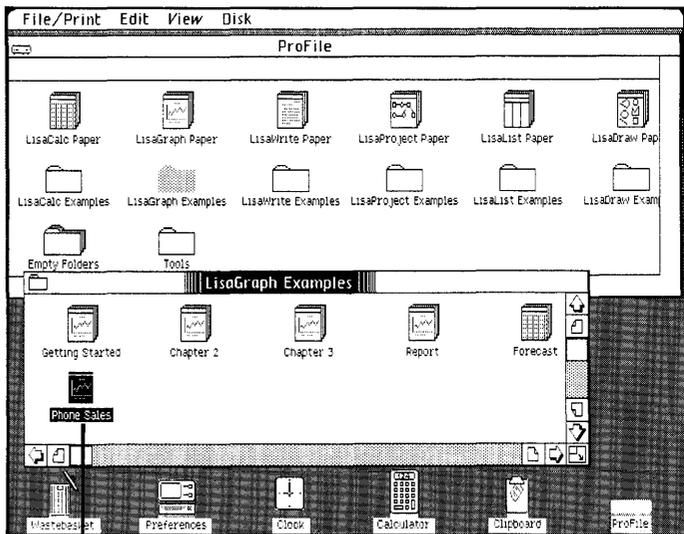
Now that you've finished working on your document, follow the steps below to put it away. Even if you chose to print your document and it's still printing, you can continue to use your Lisa to do other work.

---

## Do This

- 1 Choose Save & Put Away from the File/Print menu. (Is the Save & Put Away menu item dim? Then you need to click in the document to make the window active.)

*Notice how the window zooms down to a document icon back in its filing home in the LisaGraph Examples folder.*



Document is Saved & Put Away

# Starting from Scratch

---

## What You're About To Do

---

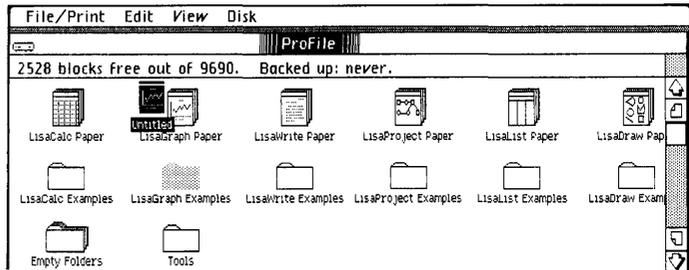
In order to start a new graph, you need to get a piece of LisaGraph stationery, as described below. Blank LisaGraph stationery is in a pad called LisaGraph Paper, in the ProFile window.

---

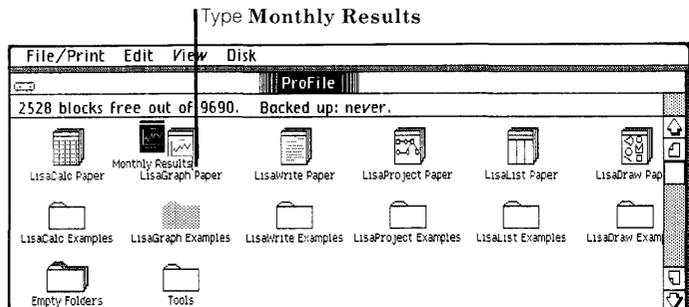
## Do This

---

- 1 Tear off a sheet from the LisaGraph Paper pad at the top of the ProFile window. (Select the pad icon; choose Tear Off Stationery from the File/Print menu.)

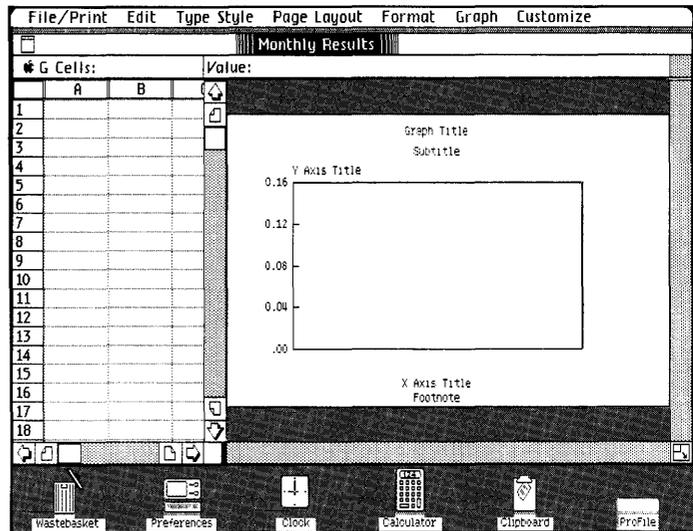


- 2 Don't worry right now about moving the untitled document out of the way. Change the name of the untitled document to **Monthly Results**. (Make sure the icon is selected; then type.)



## Do This

- 3 Open the piece of LisaGraph paper you named Monthly Results as you would any document. (Choose Open "Monthly Results" from the File/Print menu.)
- 4 If you want to make your own graph, do so. Experiment — try different things. Press and move across the menu bar and look at what's in all your menus. If you want specific information on something, look in the LisaGraph Reference Guide, Section C, or check the index.



# Finishing Up

---

## What You're About To Do

---

It is a good idea to save all your documents and clear off your Lisa's desktop at least once a day. The steps below illustrate one of the many ways you can manage things on the Lisa desktop.

**Note:** When you are connecting, disconnecting, moving, or servicing equipment, you must turn off the power. But normally, you should turn off your Lisa only at the end of each week, and always leave your ProFile turned on.

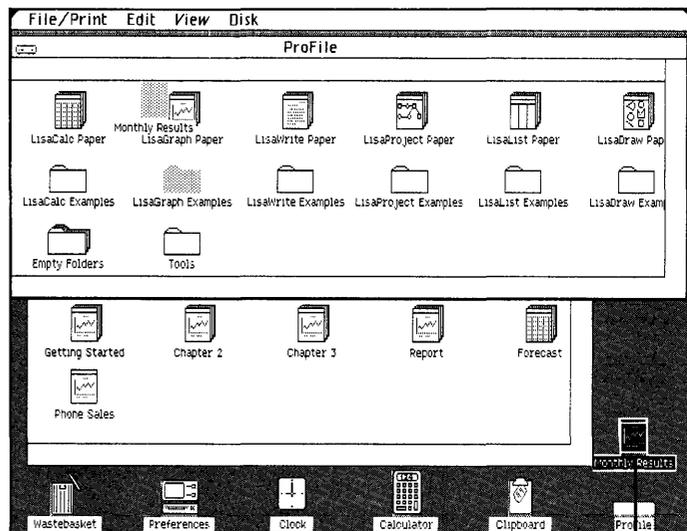
---

## Do This

---

- 1 Choose Set Aside  
"Monthly Results" from  
the File/Print menu and  
notice how Monthly  
Results is set aside as an  
icon on the desktop.

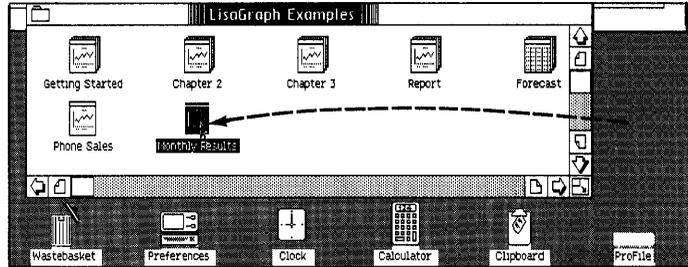
**Note:** When you're working with several documents at the same time, it's often convenient to keep some of them set aside on the desktop, where it's easy to get at them.



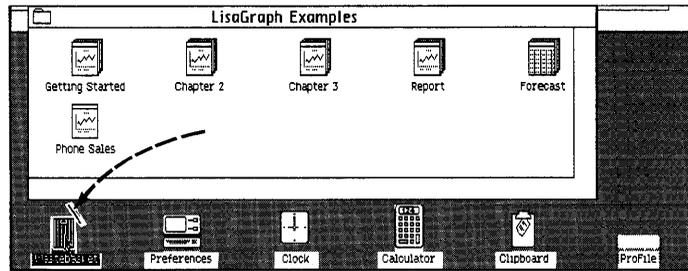
Monthly Results is  
Set Aside

## Do This

- 2 If you want to file the Monthly Results document in a new place, move it to a clear area in the LisaGraph Examples folder, as shown. (Press with the pointer on the icon, move it, and release when the icon is where you want it.)



- 3 If you want to throw away the Monthly Results document, move it to the Wastebasket icon. When the document icon is on the Wastebasket and the Wastebasket icon highlights, release the mouse button and wait for the document to be deposited.



**Note:** You can always get back the last thing you've thrown away by opening the Wastebasket icon and moving the deposited document back out.

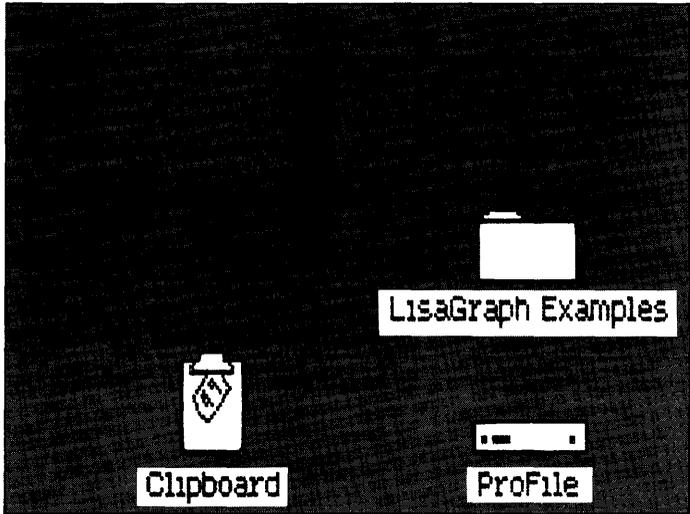
---

## Do This

---

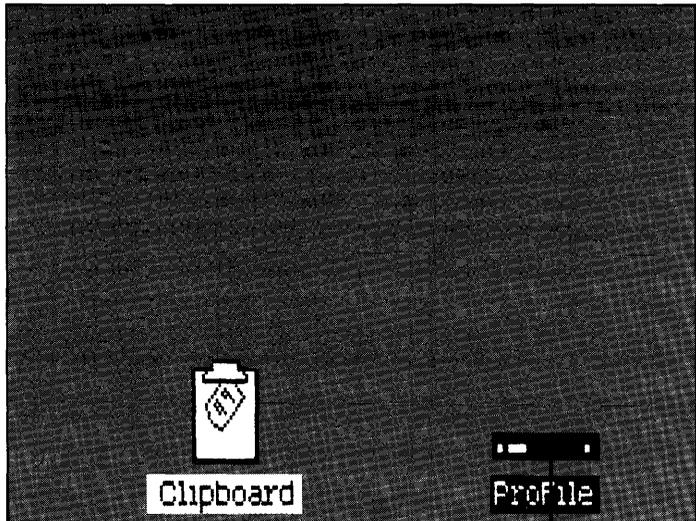
- 4 Now set aside both the LisaGraph Examples folder and ProFile by choosing Set Aside Everything from the File/Print menu.

*Notice that both the Folder and ProFile icons are now set aside on the desktop.*



- 5 You can put away the LisaGraph Examples folder back in its filing home in the ProFile even when the ProFile window is closed. To do so, select the LisaGraph Examples folder and choose Save & Put Away "LisaGraph Examples" from the File/Print menu.

**Note:** If you want to deselect a selected icon, click once when the pointer is not over the icon.



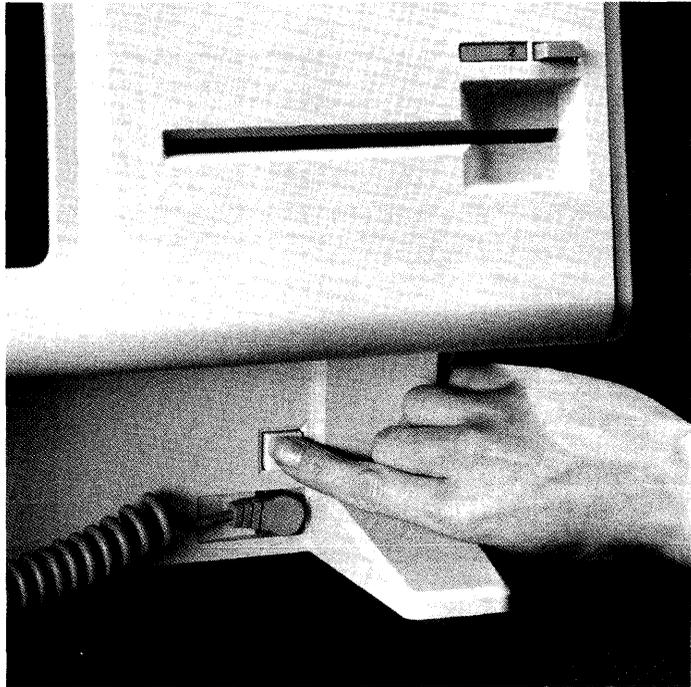
Folder is Saved & Put Away

---

## ***Do This***

---

- 6** When you are ready to work on something else, just open the ProFile again. When you want to turn off Lisa's power — for example, over the weekend — press the lit on-off button, as shown. When you turn on the Lisa again, everything will reappear as you left it when you turned the Lisa off, including documents you may have left open on the desktop. Normally, you should leave the ProFile turned on.



# Using LisaGraph

---

You now have the basic skills necessary for using LisaGraph to produce your own LisaGraph documents. Because the concepts for using each Lisa tool are the same, you also have some of the basic skills for using other Lisa tools: LisaCalc, LisaDraw, LisaList, LisaProject, and LisaWrite.

There is much more you can do with LisaGraph. You can learn about other LisaGraph features by:

- Going through other exercises in the LisaGraph Tutorial, Section B.
- Using the LisaGraph Reference Guide, Section C, as you do your work.
- Just experimenting as you use LisaGraph. Remember — when experimenting, you usually have to select something before taking action with it. It's safe to experiment because most of the things you do can be undone by choosing Undo Last Change from the Edit menu. And if you're experimenting with a document you've torn off of a stationery pad, you can try almost anything and always start fresh by either choosing Revert to Previous Version from the File/Print menu, or by throwing the document away into the Wastebasket, and tearing off a fresh copy from the same stationery pad.

# ***Other LisaGraph Features***

- 
- Enlarging or shrinking the viewing areas for the graph and data-entry table.
  - Creating mixed bar/line charts.
  - Customizing the x- and y-axes.
  - Adding titles and annotations anywhere on the graph.
  - Choosing from a variety of typestyles for graph titles and annotations.
  - Cutting and pasting between LisaGraph documents, from LisaCalc to LisaGraph, and from LisaGraph to LisaDraw.

# ***Guide to Lisa Manuals***

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Set up your Lisa following the setup procedures in the Lisa accessories box or in Appendix 1, Setup Procedures, in the *Lisa Owner's Guide*.

---

Go through Section A, LisaGuide, in the *Lisa Owner's Guide*, for an introduction to the Lisa.

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If your dealer or service representative did not set your system Preferences so that the Lisa knows what external devices are attached, follow the instructions in Section D, Desktop Manager Reference Guide, under Set, in the *Lisa Owner's Guide*.

---

Go to Section A, Getting Started, in the manual for each office tool that you want to learn, for the essentials of using that tool.

---

- ▶ Go to Section B, Lisa Fundamentals, in the *Lisa Owner's Guide*, for the background information you need before beginning long-term work on the Lisa.
- 

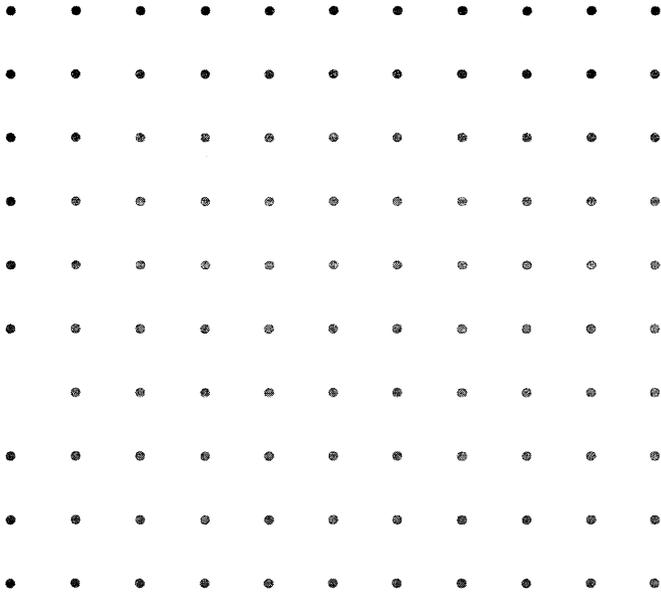
You are now ready to start doing your own work on the Lisa:

- If you want self-paced instructions for using a tool, go to Section B, Tutorial, in that tool manual.
  - If you want instructions for performing specific tasks with a tool, go to Section C, Reference Guide, in that tool manual.
- 

For specific instructions on filing and desktop management, go to Section D, Desktop Manager Reference Guide, in the *Lisa Owner's Guide*.

---

For more information on the Lisa hardware, tips on caring for the Lisa, and suggestions for troubleshooting when the system isn't working properly, go to the other sections of the *Lisa Owner's Guide*.



**Section B**  
***LisaGraph Tutorial***

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<b>B102</b>	<b>About Graphs</b>
<b>B103</b>	<b>Sample Graphs</b>

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# ***What's in the LisaGraph Tutorial?***

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This tutorial teaches you about LisaGraph as it guides you step by step through several real-life examples. To get the maximum value from it, you should try out the examples on your Lisa as you read.

All major LisaGraph features are covered in the tutorial, but not always in fine detail. A complete description of each LisaGraph feature can be found in Chapter 2 of Section C, the LisaGraph Reference Guide, in this manual.

Before you start this tutorial, be sure you have completed LisaGuide, in which Lisa introduces Lisa; you can find the LisaGuide diskette in the front pocket of the *Lisa Owner's Guide*. Also, you should have completed Section A, Getting Started with LisaGraph, in this manual. If you haven't completed one or both already, now is a good time to do so.

To complete the activities in this tutorial, you need

- The plain LisaGraph stationery pad that is on the ProFile.
- The sample documents for this tutorial that are in the LisaGraph Examples folder on the ProFile.

The arrow symbol ( ► ) appears before each activity in the tutorial, and it means "Do something." For example,

- Turn the page to begin the tutorial.

# ***Chapter 1***

## ***Creating a Graph***

---

# Creating a Graph

---

The activities in this chapter cover the most basic information about LisaGraph, such as how to get started, how to create a standard graph, and how to print and file it. In particular, you learn how to

- Get stationery for a new graph.
- Choose a graph format.
- Edit graph titles and the legend.
- Enter and add data to a table.
- Choose a size for the printed graph.
- Display a graph in its actual size and preview it before printing.
- Print a graph and a table.
- File a document.

For the activities in this chapter, assume that you are Fran Compton, Financial Controller for Merle's Sporting Goods. Before the next planning session, you must prepare a graph that compares actual profits with projected profits over the last eight years.

## Getting a New LisaGraph Document

To start a new LisaGraph document,

- ▶ Open the ProFile window by clicking twice on its icon.



- ▶ Tear off a sheet of paper for the new document by clicking twice on the LisaGraph stationery pad icon.



- ▶ Name the new document by typing your initials followed by -First. This allows other people to use the same ProFile and not confuse their documents with yours.



- ▶ Open the new document's window by clicking twice on its icon.



LisaGraph stationery has a table where you enter the numbers you want plotted, and an empty graph frame surrounded with places for your title, subtitle, axis titles, legend text, and a footnote. When the pointer changes from an hourglass to an arrow pointer, your document should look like the one shown in Figure 1.

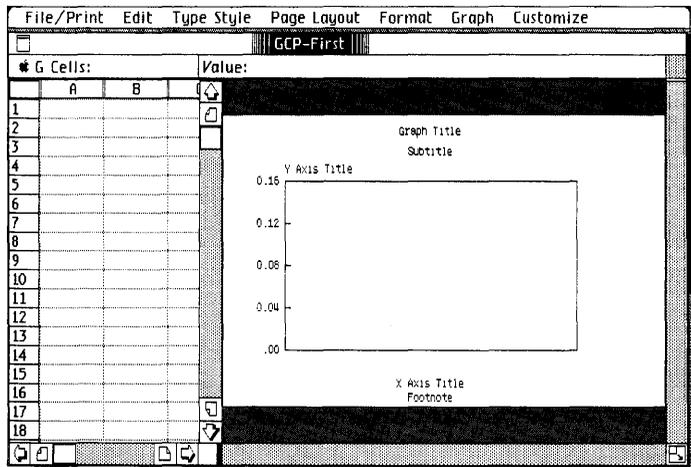


Figure 1. LisaGraph Stationery

To start a graph using traditional tools, such as a pen and paper, you would have a table of numbers to be plotted in two dimensions and an empty graph frame. You would determine the X- and Y-axis scales yourself and plot data in the graph frame manually.

However, LisaGraph automatically pairs the X-axis values in the table with the Y-axis values and plots the intersections of data points in the graph frame. In addition, LisaGraph automatically changes the X- and Y-axis scales and labels each appropriately.

For this example, assume that you have data in the form of actual and projected profits for the last eight years, as shown in Figure 2, and that you want to compare them.

*Profit Comparison*

	<i>Date Sampled</i>	<i>Actual</i>	<i>Projected</i>
		<i># Hundred Thousand</i>	
1	1975	21	21
2	1976	36	32
3	1977	41	49
4	1978	14	60
5	1979	-35	25
6	1980	-28	25
7	1981	-8	15
8	1982	19	20
9			
10			
11			
12			

Figure 2. Actual Versus Projected Profits

The following steps outline the work flow when you begin a new graph. The activities that you will complete follow these steps.

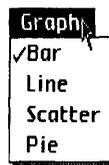
1. Decide what comparison you want to make and choose the graph format that best suits that comparison. For this example, a bar graph is the best graph format when comparing data over time.
2. Decide on a title that communicates the comparison to your audience and change the title on the graph. For this example, "Profits for Past Eight Years" communicates the comparison.
3. Enter the data to be plotted into the table and watch as LisaGraph automatically plots the intersection of data points in the chosen graph format.

It's your turn. Begin with the graph's format.

## **Choosing a Graph Format**

LisaGraph provides four graph formats because each is suited to a particular kind of comparison. The graph you will create compares data over time. A bar graph best suits a comparison over time. To verify that a bar graph is the chosen graph format,

- ▶ Move the pointer into the word “Graph” in the menu bar, press and hold down the mouse button while you read the items and note which one is checked; then release the mouse button.



A bar graph is the standard format; the check mark confirms this. To change a graph’s format, you just choose another option from the Graph menu. However, for this example, leave Bar checked.

Chapter 5, Sample Graphs, explains the kinds of comparisons that you can show and which graph format best suits a particular comparison. It also includes several sample graphs.

The second step in creating a graph is to title it for your audience. Following are explanations and activities that show you how to change titles and other text on a graph.

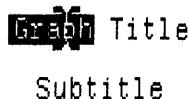
---

## ***Editing Text on a Graph***

Changing the content of your document is called “editing,” which includes adding, cutting, moving, or replacing text. Text on a graph consists of a title, subtitle, footnote, and X- and Y-axis titles. In addition, you can add annotations anywhere on a graph.

You need to replace some of the text on your graph with descriptive text and remove what you don’t need. First, you must select the text that you will change. In Section A, Getting Started with LisaGraph, you learned how to select characters; here you will learn how to select one or more words or a line of text. For example, to select the words “Graph Title,”

- ▶ Move the pointer into the first word, “Graph,” click the mouse button, and then press and hold it down.



- ▶ Move the pointer directly into the word “Title,” and release the mouse button.



As long as you hold down the mouse button, you can move the pointer into other words on the same line to select them. Notice that the text you selected is highlighted. If the words “Graph Title” are not completely highlighted, select them anew.

To replace the selected title with a real one,

- ▶ Type

### **Profits for Past Eight Years**

If you make a mistake while typing, you can remove characters by pressing the **(Backspace)** key once for each character that you want removed. To backspace continuously, press **(Backspace)**, and then press and hold it down until the desired characters are removed.

In addition, you can hold down the **(⌘)** key while pressing the **(Backspace)** key to remove words. Text that you remove with the **(Backspace)** key can be restored by holding down the **(Shift)** key while pressing the **(Backspace)** key.

To continue editing the graph, change the Y-axis title to reflect the magnitude of the profit figures that will be entered and plotted. By the way, you can select an entire line instead of selecting words. For instance,

- ▶ Move the pointer into the line that reads “Y Axis Title” and click the mouse button three times.



- ▶ Type

### **\$ Hundred Thousand**

The X-axis title runs horizontally across the bottom of the graph. Use it to inform your audience about the X-axis data. To do this,

- ▶ Select the line that reads “X Axis Title.”



- ▶ Type

### **Dates Sampled**

To change the word “Footnote” to a phrase that reflects an important point,

- ▶ Move the pointer into the word “Footnote” and click the mouse button twice.

Footnote

- ▶ Replace the footnote by typing

### Management change in '81

A different technique is used to select one or more characters. For example, to select the single quote in the X-axis title,

- ▶ Move the pointer to the left of the single quote.
- ▶ Press and hold down the mouse button while moving the pointer to the right of the quote; then release the mouse button.

change in'81

change in '81

To replace the single quote with other text,

- ▶ Type

in 1979 and 1981

### 1979 and 19

Now, add the letter “s” to the end of the word “change” in the X-axis title.

- ▶ Move the pointer beside the letter “e” in “change” and click the mouse button once to set the insertion point.

changein

- ▶ Type

changes in

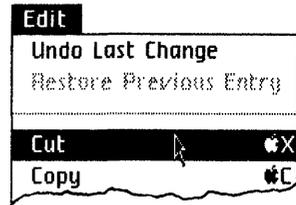
s

The graph you are preparing does not have a subtitle. To remove the text that is there,

- ▶ Select the word “Subtitle.”

Subtitle

- ▶ Choose Cut from the Edit menu.



You can restore the cut text to your document, or reverse almost any change, if you do so immediately. For example, to return the subtitle to its original location,

- ▶ Choose Undo Last Change from the Edit menu.



Cut or copied text temporarily resides on the Clipboard until you cut or copy something else. Undo Last Change restored the cut text to the document.

- ▶ Choose Undo Last Change again to cancel the last undo command and remove the subtitle.

After editing the text around your graph, it should look like Figure 3. For more information about editing, see Section C, LisaGraph Reference Guide, Chapter 2, under Edit.

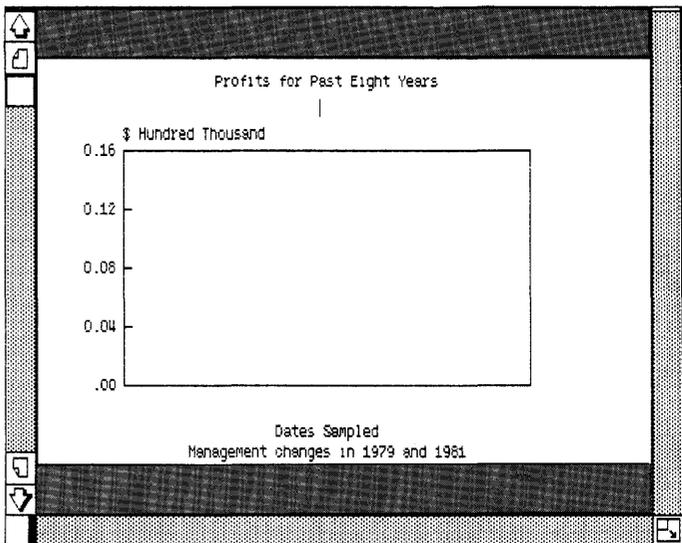


Figure 3. Graph with Real Titles

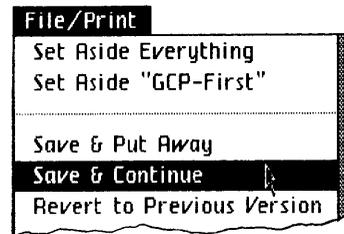
---

## ***Saving a Document***

It is a good idea to save the changes you make to a document about every quarter hour that you work on it, and, naturally, save the changes when you finish. That way you have a very up-to-date document to fall back to should an unforeseen power failure wipe out the changes you are making.

To save your first graph as it looks now,

- ▶ Choose Save & Continue from the File/Print menu.



---

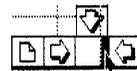
## ***About Tables***

The information here explains how to move around the table and how to select cells. After you learn this, you will enter data in the table on your screen and watch as LisaGraph automatically plots that data as a graph.

A LisaGraph table is composed of cells that are arranged in rows numbered at the left side of the table and columns labeled alphabetically across the table. Each cell is identified by its coordinates in the table, such as A1 and J200.

Because a LisaGraph table is 255 cells across by 255 cells down, there will be times when you need to see more of it than currently fits in the table view. To widen the table view,

- ▶ Move the pointer into the width control at the bottom of the table's scroll bar; press and hold down the mouse button while moving the width control to the right side of the document window.



- ▶ Release the mouse button when the width control is beside the size control on the right side of the window.



As soon as you press the mouse button, a flickering outline appears that you can move back and forth with the width control until you release the mouse button. Your document should look like Figure 4; if it doesn't, repeat the instructions above.

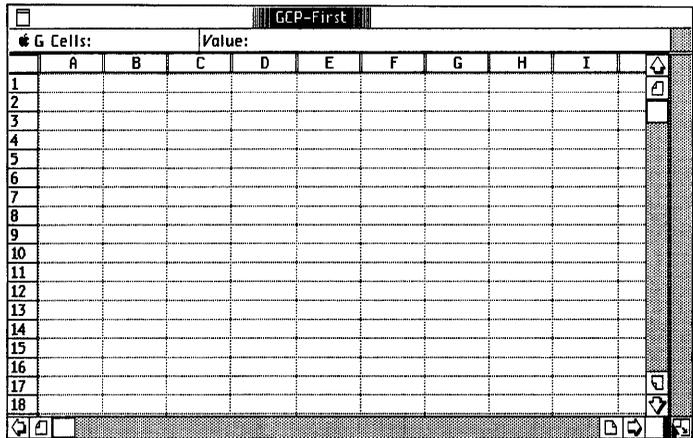


Figure 4. Widened Table View

By the way, you can move the width control all the way to the left to fill the window with a view of the graph. Now back to the discussion.

### Selecting a Cell

Before you can enter data in the table, you must select the cell that you want to enter data into. To select a cell,

- Move the pointer, which is a hollow cross-hair in the table, into cell A1 and click the mouse button once. The selected cell is highlighted.

	A	B
1	+	
2		

Once you have a cell selected, you can use the **(Tab)**, **(Return)**, and arrow keys to move to, and select, other cells. For example,

- Press the **(Tab)** key once to get to the next cell in the row, B1.

	A	B
1		+

- ▶ Press **(Tab)** several times while you watch each cell in the row become highlighted when it is selected.

You can use the **(Return)** key to move down to the first cell in the next row from anywhere in the table. For example,

- ▶ Press the **(Return)** key. Notice that cell A2 is selected.

	A	B
1	+	
2	+	

- ▶ Press **(Return)** several times and watch as cells A3, A4, and A5 are selected.

In addition to the **(Tab)** and **(Return)** keys, you can use the arrow keys to move to and select another cell. For more information about the arrow keys, see Section C, *LisaGraph Reference Guide*, Chapter 1, under *Selecting*. Now that you know how to move around the table and how to select cells, you are ready to enter data in the table.

## Entering Values

The data in each cell is called the cell's "value." In the following activities you will enter numeric values that represent years and actual profit figures. As you type values into row 1 of columns A and B, *LisaGraph* automatically draws a bar on the graph. To enter values into cells A1 and B1,

- ▶ Move the pointer into cell A1 and click the mouse button to select the cell.

	A	B
1	+	
2		

- ▶ Type the number

**19746**

	A
1	19746

When entering numbers, use whichever set of numbers is most comfortable: either the numbered keys on the numeric keypad or the top row of keys on the keyboard. In both cases, you can use other keys on the keyboard to move to and select the next cell.

A value isn't accepted until you select another cell, so you can still correct typing mistakes with the **(Backspace)** key. For example, to correct the entry in cell A1 so that it reads "1975,"

- ▶ Press the **(Backspace)** key to remove the 6 and 4; then type

	A
1	1975

5

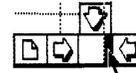
- ▶ Press **(Tab)** to move into cell B1 and select it; then type

	A	B
1	1975	2.1
2		

### 2.1 **(Return)**

The value in cell A1 is coordinated with the value in cell B1 and the pair of points is plotted as a bar. To see this,

- ▶ Move the width control to the left, so that the flickering outline that follows it appears in the middle of column D in the table.



Your document should look like the one in Figure 5.

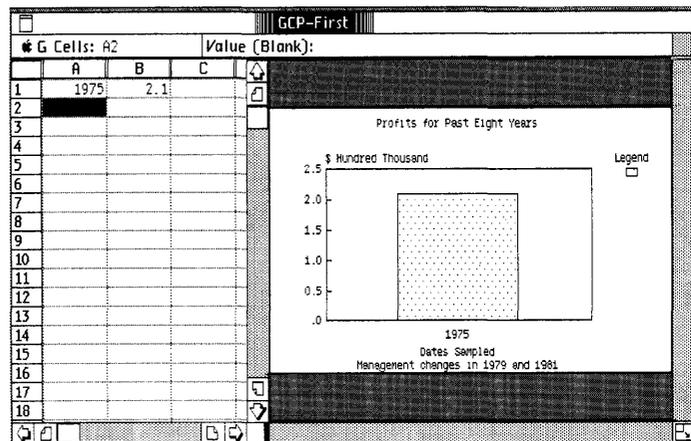


Figure 5. Data Pair Plotted as Bar

The value in cell A1 is plotted horizontally across the graph's X-axis. On a bar graph, LisaGraph uses each value in column A as an X-axis label whether the X-axis is numeric or text. X-axis labels are spaced evenly across the bottom of the graph.

The value in cell B1 is plotted vertically along the graph's Y-axis, between the bottom and the top of the graph. LisaGraph calculates the range of Y-axis labels to include all the values in columns B through I. In this case, the Y-axis labels along the left edge of the graph range from zero to slightly above the highest numeric value, 2.1.

The range of the axis labels determines the amount of white space above and below bars on a graph. For example, the difference between the high point of the Y-axis range and the value of cell B1 provides the white space between the bar and the top of the graph. You will learn how to customize a range of axis labels in Chapter 2, Customizing a Graph, in this tutorial.

---

## ***Adding Values***

---

A data pair, the value in cell A1 paired with the value in cell B1, puts one bar on the graph. When you add another data pair to the table, for example, when you enter another year in A2 and another profit figure in B2, another bar will be added to the graph.

- ▶ Make sure that cell A2 is selected and then type

1976 (Tab) 3.6 (Return)

	A	B
1	1975	2.1
2	1976	3.6

There should be two bars on the graph and the axis labels should have changed to reflect the new values in the table. As long as you enter data into columns A and B, bars will be added to the set and the range of axis labels will be calculated automatically.

However, suppose you want to compare the company's actual profits, in column B, with its projected profits. To do that you would enter figures for projected profits into column C. For example,

- ▶ Select cell C1 with the mouse and pointer.



► Type

2.1 **Return**

**Tab** **Tab** 3.2 **Return**

1977 **Tab** 4.1 **Tab**

4.9 **Return**

	A	B	C
1	1975	2.1	2.1
2	1976	3.6	3.2
3	1977	4.1	4.9

Your graph should look like Figure 6.

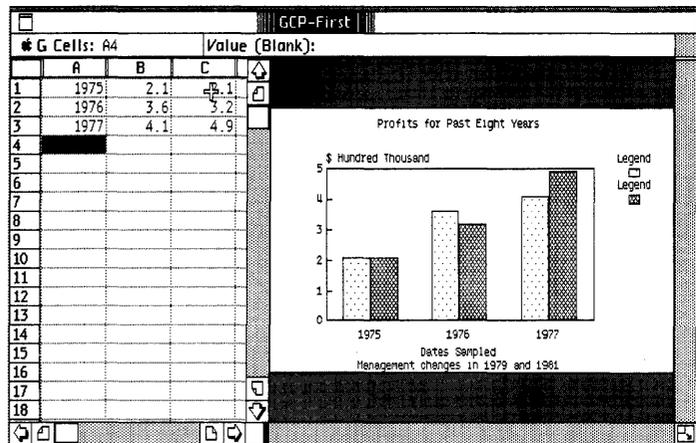


Figure 6. Clustered Bar Graph

LisaGraph now pairs the data in column A with the data in column C and adds another set of bars, with a different pattern, to the graph to produce what is called a clustered bar graph. Notice that a legend appears on the right side of the graph to explain what each pattern represents.

In this case, column A contains dates, column B contains actual profits, and column C contains projected profits. Therefore, the first pattern represents actual profits compared annually, data pairs from columns A:B; the second pattern represents projected profits compared annually, data pairs from columns A:C.

To change the text in the legend to reflect what the data pairs represent,

► Select the first "Legend."



- ▶ Type **Actual** 
- ▶ Select the second "Legend." 
- ▶ Type **Projected** 

Though the text of a legend can be edited, its pattern cannot. LisaGraph has eight preset patterns that are designed to look well together on a graph; there is one pattern for each set of data pairs from columns A:B through A:I through A:I.

To complete your graph,

- ▶ Enter these values in your table.

	A	B	C
4	1978	1.4	6
5	1979	-3.5	2.5
6	1980	-2.8	2.5
7	1981	- .8	1.5
8	1982	1.9	2

Remember that a value isn't entered, or data plotted, until you select another cell in the table or press the **(Enter)** key. If there is an incomplete entry when you try to save, print, or put the document away, an alert box appears that tells you this; you must complete the entry before you can continue. When you finish entering the data, your graph should look like Figure 7.

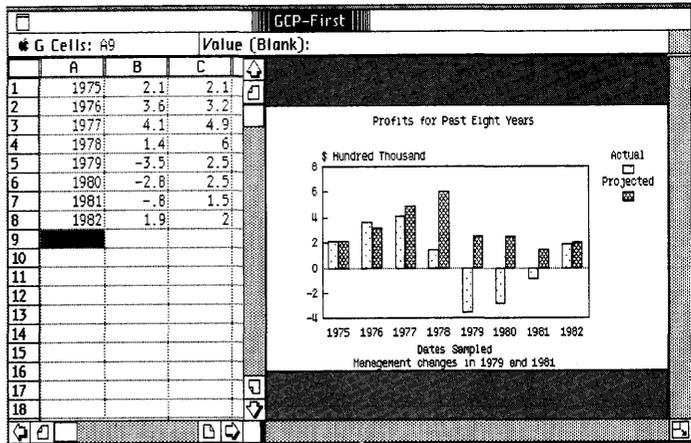
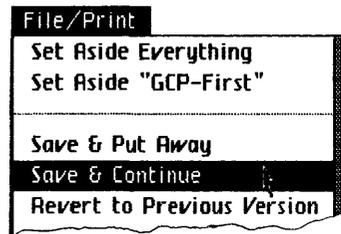


Figure 7. Completed Graph

- Choose Save & Continue from the File/Print menu.

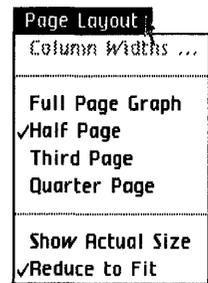


Now that you have completed your graph, you will print it to see how it looks. First, you need to choose a size for the printed copy.

## About Graph Sizes

Both the graph's printing sizes and screen sizes are located on the Page Layout menu. To find out what the current sizes are,

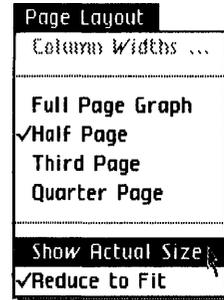
- Open the Page Layout menu and read the checked items; then close the menu without choosing an item.



The checked items tell you that the graph will print on half a page and that it is reduced to fit in the graph view regardless of the size of the view. As you prepare your own graphs, you may notice that when a graph is reduced to fit into a very small view text can overlap on the screen.

To show the graph on the screen in its actual size to see how it will look when printed on half of a sheet of 8-1/2 x 11 inch paper,

- Choose Show Actual Size from the Page Layout menu.



The graph expands to the printing size and proportions specified in the Page Layout menu and the Format for Printer dialog box. To expand the graph view so that you can see as much of the graph as possible,

- Move the width control to the left edge of the window.
- Your graph should fill the window, as shown in Figure 8.

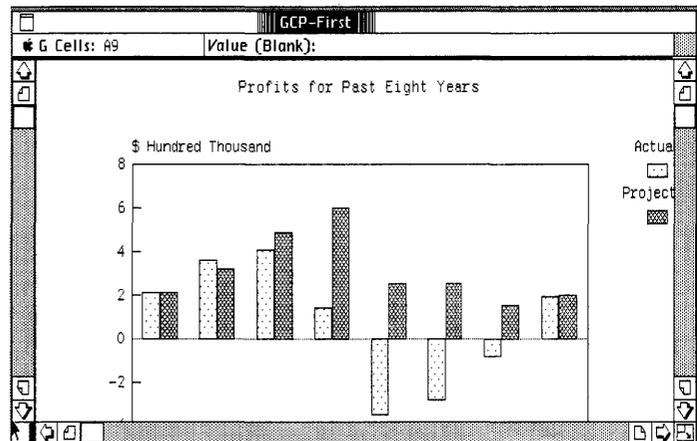


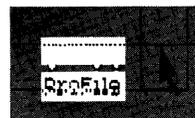
Figure 8. Graph Fills Window

To expand the entire window so that you can see even more of the graph,

- ▶ Move the pointer into the size control box in the bottom right corner of the window.



- ▶ Press and hold down the mouse button while moving the flickering outline toward the bottom of the screen; release the mouse button when the pointer touches the bottom.



Your screen should look like Figure 9.

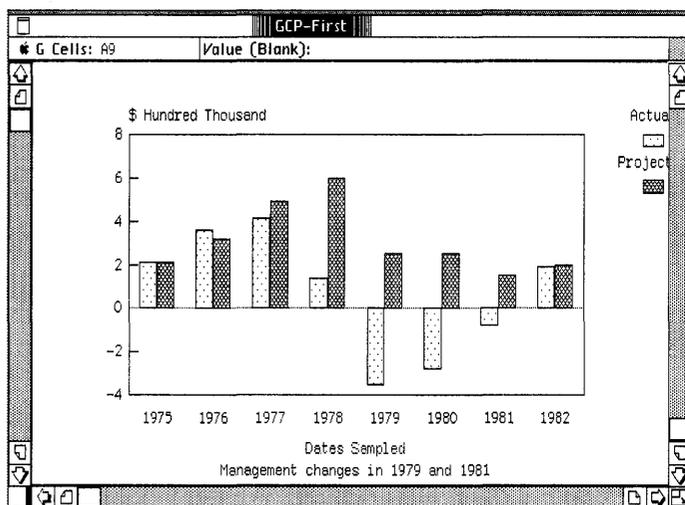


Figure 9. Window Shows Almost Half a Page

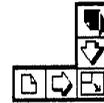
To see another part of the graph,

- ▶ Move the pointer into the view button in the bottom-right corner of the horizontal scroll bar and click the mouse button.



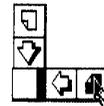
When you click on a view button, another view of the graph appears. In this case, you scrolled the legend on the right side of the graph into view. To scroll the bottom of the graph into view,

- ▶ Move the pointer into the view button at the bottom of the graph's vertical scroll bar and click the mouse button.



To finish previewing the graph,

- ▶ Choose the view button in the bottom-left corner of the horizontal scroll bar and confirm that nothing on the graph looks cramped or out of place.



---

## **Printing a LisaGraph Document**

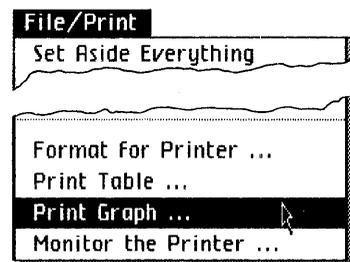
To print a document, you naturally have to have a printer connected to your Lisa. If you don't have a printer, or if it is not set up, you can skip this section for now, and proceed to Putting a Document Away, later in this chapter.

To find out how to set up your printer and hook it up to the Lisa, refer to the manual that came with your printer.

You also need to set up Preferences correctly for your printer. If you have not already done this, do it now. To set up Preferences for your printer, refer to Section D, Desktop Manager Reference Guide, in the *Lisa Owner's Guide*, under Set Printer Configuration.

Once the printer and Preferences have been set up, printing your graph is very easy. Just

- ▶ Choose Print Graph from the File/Print menu.



A Print dialog box appears on your screen, like Figure 10.

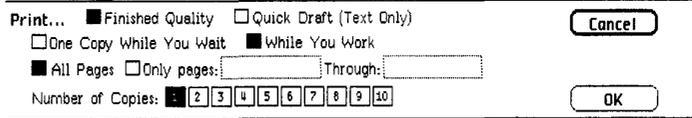
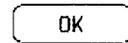


Figure 10. Print Dialog Box

All print settings are as you need them right now. You learn to use the different settings available in the Print dialog box, and the menu item Format for Printer, in Section C, LisaGraph Reference Guide, Chapter 2, under Print.

- ▶ Click OK in the dialog box.



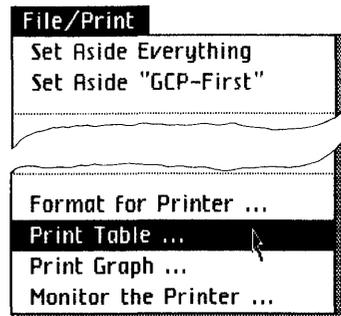
Your Lisa displays a message saying that it is preparing to print your graph and allow you to continue working, since the Print dialog box specified that you wanted to print your first graph while you work. After that message, the Lisa displays an alert box asking you if you want to cancel the printing or proceed with it. To respond to the message,

- ▶ Click Proceed to continue working while your document is being printed.

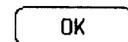
If your Lisa cannot print the document while you work, it will display a message to let you know that, and you will have to wait until the document is finished printing and the message disappears.

You can print the table when the graph finishes printing. To print the table,

- ▶ Choose Print Table from the File/Print menu.



- ▶ Click OK.

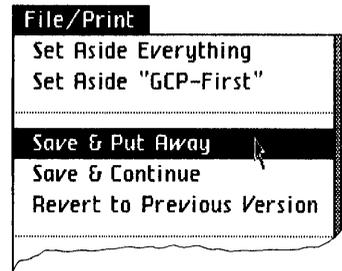


- ▶ Click Proceed when the Monitor the Printer dialog box appears.

## Putting a Document Away

You will need the graph that you created in this chapter to complete the activities in Chapter 2, Customizing a Graph. To put this document away,

- ▶ Choose Save & Put Away from the File/Print menu.



The document window closes automatically and its icon goes back beside the stationery pad in the disk window. Now you can move the document icon to an empty place in the disk window.

- ▶ Move the pointer into the icon of the document you just created. Press and hold down the mouse button while moving the icon to an empty place in the disk window.



- ▶ Release the mouse button.

This concludes Chapter 1. Go on to the next chapter if you'd like to learn more about LisaGraph, or come back to it at a later time.

## Chapter Summary

Get stationery for a new graph	<ul style="list-style-type: none"><li>■ Open the ProFile window.</li><li>■ Tear off a graph from the LisaGraph stationery pad.</li><li>■ Name the graph.</li><li>■ Open the new graph.</li></ul>
Choose a graph format	<ul style="list-style-type: none"><li>■ Choose Bar, Line, Scatter, or Pie from the Graph menu.</li></ul>
Replace text on a graph	<ul style="list-style-type: none"><li>■ Select the text.</li><li>■ Type the new text.</li></ul>
Insert text on a graph	<ul style="list-style-type: none"><li>■ Set an insertion point where you will add text.</li><li>■ Type the new text.</li></ul>
Cut text from a graph	<ul style="list-style-type: none"><li>■ Select the text.</li><li>■ Choose Cut from the Edit menu.</li></ul>
Cancel a change	<ul style="list-style-type: none"><li>■ Choose Undo Last Change from the Edit menu.</li></ul>
Save changes to a document	<ul style="list-style-type: none"><li>■ Choose Save &amp; Continue from the File/Print menu.</li></ul>
Move to and select the next cell in the row	<ul style="list-style-type: none"><li>■ Press the <b>Tab</b> key.</li></ul>
Move to and select the first cell in the next row	<ul style="list-style-type: none"><li>■ Press the <b>Return</b> key.</li></ul>

Enter a value in a cell	<ul style="list-style-type: none"> <li>■ Select the cell.</li> <li>■ Type the data.</li> <li>■ Press <b>Enter</b>, <b>Tab</b>, <b>Return</b>, or an arrow key, or select another cell with the mouse and pointer.</li> </ul>
Change graph's printing size	<ul style="list-style-type: none"> <li>■ Choose a size from the Page Layout menu.</li> </ul>
View the graph's printing size	<ul style="list-style-type: none"> <li>■ Choose Show Actual Size from the Page Layout menu.</li> </ul>
Expand the view of the graph or table	<ul style="list-style-type: none"> <li>■ Move the pointer into the width control.</li> <li>■ Press and hold down the mouse button while moving it and the flickering outline to either the left (to see more graph) or to the right (to see more table).</li> <li>■ Release the mouse button when the outline flickers in the desired place.</li> </ul>
Put a document away	<ul style="list-style-type: none"> <li>■ Choose Save &amp; Put Away from the File/Print menu.</li> </ul>

---

## Print a graph or a table

- If you haven't set up your printer yet, see the manual that came with your printer.
- If you haven't set printer Preferences yet, see Section D, Desktop Manager Reference Guide, in the *Lisa Owner's Guide*, under Set Printer Configuration.
- If you need to change any of the options for this document in the Format for Printer dialog box, choose Format for Printer from the File/Print menu and change the options.
- Choose Print Graph or Print Table from the File/Print menu.
- Respond to any dialog boxes that appear.

# **Chapter 2**

## ***Customizing a Graph***

---

# Customizing a Graph

---

This chapter guides you as you customize a graph with grid lines, annotations, and other styles of text. You also learn about pie charts and how to add a line to a bar graph. Specifically you learn to

- Get a filed graph.
- Add grid lines.
- Change a range of axis labels.
- Plot some data as a line.
- Change type styles.
- Duplicate a graph.
- Annotate a graph for a report.
- Plot data as a pie chart.
- Create your own LisaGraph stationery.

You will use the graph you created in Chapter 1 to complete the activities in this chapter. If you didn't complete the activities in Chapter 1, now is a good time to do so.

## Getting an Existing Document

To retrieve the graph you filed at the end of Chapter 1,

- ▶ Open the window of the graph you created in Chapter 1.



If you cannot locate the graph you created in Chapter 1,

- ▶ Open the folder named LisaGraph Examples.



- ▶ Tear off a graph from the stationery pad named Chapter 2. Type your initials; then type



-First

- ▶ Open the document's window.



Your document should look like the one shown in Figure 11.

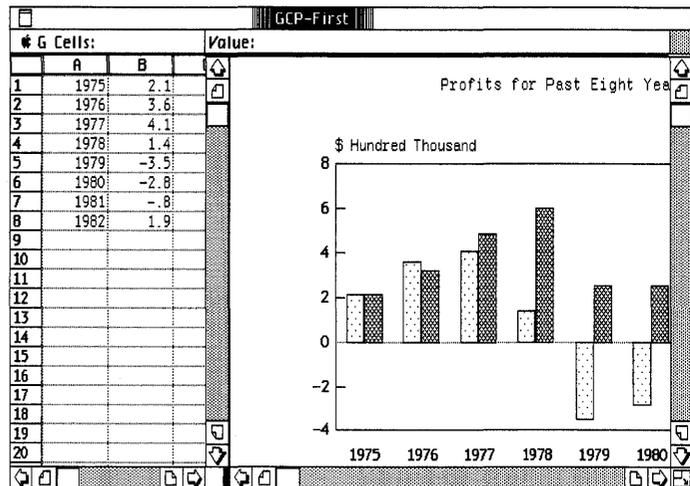
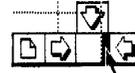


Figure 11. Standard Bar Graph

The document window has the same size and proportions as it did when you put the document away. However, both the table and graph are visible. Notice that the graph is displayed in its actual size, as it was when you previewed it before printing at the end of Chapter 1.

You will be working almost exclusively with the graph while completing the activities in this chapter. To prepare your screen so you can see the graph but not the table,

- ▶ Move the width control and the flickering outline that follows it to the extreme left side of the table.



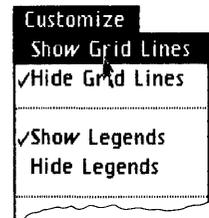
When you release the mouse button, only the graph should be visible. To begin customizing your graph, you will add grid lines to make it more readable. After that you will customize a range of axis labels and change type styles.

---

## ***Adding Grid Lines***

Grid lines help you interpret data points more precisely. To see what grid lines do,

- ▶ Open the Customize menu and note which item is checked; then choose Show Grid Lines.



Your graph should look like Figure 12. A grid line extends across the graph from each Y-axis label at the left border to the right border.

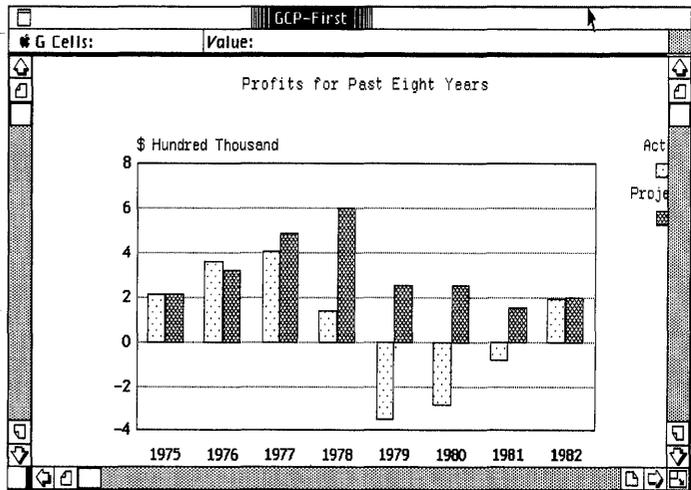


Figure 12. Grid Lines

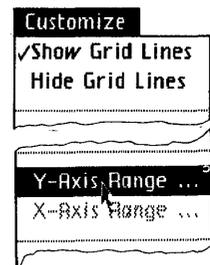
The format of your graph determines where grid lines are placed. To find out about grid lines on line graphs and scattergrams, see the Grid Lines on a Graph procedure, under Format, in Chapter 2 of Section C, LisaGraph Reference Guide.

## Changing a Range of Axis Labels

On bar graphs, all values in column A of the table become X-axis labels that appear across the bottom of the graph. For Y-axis labels, LisaGraph automatically calculates a numeric range that includes all values in columns B through I of the table.

Notice that the Y-axis labels on the left side of your graph range from  $-4$  to  $+8$  and that the Y-axis origin is at zero, which accounts for the inverted bars that represent negative values. In most cases, the automatic range of axis labels is appropriate. However, when you aren't satisfied with the automatic range, you can customize it. For example,

- Choose Y-Axis Range from the Customize menu.



A dialog box appears that shows that the current range was calculated automatically. You should see a dialog box like Figure 13.

---

Y-axis: Minimum:	Automatic	<input type="button" value="Cancel"/>
Origin:	Automatic	
Maximum:	Automatic	
Increment:	Automatic	
Please enter a number or the word "Automatic".		<input type="button" value="OK"/>

---

Figure 13. Automatic Y-Axis Range

Notice that the values plotted on your graph range between  $-3.5$  and  $6.0$ . To change the origin to  $-3.5$ , the maximum to  $7.0$  and the increment to  $4$ ,

- ▶ Move the pointer into the word "Origin:" and click the mouse button three times to select the current value, "Automatic."
 

Origin:	Automatic
---------	-----------
  
- ▶ Type
 

Minimum:	Automatic
Origin:	-3.5
Maximum:	7
Increment:	4

-3.5   
 7   
 4
  
- ▶ Click OK to set the range.
 

<input type="button" value="OK"/>
-----------------------------------

The Y-axis range is recalculated according to your specifications, and the graph is redrawn. Notice that since you didn't specify any particular axis minimum, it was calculated automatically by LisaGraph. Your graph should look like Figure 14.

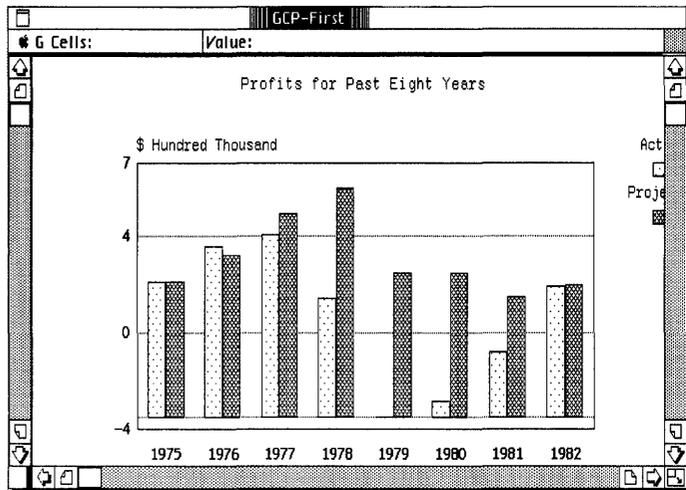
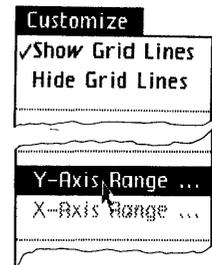


Figure 14. Customized Y-Axis Range

With the axis origin set at the lowest value, instead of at zero, the bars that represent negative numbers are no longer inverted and the drama of the negative values is lost. To restore the automatic range to your graph,

- Choose Y-Axis Range from the Customize menu.

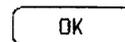


- Select "Origin:"; then type

automatic **Return**  
**Backspace** **Return**  
**Backspace** **Return**

Minimum: Automatic  
 Origin:  $\int$  automatic  
 Maximum:  
 Increment: |

- Click OK.



The automatic range is restored and your graph should again look like Figure 13. If you press **Backspace** instead of a value in the dialog box, or if the value you enter is not a number, LisaGraph assumes that you want the automatic setting.

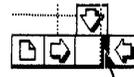
If you enter a value in the table that exceeds the specified axis range, LisaGraph adjusts the range automatically to include the new value. See the X-Axis Range and Y-Axis Range procedures, under Format, in Chapter 2 of Section C, LisaGraph Reference Guide.

## ***Plotting Some Data on a Bar Graph as a Line***

Your bar graph uses two sets of differently patterned bars to compare actual profits with projected profits. To dramatize the comparison between actual profits and projected profits, plot one set of values as a line.

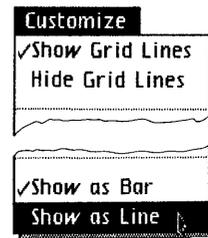
To prepare your screen so that you will be able to see columns A and B in the table and part of the graph,

- ▶ Move the width control so that the flickering outline touches the word “Value” in the status panel.



To plot the actual profits in column B as a line on your bar graph,

- ▶ Select column B by moving the pointer into its header and clicking the mouse button.
- ▶ Choose Show as Line from the Customize menu.



The data in column B are replotted as boxes connected with a line. Your document should look like Figure 15.

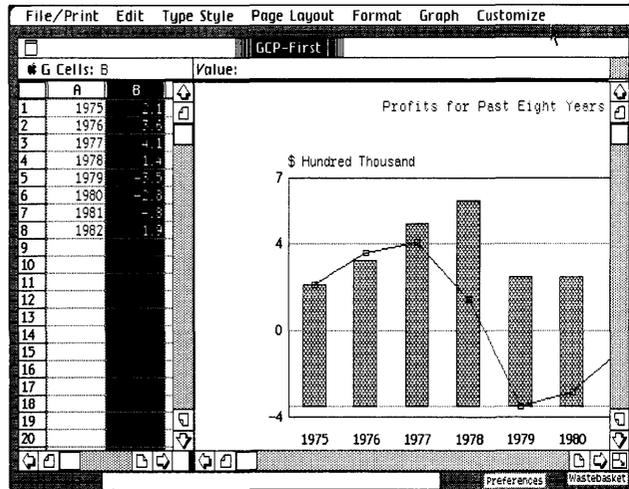


Figure 15. Bar Graph with Line

Notice that the bars have been widened to maintain a balanced appearance. To enhance the graph further, you are going to change the style of the title and footnote.

## Changing Type Styles

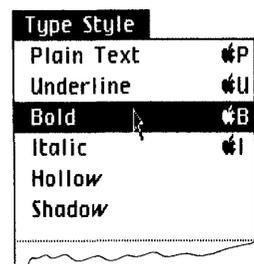
Many sizes and styles of type are available from the Type Style menu. Styles include bold, italic, underline, shadow, hollow, and plain. The standard type style is plain.

You can change the style of text on a graph only when the graph is shown actual size. You cannot change the style of X- or Y-axis labels, however, because they are generated by LisaGraph, and you cannot select them.

To change the graph's Y-axis title to bold,

- ▶ Select the Y-axis title by moving the pointer into it and clicking the mouse button three times.
- ▶ Open the Type Style menu and note which items are checked; then choose Bold.

**\$ Hundred Thousand**



- ▶ Select the graph's title, scrolling it into view if necessary, and style it in bold.
- ▶ Select another spot on the graph so that you can see the bold text.

Your document should look like the one in Figure 16.

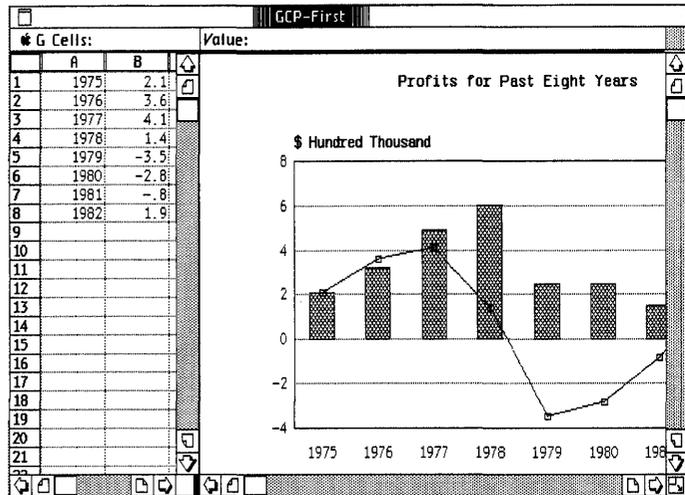


Figure 16. Bold Title and Y-Axis Title

There are several type “fonts” available in addition to the various styles. A font is type of a particular size and face; a font can be any style. The standard font is plain 12 Pitch Modern.

The Type Styles for the Graph procedure, under Format, in Chapter 2 of Section C, LisaGraph Reference Guide, explains about type styles and sizes for the graph and provides some guidelines used by professional printers. In addition, there are examples of each type font in Appendix 3, Type Fonts, in this manual.

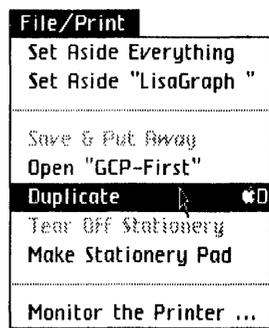
- ▶ Print the graph if you like.
- ▶ Choose Save & Put Away from the File/Print menu.

If you would like to stop for a while, this is a good place to do so; you can resume the tutorial with the following section.

## Duplicating a Graph

You are going to make two copies of your graph: one to annotate for a printed report and one to change into a pie chart. To duplicate your first graph,

- ▶ Move the pointer into the icon of your first graph and click the mouse button to select it.
- ▶ Choose Duplicate from the File/Print menu.



A duplicate appears and its icon flashes beside the original. You must move the flashing icon before you do anything else or it will vanish; the duplicate is not actually made until you move the icon. To move the icon to another spot in the window,

- ▶ Move the pointer into the flashing icon; press and hold down the mouse button while moving the icon to a clear spot just to the right of the original.
- ▶ Release the mouse button when the icon is in an open space in the window.



To change the name of the duplicate,

- ▶ Type  
Pie



Now, do the same with the document named Pie.

- ▶ Duplicate the document named “Pie,” move the duplicate to a clear spot in the window and change its name to “Report.”

You now have three graphs: the graph you created and customized, a duplicate named “Pie,” and another duplicate named “Report,” as shown in Figure 17.



Figure 17. Original Document and Two Duplicates

## Filing a Graph

You could leave the documents where they are in the ProFile window, but it would soon become cluttered with a lot of document icons. However, you can create a folder to contain all related documents. To do this,

- ▶ Move the pointer into the icon named Empty Folders in the ProFile window and click the mouse button twice.



- ▶ Type **Tutorial-** followed by your initials.

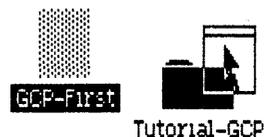


To put your first graph into your personal folder,

- ▶ Move the pointer into the icon of your first graph; press and hold down the mouse button while moving the document icon over the folder icon you just named.



- ▶ Release the mouse button when the folder icon becomes highlighted.



- ▶ Move the documents named “Pie” and “Report” into your personal folder.
- ▶ Move your personal folder to a clear spot in the ProFile window.

## Annotating a Graph

It is good practice to keep graphs for overhead or slide presentations simple. When you create graphs for reports you can annotate them to get additional information across.

One version of the graph will be used in a report; it needs additional information. To prepare for this activity,

- ▶ Open your personal folder.

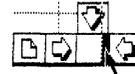


- ▶ Open the document named “Report.”



The document is an exact duplicate of your first graph.

- ▶ Move the width control and the flickering outline into the row numbers on the left side of the table.



Your graph should fill the window. To insert a note about an overall economic slump from the second quarter of 1978 through the second quarter of 1980,

- ▶ Move the pointer to the right of the tallest bar on the graph and click the mouse button to set an insertion point.
- ▶ Type

### Overall Economic Slump

To emphasize the annotation,

- ▶ Select it and choose Bold from the Type Style menu.
- ▶ Select another spot on the graph so that you can see the annotation clearly.

Your graph should look like Figure 18.

- ▶ Print the graph if you like.
- ▶ Put the document away.

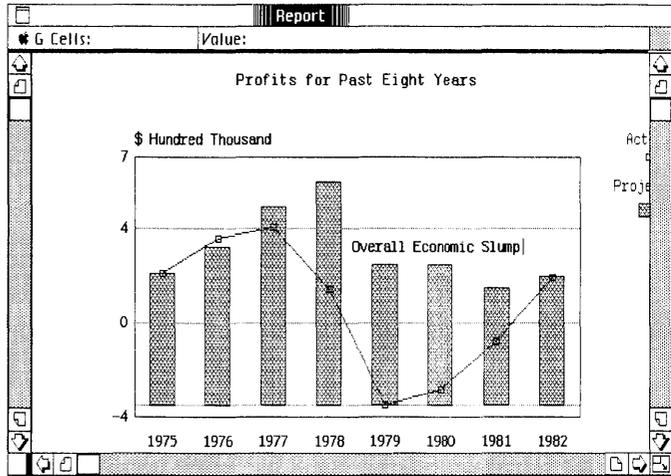


Figure 18. Annotated Bar Graph

You can enhance the graph further by adding arrows to it with LisaDraw. To do this, see the *LisaDraw* manual, Section B, LisaDraw Tutorial, Chapter 5, LisaDraw and Other Tools.

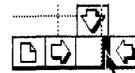
## Making a Pie Chart

Your bar graph compares actual profits against projected profits over an eight-year period. But suppose you want to show the contribution of each year's actual profits to the total profits for the time period. Pie charts are best suited for this. To plot the data as a pie chart, use the duplicate bar graph named "Pie."

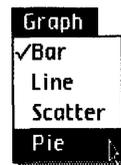
- ▶ Open the document named "Pie."



- ▶ Move the width control and flickering outline into the row numbers on the left side of the table.



- ▶ Choose Pie from the Graph menu.



Pie charts are calculated from only the data in columns A and B of the table. Since pie charts have no X or Y axis, axis labels are dropped. Legends are concealed automatically on pie charts.

The data in column A become segment labels. The positive data in column B are totaled and each positive value is plotted as a percentage of the total. Negative and zero values in column B are ignored.

Pie segments are arranged clockwise from largest to smallest, regardless of how data are arranged in the table. Your graph should look like Figure 19.

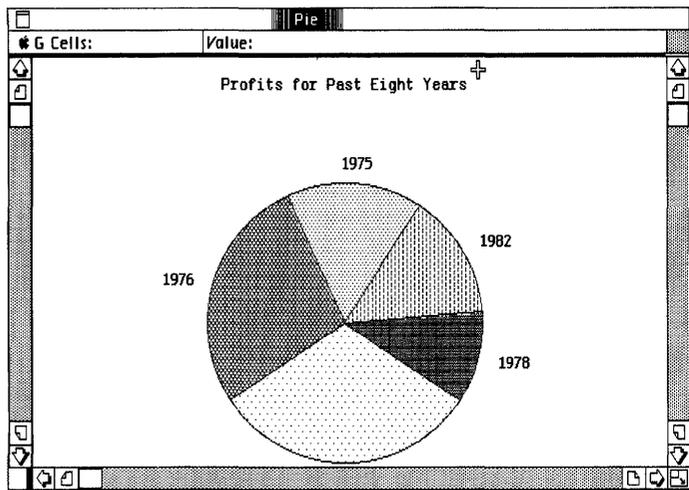


Figure 19. Pie Chart

In this case, Actual Profits for each year are compared with the total profits for all years, the whole pie. Negative values are, naturally, not plotted and the negative values do not affect the total.

- ▶ Scroll to preview the pie chart, if you like.
- ▶ Print the pie chart, if you like.
- ▶ Put the document away; then put your personal folder away.

For more information on scattergrams, line graphs, bar graphs, and pie charts, see Chapter 5, Sample Graphs, in this tutorial, and see the Graph Format procedure, under Format, in Chapter 2 of Section C, LisaGraph Reference Guide.

## Creating Your Own Stationery

To save time when preparing and formatting graphs, you may want to customize stationery and make a pad with some enhancements already on it. For example, suppose you want grid lines and bold titles on most graphs. To customize your own stationery,

- ▶ Tear off a graph from the stationery pad named LisaGraph Paper.



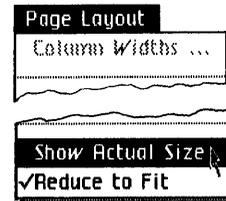
- ▶ Type the name **Custom Pad**



- ▶ Open the document's window.



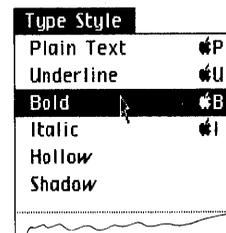
- ▶ Choose Show Actual Size from the Page Layout menu.



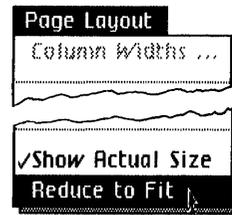
- ▶ Choose Show Grid Lines from the Customize menu.



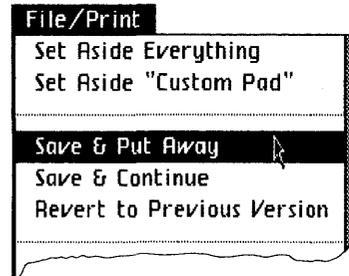
- ▶ Select the graph title, then choose Bold from the Type Style menu; repeat with the graph's subtitle.



- ▶ Choose Reduce to Fit from the Page Layout menu.



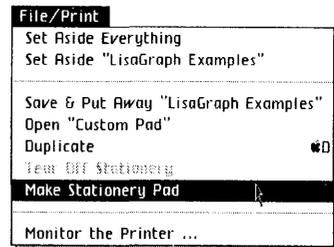
- ▶ Choose Save & Put Away from the File/Print menu.



- ▶ Make sure the document's icon is selected.



- ▶ Choose Make Stationery Pad from the File/Print menu.



The document is transformed into an endless supply of stationery, which you can use to create new documents. In this case, you get grid lines and a bold title and subtitle on all graphs that you make from this stationery. You also can format a table and make a stationery pad.

- ▶ Move your custom stationery pad to a clear spot in the ProFile window.

This concludes Chapter 2. If you want to continue learning about LisaGraph, go on to Chapter 3 or begin your own document and look in Section C, LisaGraph Reference Guide, for directions for performing specific tasks.

---

## **Chapter Summary**

- |                                    |   |
|------------------------------------|---|
| Get a filed graph                  | <ul style="list-style-type: none"><li>■ Open the ProFile window.</li><li>■ If the document is in a folder, open the folder.</li><li>■ Open the document's window.</li></ul>   |
| Show grid lines                    | <ul style="list-style-type: none"><li>■ Choose Show Grid Lines from the Customize menu.</li></ul>   |
| Hide grid lines                    | <ul style="list-style-type: none"><li>■ Choose Hide Grid Lines from the Customize menu.</li></ul>   |
| Change a range of axis labels      | <ul style="list-style-type: none"><li>■ Choose X-Axis Range or Y-Axis Range from the Customize menu.</li><li>■ Select the specification to be changed.</li><li>■ Type the new specification.</li><li>■ Repeat to change other range specifications.</li><li>■ Click OK to confirm the new range or click Cancel to cancel the changes you made and dismiss the box.</li></ul> |
| Plot data on a bar graph as a line | <ul style="list-style-type: none"><li>■ Make sure you are working with a bar graph.</li><li>■ Select the column in the table that contains the data that you want plotted as a line.</li><li>■ Choose Show as Line from the Customize menu.</li></ul>   |

---

Change a line back to a bar

- Make sure you are working with a bar graph that has some data plotted as a line.
- Select the column in the table that contains the data that are plotted as a line.
- Choose Show as Bar from the Customize menu.

---

Change type styles on a graph

- Select the text to be changed.
- Choose one or more styles from the top section of the Type Style menu: bold, italic, underlined, and the like.

---

Duplicate a graph

- Select the icon of the graph that you want to duplicate.
- Choose Duplicate from the File/Print menu.
- Move the duplicate's flashing icon to a new spot in the window or into a folder.
- Change the duplicate's name.

---

File a graph

- Move the document's icon into a folder of related documents or tear off an empty folder, name it, and then move the document's icon into it.

---

Annotate a graph

- Set an insertion point where you want to add text on a graph.
- Type whatever text you want to add.

---

Change graph's format

- Choose a format from the Graph menu: bar, line, scattergram, or pie.

---

Create your own stationery

- Tear off a graph from the stationery pad named LisaGraph Paper.
- Type the name of the new stationery.
- Open the new graph's window.
- Customize the table and graph to suit your application.
- Put away the customized document.
- Select the document's icon, if it isn't already selected.
- Choose Make Stationery Pad from the File/Print menu.

# ***Chapter 3***

## ***Formatting and Editing a Table***

---

# ***Formatting and Editing a Table***

---

In this chapter, you concentrate on the table as you change data and see how changes affect the graph. Specifically, you learn to

- Change the width of one or more columns.
- Change the table's display size and printing type font.
- Change the alignment and number style of values in a cell.
- Locate and select a particular cell in the table.
- Replace, insert, and cut data from a cell.
- Move a column.
- Insert a column and row.

For the activities in this chapter, assume that you have received a partially completed graph from one of the accountants in your office and that you are responsible for editing the table and getting the graph ready for presentation. If you have used LisaCalc, you may notice many similarities between LisaGraph and LisaCalc; a LisaGraph table and a LisaCalc spreadsheet share most editing features.

# Getting Ready

To prepare for the activities in this chapter,

- ▶ Open the ProFile window.



- ▶ Open the LisaGraph Examples folder.



- ▶ Tear a graph from the pad named Chapter 3.



Chapter 3

- ▶ Type your initials; then type  
-Chapter 3

- ▶ Open the document you just named.



Your graph should look like Figure 20.

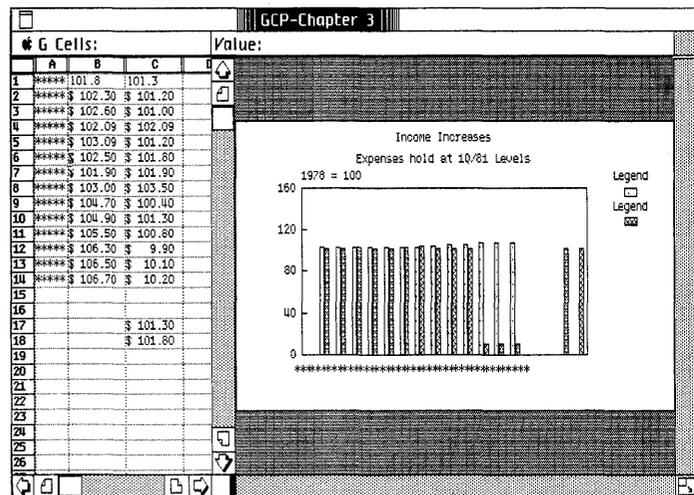


Figure 20. LisaGraph Chapter 3

The graph is supposed to compare income, capital expenses, and total expenses at quarterly intervals over a four year period. However, the table currently contains only the Y-axis data: one column of figures each for total expenses, income, and capital expenses. A column of dates, the X-axis data, must be added to the table before the correct comparison is shown on the graph.

Also, several bars are missing from the graph because some of the Y-axis data is text instead of a number. In fact, there are several changes that must be made to the table before it is legible and before the graph can show the proper comparison. This chapter guides you as you make those changes.

## Changing Column Widths

Asterisks fill a cell when it is not wide enough to display its value. To make cells wider or narrower, you can adjust the width of a column.

As you can see on your screen, all the cells in column A are filled with asterisks. To change the width of column A so that you can read the values in it,

- Position the pointer over the double lines, or grid handle, between column A and column B.

	A	B
1	*****	101.8
2	*****	\$102.30

- Press and hold down the mouse button while moving the pointer and the flickering outline that follows it into column B.

	A	B
1	*****	101.8
2	*****	\$102.30

- Release the mouse button when the outline is on the right side of the B in the column header.

	A	B
1	*****	101.8
2	*****	\$102.30

You can move a column boundary back and forth until you release the mouse button. When you release the mouse button, the column width is adjusted and all following columns are repositioned.

In this case, column A is wider than columns B and C. You can select columns A, B, and C and use a menu item to change the width of all three columns at once. For instance,

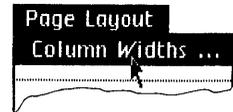
- ▶ Position the pointer in column A's header, press and hold down the mouse button while moving the pointer through column B into column C's header; then release the mouse button.

	A	+
1	\$	103.20
2	\$	102.10

	B	C	+
1	101.8	101.3	
	\$102.30	\$101.20	

Notice that columns A, B, and C are highlighted to indicate that they are selected.

- ▶ Choose Column Widths from the Page Layout menu.

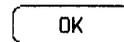


- ▶ When the dialog box appears telling you how many characters the first column in the selection can accommodate, type

9

of Characters: 9

- ▶ Click OK.



All three columns are adjusted to accommodate 9 characters each. Now,

- ▶ Move the pointer into the unlabeled box, called the deselect box, above row 1, and click the mouse button.

G Cells:	
	A
1	1975

When you click the deselect box, everything in the document is deselected and the document remains active. Notice that nothing in the table is selected at the moment. Your table should look like the one in Figure 21.

G Cells:			Value
	A	B	C
1	\$ 103.20	\$ 101.8	\$ 101.5
2	\$ 102.40	\$ 102.30	\$ 101.20
3	\$ 101.80	\$ 102.60	\$ 101.00
4	\$ 101.90	\$ 102.09	\$ 102.09
5	\$ 104.20	\$ 103.09	\$ 101.20
6	\$ 104.40	\$ 102.50	\$ 101.80
7	\$ 95.00	\$ 101.90	\$ 101.90
8	\$ 98.90	\$ 103.00	\$ 103.50
9	\$ 104.90	\$ 104.70	\$ 100.40
10	\$ 105.40	\$ 104.90	\$ 101.30
11	\$ 105.00	\$ 105.50	\$ 100.80
12	\$ 105.20	\$ 106.30	\$ 9.90
13	\$ 105.30	\$ 106.50	\$ 10.40
14	\$ 105.20	\$ 106.70	\$ 10.20
15			
16			
17			\$ 101.30
18			\$ 101.80
19			
20			
21			
22			
23			
24			
25			

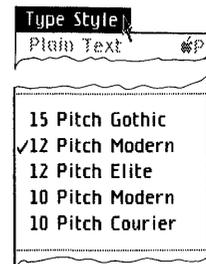
Figure 21. Matching Column Widths

Notice how difficult it is to read the values in the table. The next thing to do is to display the table in a readable size.

## Type Sizes and the Table

When any part of the table is selected, including the deselect box, the Type Style menu lists several type fonts for printing and several type sizes for the screen. A font is type of a particular size and face. To find out in which type font the table will print,

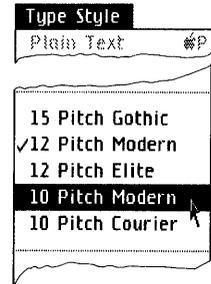
- ▶ Select cell B1, open the Type Style menu and read the item that is checked in the middle section of the menu; then release the mouse button without choosing an item.



12 Pitch Modern was checked, which means the type size for the table is 12 characters per inch in the Modern face. You can print any font using a dot-matrix printer. If you are using a letter quality printer, the table will print in the size and face on the print wheel.

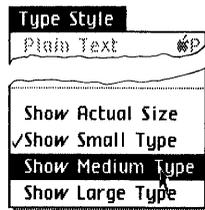
When you choose a type style for the table, the entire table is affected whether it was selected at the time or not. To print the table in a different size type font, say 10 characters per inch in the Modern face,

- Choose 10 Pitch Modern from the Type Style menu.



Nothing in the table changed because the view of the table on the screen is unaffected by changes to its printing font. The bottom portion of the Type Style menu lists sizes used to display the table on the screen. To change the type size of the table on the screen,

- Open the Type Style menu, note the display size checked at the bottom; then choose Show Medium Type.



The table had been displayed in small type, 15 characters per inch. You just changed the display type size to medium, 12 characters per inch. Your table should look like the one in Figure 22.

G Cells:			Val
	A	B	
1	\$ 103.20	101.8	10
2	\$ 102.10	\$ 102.30	\$
3	\$ 101.80	\$ 102.60	\$
4	\$ 101.90	\$ 102.09	\$
5	\$ 104.20	\$ 103.09	\$
6	\$ 104.10	\$ 102.50	\$
7	\$ 95.00	\$ 101.90	\$
8	\$ 98.90	\$ 103.00	\$
9	\$ 104.90	\$ 104.70	\$
10	\$ 105.10	\$ 104.90	\$
11	\$ 105.00	\$ 105.50	\$
12	\$ 105.20	\$ 106.30	\$
13	\$ 105.30	\$ 106.50	\$
14	\$ 105.20	\$ 106.70	\$
15			
16			
17			\$
18			\$
19			
20			

Figure 22. Table Shown in Medium Size Type

Show Small Type lets you see a larger portion of the table at one glance. Medium and large type are good display sizes for reading and editing values. Show Actual Size displays the table on the screen in the same type size that will be printed.

The type styles in the top portion of the menu appear in gray because they can't be used in the table. See Type Styles for the Table, under Format, in Chapter 2 of Section C, LisaGraph Reference Guide, for more information about type styles for tables.

## Locating Information in a Table

There are two ways to bring hidden information in a table into view. One way is to scroll hidden portions of the table into view, and the other way is to edit the status panel above the table so that it contains the coordinates of the cells that you want to work with.

---

## Scrolling

---

In Chapters 1 and 2 you used scroll controls to bring hidden portions of the graph into view. Now that the table is shown in a larger type size, you will use its scroll controls to bring various portions of the table into view.

Three kinds of scroll controls are provided in the bars that frame the table and graph views, as shown below. Each kind of control adjusts, to a lesser or greater degree, which portion of the document is visible.

A scroll arrow changes what is in view one line, column, or row at a time. The table view and graph view each have a set of four directional arrows when portions of the document are hidden off-screen.



A view button gets the next view-full or the previous view-full. The table view and the graph view have separate view buttons to scroll left, right, up, and down.



An elevator immediately gets any view of the document, depending on where within the scroll bar you move the elevator. The position of an elevator in its scroll bar shows the current view in relation to the entire document.

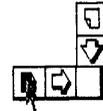


Note the positions of the table's elevators in their scroll bars. When a vertical elevator is at the top of its bar, the top of the document is visible; when it is at the bottom of its bar, the bottom of the document is visible.

When a horizontal elevator is at the left edge of its scroll bar, the left edge of the document is visible; when a horizontal elevator is at the right, the right side of the document is visible. Now the table's elevators indicate that the top-left corner is visible.

As you scroll, the elevators move to show you where the visible portion of your document is in relation to the beginning and end, and in relation to its left and right edges. Try some short-distance scrolling and see what happens.

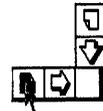
- ▶ Move the pointer into the table's right-view button and click the mouse button. Notice that column C is in view.



- ▶ Click the right-view button again, and column C moves to the left margin.

As you scroll, the table's elevator moves slightly in its scroll bar to indicate where the current view is in relation to the rest of the table. The elevator's movement wasn't very noticeable because the table is so wide.

- ▶ Position the pointer in the table's right-view button; hold down the mouse button and watch the table scroll continuously while the elevator moves continuously in its bar.

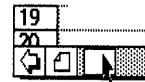


- ▶ Release the mouse button and note which column is in view.

If you scroll past column H, notice the dotted page boundary between columns H and I. Also, notice that column I and beyond have gray headers to remind you that these data are not plotted on the graph.

To scroll quickly through most of the document, for example, to get to the other side of the table, you can move the elevator to a new position in its scroll bar. Try it.

- ▶ Position the pointer in the table's horizontal elevator; press and hold down the mouse button while moving the elevator to the right side of the scroll bar.



- ▶ Release the mouse button when the elevator is by the view button.





In addition to showing you the coordinates of the selection in the table, the Cells area can be edited. The Value area can also be edited. For instance, you can replace the coordinates in the Cells area with the coordinates of the cells you want to select, and LisaGraph will select and display them for you. The easiest way to select the current coordinates in the Cells area is to

- ▶ Press and hold down the  key while you type the letter G. Notice that the current cell coordinates are highlighted and the cell appears in the table view automatically.

- ▶ Type

 G Cells: a1

a1 

The  key command that you just invoked selects the current cell coordinates, if any, in the status panel so that you can replace them with new coordinates. For more information about using the  key, see Appendix 2, Apple Keys, in this manual.

Cell A1 is selected and brought into view. Notice that the Value area identifies the value of cell A1 as a number. Your LisaGraph table should look like Figure 24.

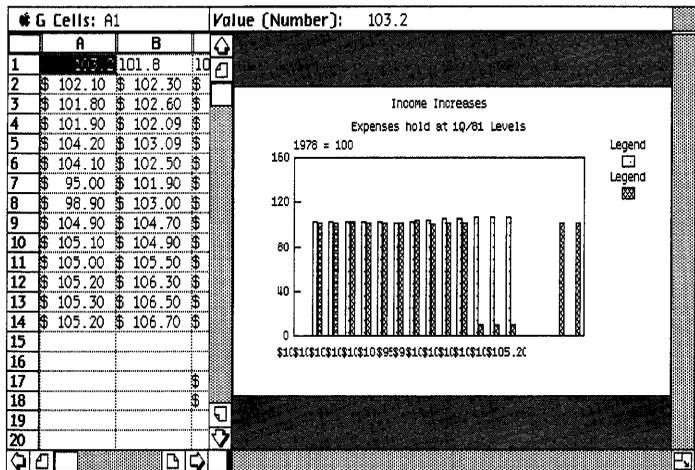


Figure 24. Status Panel Indicates Selected Cell

- ▶ Select the current cell coordinates in the status panel and type in the following values one at a time to see what is selected.

**3:5** **Enter**

Rows 3 through 5 are selected and displayed.

**B1:D5** **Enter**

Rows 1 through 5 in columns B, C, and D are selected and displayed.

**E:F** **Enter**

Columns E and F are selected and displayed.

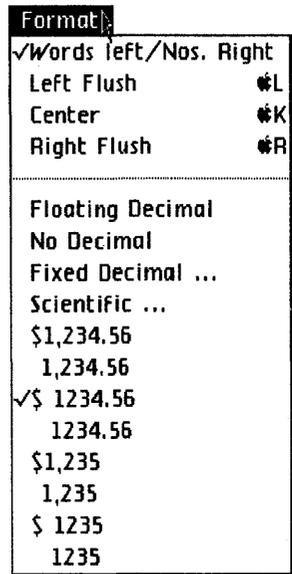
Now that you know how to locate information in a table, you are ready to make the necessary changes to it.

## About Cell Formats

Data are aligned and displayed in a cell according to the format specified on the Format menu. Alignment options, such as left flush, center, and right flush, appear at the top of the Format menu. Number styles, such as floating decimal, fixed decimal, or monetary styles, comprise the majority of the items on the Format menu.

To find out which formats are in effect,

- ▶ Select cell A1.
- ▶ Open the Format menu and note which items are checked:
  - Words Left/Nos. Right at the top of the menu
  - and \$ 1234.56 at the bottom.
  - Close the menu without choosing an item.



The checked items indicate that words are put on the left side of the cell and numbers are put on the right, and that numbers are given a dollar sign and decimal. All cells in columns A through C are formatted this way.

This information can help you find errors in the table. For example, cell B1 probably contains text because its value is aligned on the left side of the cell and it has no dollar sign.

However, if cell A1 is still selected, notice that its value is aligned on the right, like the others, but it has no dollar sign. That is because in the selected cell, a number is displayed in floating decimal number style.

Some number styles show a rounded value; the value in the cell is not actually changed, only the way it is displayed is changed. When a cell value is rounded, LisaGraph rounds the number to the nearest decimal place. For example, when LisaGraph rounds a value that ends in 5, the value is rounded so that the preceding digit is even to ensure a correct average. For instance,

- 1234.5 is rounded and displayed as 1234.
- 1235.5 is rounded and displayed as 1236.

To get back to your graph, the numbers in the table actually represent hundreds of thousands of dollars rounded to one decimal place; the wrong format is being used. The proper format is fixed decimal with one decimal place. To correct the format of columns A, B, and C,

- ▶ Press the  key and the letter G to select the current cell coordinates in the status panel and then type

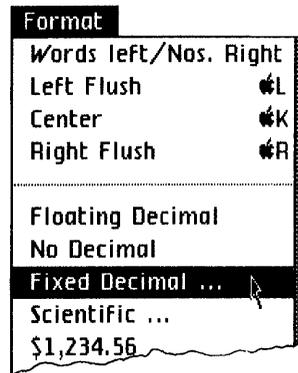


a:c 



All three columns are selected immediately.

- ▶ Choose Fixed Decimal from the Format menu.



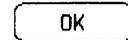
- ▶ When the dialog box appears, type

Places: **2**

1

Places: 1

- ▶ Click OK.



The dialog box shows you the current setting for the selected cell. If more than one cell is selected when the dialog box appears, it shows the standard setting for decimal places, 2. The appearance of each value changes immediately. Before you compare your table with Figure 25,

- ▶ Move the width control to the right side of the window, to view only the table.
- ▶ Select the deselect box above row 1 to remove the selection.

G Cells:	
≡	A
1	1975

GCP-Chapter 3									
* G Cells:			Value:						
	A	B	C	D	E	F	G	H	I
1	103.2	101.8	101.3						
2	102.1	102.3	101.2						
3	101.8	102.6	101.0						
4	101.9	102.1	102.1						
5	104.2	103.1	101.2						
6	104.1	102.5	101.8						
7	95.0	101.9	101.9						
8	98.9	103.0	103.5						
9	104.9	104.7	100.4						
10	105.1	104.9	101.3						
11	105.0	105.5	100.8						
12	105.2	106.3	9.9						
13	105.3	106.5	10.1						
14	105.2	106.7	10.2						
15									
16									
17			101.3						
18			101.8						
19									
20									

Figure 25. Numbers Rounded to Single Decimal Place

For a comprehensive discussion about cell formats and how they affect cell values, refer to the Cell Alignment and Cell Number Style procedures, under Format, in Chapter 2 of Section C, LisaGraph Reference Guide.

## Editing the Table

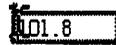
There are several errors in the table that you must correct before the graph is complete and correct. For example, notice that the values in cells B1 and C1 are aligned differently than the other values. In fact, if you select these cells individually, you will see in the Value area of the status panel that the values are text and not numbers.

In cells B1 and C1, the letter I (L) was used instead of the number 1 (one) and the letter O was used instead of the 0 (zero). Since only numbers can be plotted on a graph, all values in columns B through I must be numbers. To change the letters in cells B1 and C1 to numbers,

- ▶ Select cell B1 and read the Value area of the status panel; notice that it says "Text."



- ▶ Move the pointer to the left side of IOI in cell B1; press and hold down the mouse button while moving the pointer through IOI.

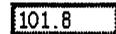


- ▶ Release the mouse button when IOI is highlighted.



Notice that the Value area in the status panel shows what is selected.

- ▶ Type the number



**101**

Notice that an insertion mark blinks within the cell and also in the Value area of the status panel to show what you are editing. While editing, the status panel doesn't show what kind of value is in the cell.

- ▶ Press the **(Enter)** key to complete the change. Notice that the Value area now says "Number."

When you finish editing, the status panel confirms that cell B1 contains a number. To move to and select cell C1,

- ▶ Press the **(Tab)** key; then replace the letters IOI with the numbers 101 and press the **(Enter)** key.

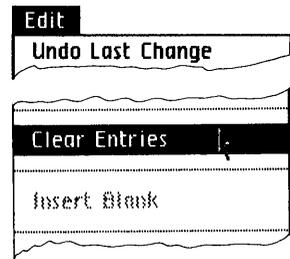
Confirm the new value is a number by reading the status panel; then proceed.

Cells C17 and C18 contain information that is not pertinent to this graph. To clear these values from the table,

- ▶ Position the pointer in cell C17, press and hold down the mouse button while moving the pointer into cell C18, then release the mouse button.

	C
16	
17	101.8
18	101.8

- ▶ Choose Clear Entries from the Edit menu.



Several cells have incomplete data. To add the missing data to your table,

- ▶ Select cell C14.

	C
14	

- ▶ Move the pointer between the zero and decimal and click the mouse button to set an insertion point there.

14	10.2
----	------

- ▶ Type the number

14	101.2
----	-------

1

- ▶ Select cell C12, set an insertion point on the left side of "9.9."

	C
12	9.9

- ▶ Type

12	99.9
----	------

9

- ▶ Select cell C13, which enters the last value, and read its value in the status panel.

In some cases, you may find it easier to edit a value in the status panel than in the cell. For example, assuming that cell C13 is still selected,

- ▶ Position the pointer in the status panel, and set an insertion point between the zero and decimal in the value.



- ▶ Type the number



1 **Return**

You can edit any value in the status panel; the new value is entered when you select another cell or press the **Enter** key. Edit a value in the status panel whenever it is easier to select the value there. Your table should look like Figure 26.

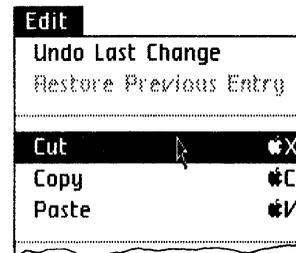
	A	B	C	D	E	F	G	H
1	103.2	101.8	101.3					
2	102.1	102.3	101.2					
3	101.8	102.6	101.0					
4	101.9	102.1	102.1					
5	104.2	103.1	101.2					
6	104.1	102.5	101.8					
7	95.0	101.9	101.9					
8	98.9	103.0	103.5					
9	104.9	104.7	100.4					
10	105.1	104.9	101.3					
11	105.0	105.5	100.8					
12	105.2	106.3	99.9					
13	105.3	106.5	101.1					
14	105.2	106.7	101.2					
15								
16								
17								
18								
19								
20								

Figure 26. Table with Corrected Values

## Moving a Column

Column A contains figures for total expenses, column B has income figures, and column C contains capital expense figures. The preferred order is income, capital expenses, and total expenses. To move total expenses from column A to column C,

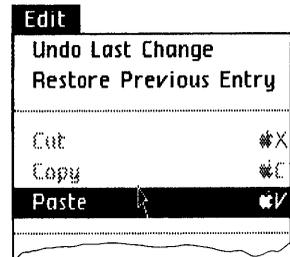
- ▶ Position the pointer in column A's header and click the mouse button to select the column.
- ▶ Choose Cut from the Edit menu.



Column A is removed from the table and put on the Clipboard. The remaining columns reorder automatically; columns B and C become columns A and B. To paste the column back into the table,

- ▶ Select the grid handle between column B and C, which is the new position for the column you just cut.
- ▶ Choose Paste from the Edit menu.

B	C
101.3	



The cells you cut are pasted into a new column between B and C and all columns to the right reorder automatically. You now have income in column A, capital expenses in column B, and total expenses in column C. Your table should look like Figure 27.

GCP-Chapter 3									
# G Cells: C	Value:								
	A	B	C	D	E	F	G	H	
1	101.8	101.3	101.2						
2	102.3	101.2	102.1						
3	102.6	101.0	101.8						
4	102.1	102.1	101.9						
5	103.1	101.2	104.2						
6	102.5	101.8	104.1						
7	101.9	101.9	95.0						
8	103.0	103.5	98.9						
9	104.7	100.4	104.8						
10	104.9	101.3	105.1						
11	105.5	100.8	105.0						
12	106.3	99.9	105.2						
13	106.5	101.1	105.5						
14	106.7	101.2	105.2						
15									
16									
17									
18									
19									
20									

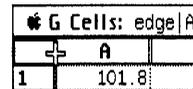
Figure 27. Reordered Columns

You can move cells, rows, and columns. You can paste cells over cells, rows over either rows or columns, and columns over columns or rows. For more information about moving cells, see the Move Cells procedure, under Edit, in Chapter 2 of Section C, LisaGraph Reference Guide.

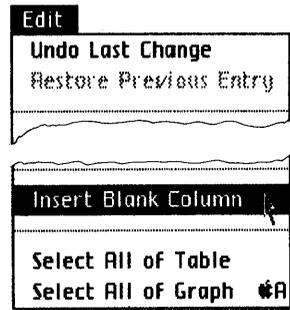
## ***Inserting Columns and Rows***

For the graph to compare income, capital expenses, and total expenses at quarterly intervals over a four year period, column A must contain dates. To insert a column of dates,

- ▶ Select the grid handle between the edge of the table and column A; read the Cells area of the status panel to confirm what you have selected.
- ▶ Choose Insert Blank Column from the Edit menu.



G Cells: edge A	
	A
1	101.8



When the blank column is inserted, all other columns are automatically reordered and moved to the right, and the blank column becomes column A. To enter dates that will plot at quarterly intervals,

► Select cell A1 and type

	A
1	+
2	

1979 (Return)  
 (Return) (Return) (Return)  
 '80 (Return)  
 (Return) (Return) (Return)  
 '81 (Return)  
 (Return) (Return) (Return)  
 '82 (Return)

Your table should look like Figure 28.

	A	B	C	D
1	1979	101.8	101.3	103.2
2		102.3	101.2	102.1
3		102.6	101.0	101.8
4		102.1	102.1	101.9
5	'80	103.1	101.2	104.2
6		102.5	101.8	104.1
7		101.9	101.9	95.0
8		103.0	103.5	98.9
9	'81	104.7	100.4	104.9
10		104.9	101.3	105.1
11		105.5	100.8	105.0
12		106.3	99.9	105.2
13	'82	106.5	101.1	105.3
14		106.7	101.2	105.2

Figure 28. Column of Dates Added

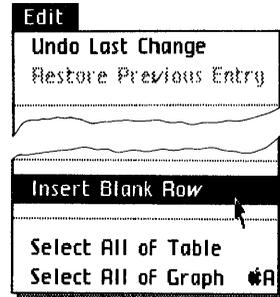
When you insert a blank column or row, the new one uses the standard format: words are shown on the left and numbers are shown on the right in floating decimal number style. Notice that the years that contain a single quote are treated as text, not numbers. If the values in column A were numbers only, LisaGraph would calculate a numeric range for the X-axis labels, and a very different looking graph would be produced.

In fact, two rows of data are missing from the table. The missing data are figures for the last quarter of 1981 and for the first quarter of 1982. This data must be added before the graph is complete. To do so,

- ▶ Select the grid handle between rows 11 and 12; then confirm what is selected in the status panel.

	A
11	
12	

- ▶ Choose Insert Blank Row twice from the Edit menu to insert two blank rows in the table.



- ▶ Select cell B12 and type

	A	B	C	D
12		106.2	100.7	105.1
13		106.4	99.2	105.2

106.2 (Tab)

100.7 (Tab)

105.1 (Return)

(Tab) 106.4 (Tab)

99.2 (Tab)

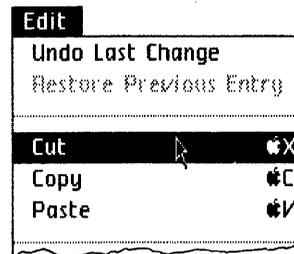
105.2 (Return)

The addition of the rows has invalidated the placement of the year '82. To move '82 from cell A15 to cell A13,

- ▶ Select cell A15.

	A
15	'82

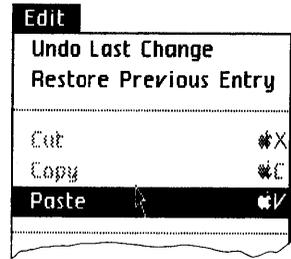
- ▶ Choose Cut from the Edit menu.



- ▶ Select cell A13.

	A
13	

- Choose Paste from the Edit menu.

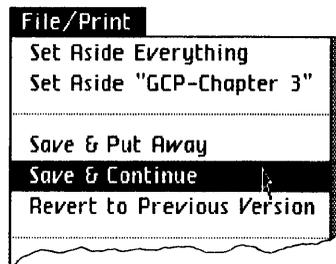


The table is complete. It should look like Figure 29.

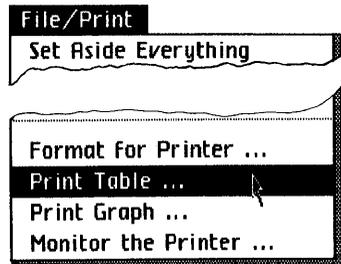
GCP-Chapter 3									
* G Cells: A13 Value (Text): 82									
	A	B	C	D	E	F	G	H	I
1	1979	101.8	101.3	103.2					
2		102.3	101.2	102.1					
3		102.6	101.0	101.8					
4		102.1	102.1	101.9					
5	80	103.1	101.2	104.2					
6		102.5	101.8	104.1					
7		101.9	101.9	95.0					
8		103.0	103.5	98.9					
9	81	104.7	100.4	104.9					
10		104.9	101.3	105.1					
11		105.5	100.8	105.0					
12		106.2	100.7	105.1					
13	82	106.4	99.2	105.2					
14		106.3	99.9	105.2					
15		106.5	101.1	105.3					
16		106.7	101.2	105.2					
17									
18									
19									
20									

Figure 29. Completed Table

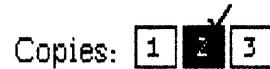
- Choose Save & Continue from the File/Print menu.



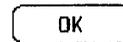
- ▶ Choose Print Table from the File/Print menu to print two copies of the table.



- ▶ When the dialog box appears, check 2 in the Number of copies box.



- ▶ Click OK.

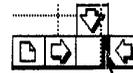


- ▶ Click Proceed when the Monitor the Printer dialog box appears.

## Finishing the Graph

Now that you have completed work on the table, you can finish the graph and print it for presentation. For instance, you need to change the graph's format and expand its Y-axis range. Begin by opening the graph view and scrolling the legend into view.

- ▶ Move the width control to the left into the table's row numbers



Your graph should look like the one in Figure 30.

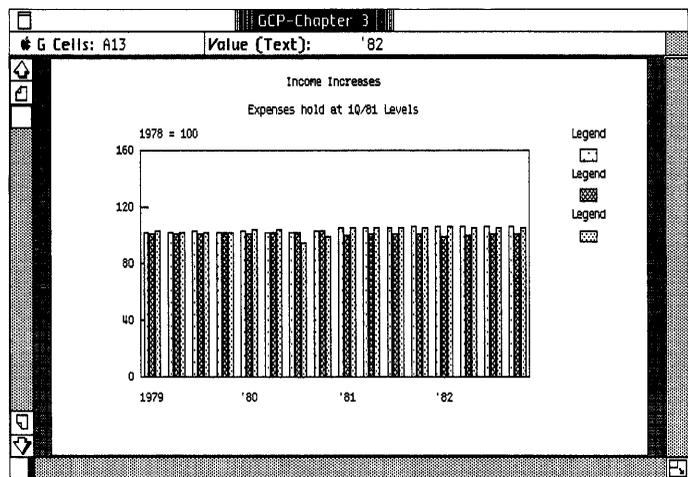
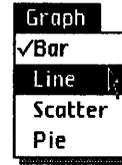


Figure 30. Graph

Notice that the X-axis labels are actually the values from column A. Notice how even the bars are; it's not a very interesting looking graph. To show a trend, as this graph should, you need a line graph. To change the bar graph to a line graph,

- ▶ Choose Line from the Graph menu.



Your graph should look like the one in Figure 31.

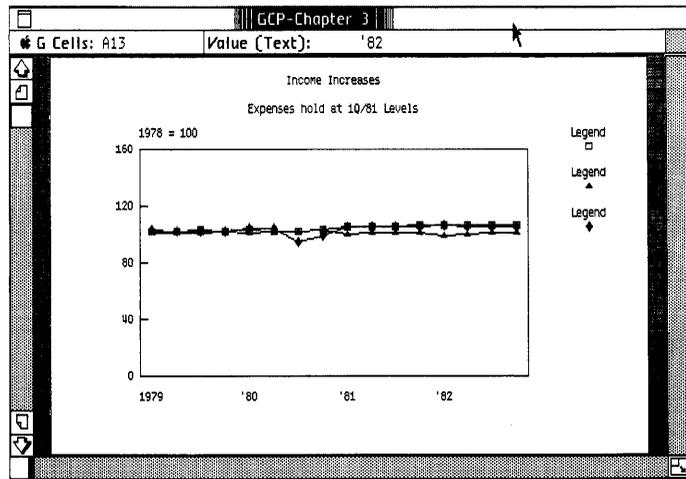
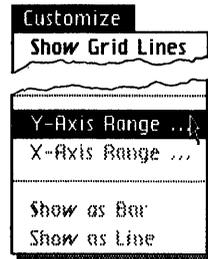


Figure 31. Data Plotted as a Line Graph

Notice how flat the graph looks. LisaGraph calculates a range of Y-axis labels that includes all numbers in columns B through D. In this case, the automatic Y-axis range greatly exceeds the values in the table which puts a lot of space between the graph border and the data plotted.

The data will be readable if the Y-axis labels ranged from about 90 to 110 in increments of five. Also, the Y-axis title, "1978 = 100," indicates the point of the Y-axis origin. To correct the range,

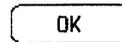
- ▶ Choose Y-Axis Range from the Customize menu.



- ▶ When the dialog box appears showing the current range, type

90	<b>Return</b>	Minimum:	90
100	<b>Return</b>	Origin:	100
110	<b>Return</b>	Maximum:	110
5		Increment:	5

- ▶ Click OK.



The Y-axis range is recalculated using the new specifications. Your graph should look like Figure 32.

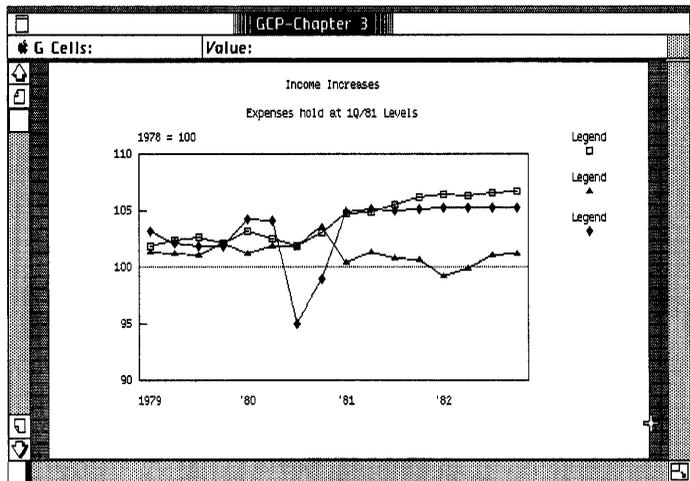


Figure 32. New Y-Axis Range

Three sets of data are plotted on the graph: income, capital expenses, and total expenses at quarterly intervals. To change the graph's legend to reflect this information,

- ▶ Position the pointer in the text above the first pattern in the legend and click the mouse button twice to select the word, then type



**Income**

Income  
□

- ▶ Replace the second legend with the words "Capital Expenses" and the third legend with the words "Total Expenses."

When you finish editing the legend on your graph, it should look like Figure 33.

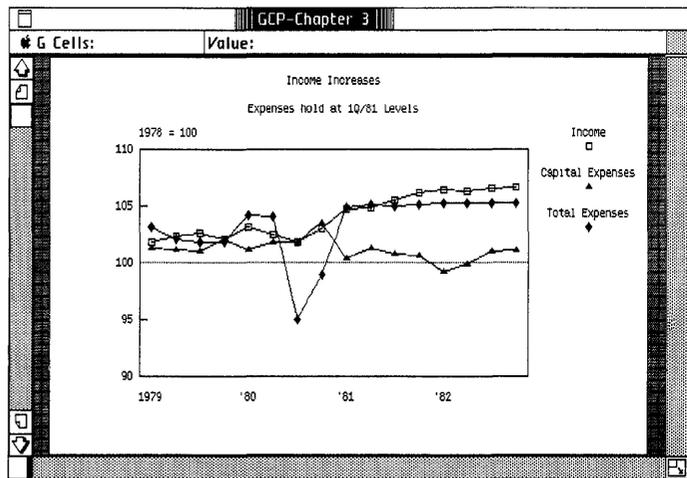
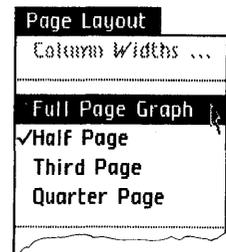


Figure 33. Correct Legend

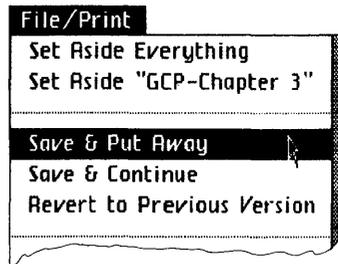
- ▶ Choose Full Page Graph from the Page Layout menu.



Notice that the graph got smaller and fills less area than before; it stands out against the gray background of the graph view. When a graph is reduced, as it is now, LisaGraph shows it's printing proportions.

For instance, a half page graph prints on half the page length and the full page width. However, a full page graph prints on the entire length and width of a page. To preview the graph as it will look when printed,

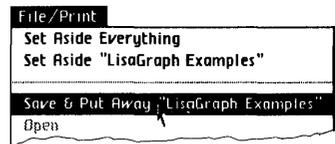
- ▶ Choose Show Actual Size from the Page Layout menu and then scroll hidden portions of the graph into view.
- ▶ Print a copy of the graph if you like.
- ▶ Put the document away.



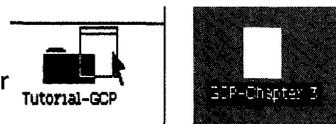
- ▶ Move the document's icon to the desktop to prepare to move it into your personal folder in the ProFile window.



- ▶ Move the pointer in the LisaGraph Examples folder and click the mouse button to activate it.
- ▶ Choose Save & Put Away LisaGraph Examples from the File/Print menu.



- ▶ Move the document's icon from the desktop into your personal folder in the ProFile window.



- ▶ Close the ProFile window.

This concludes Chapter 3 of the Lisagraph Tutorial. Continue with Chapter 4 if you want to copy data from LisaCalc into LisaGraph, or if you want to copy a graph into LisaDraw to enhance it. You also can move or copy data from a LisaGraph table to a LisaTerminal document. See the *LisaTerminal* manual for details.

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## **Chapter Summary**

Change the width  
of a single column

- Move the column's right grid handle to the right or left; then release the mouse button.

---

Change the width  
of one or more columns

- Select the columns.
- Choose Column Widths from the Page Layout menu.
- Type a number in the dialog box.
- Click OK in the dialog box.

---

Change the table's  
printing font

- Select any cell in the table.
- Choose a font name from the Type Style menu.

---

Change the table's  
display type size

- Select any cell in the table.
- Choose a display size from the Type Style menu.

---

Edit Cells area  
of status panel

- Select the cell coordinates in the status panel.
- Type new coordinates.

---

Format cells

- Select the cells.
- Choose a cell alignment or number style from the Format menu.

---

Replace text in a cell

- Select the cell.
- Select the text to be replaced.
- Type new text.
- Press **Enter** or select another cell.

- 
- |   |  |
|---|--|
| Clear text from a cell                          | <ul style="list-style-type: none"><li>■ Select the cell.</li><li>■ Choose Clear Entries from the Edit menu.</li></ul>  |
| <hr/>   |  |
| Insert text in a cell                           | <ul style="list-style-type: none"><li>■ Select the cell.</li><li>■ Set the insertion point to the left of the text that will follow the new text.</li><li>■ Type new text.</li><li>■ Press <b>(Enter)</b> or select another cell.</li></ul>  |
| <hr/>   |  |
| Edit text in the Value area of the status panel | <ul style="list-style-type: none"><li>■ Select the cell.</li><li>■ Select the text in the Value area of the status panel and edit as usual.</li><li>■ Press <b>(Enter)</b> or select another cell.</li></ul>   |
| <hr/>   |  |
| Move cells                                      | <ul style="list-style-type: none"><li>■ Select the cells, rows, or columns to be moved.</li><li>■ Choose Cut from the Edit menu.</li><li>■ Select the recipient cells, or select the grid handle between the rows or columns.</li><li>■ Choose Paste from the Edit menu.</li></ul> |
| <hr/>   |  |
| Insert a row or column                          | <ul style="list-style-type: none"><li>■ Select the grid handle between the rows or columns that will bound the new one.</li><li>■ Choose Insert Blank Row or Insert Blank Column from the Edit menu.</li></ul>   |

---

Change a range of axis labels

- Choose Y-Axis Range or X-Axis Range from the Customize menu.
- Select and replace values in the dialog box.
- Click OK when the dialog box shows the desired range.

---

Change graph printing size

- Choose a printing size from the Page Layout menu.

---

Print several copies of a graph

- Choose Print Graph from the File/Print menu.
- Click a number in the Copies box.
- Click While You Work.
- Click OK.

---

Move a graph from one file to another

- Put the document away.
- Move the document's icon from one folder to another.

# **Chapter 4**

## ***LisaGraph and Other Tools***

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# ***LisaGraph and Other Tools***

---

You can copy portions of a LisaGraph document into documents created with some of the other Lisa tools. The activities in this chapter show you how to

- Copy cells from a LisaCalc spreadsheet into a LisaGraph table and finish the graph.
- Copy a graph from LisaGraph into a LisaDraw document.

For an example of how to enhance a graph with drawings or art after pasting it into a LisaDraw document, see Chapter 5, *LisaDraw and Other Tools*, in the *LisaDraw* manual.

## **LisaGraph and LisaCalc**

When you copy cells from a LisaCalc spreadsheet into a LisaGraph table, several things happen. For instance,

1. A copy of the selected cells is placed on the Clipboard.
2. When you paste a copy of the cells into a LisaGraph table, the formulas are removed from the copied cells automatically; a formula cannot be plotted.
3. LisaGraph automatically plots the resulting data in the graph format of your choice.

In the guided activities that follow, you will open a new LisaGraph document and arrange it on your screen so that you can view two documents at one time. Next, you will get the LisaCalc spreadsheet and copy some of the data from it into the new LisaGraph document. Finally, you will edit the graph's titles and the legend.

To prepare for the activities,

- ▶ Open the ProFile disk window.



- ▶ Tear a graph from the pad named LisaGraph Paper, type



**Sports Forecast**

and then open the document's window.

A sheet of standard LisaGraph stationery appears on the desktop. To arrange the document on one side of your screen so that you can view another document beside it,

- ▶ Move the window's size control box to the left, so that it touches the width control.



- ▶ Move the LisaGraph document to the right side of the screen.



Your screen should look something like Figure 34.

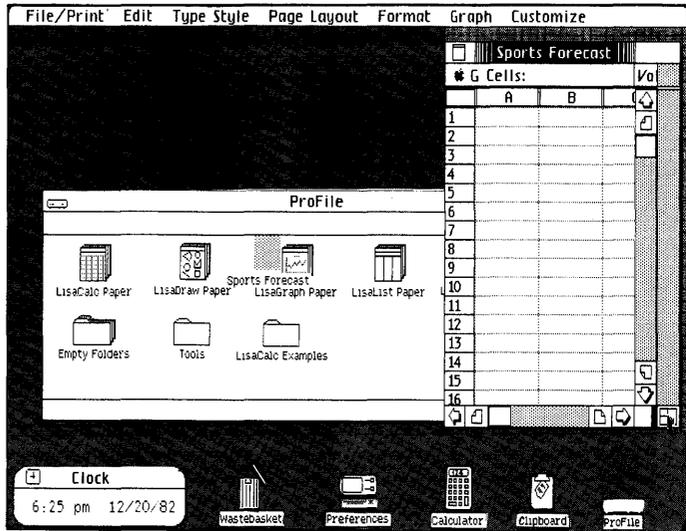


Figure 34. LisaGraph Stationery at Screen's Edge

To get the LisaCalc spreadsheet,

- ▶ Open the LisaGraph Examples folder. If necessary, move the pointer into the ProFile window first and click the mouse button to activate it.
- ▶ Tear a document from the pad named Forecast and name the untitled document with your initials and the word "Forecast."
- ▶ Open the new document's window.



Your screen should look like Figure 35.

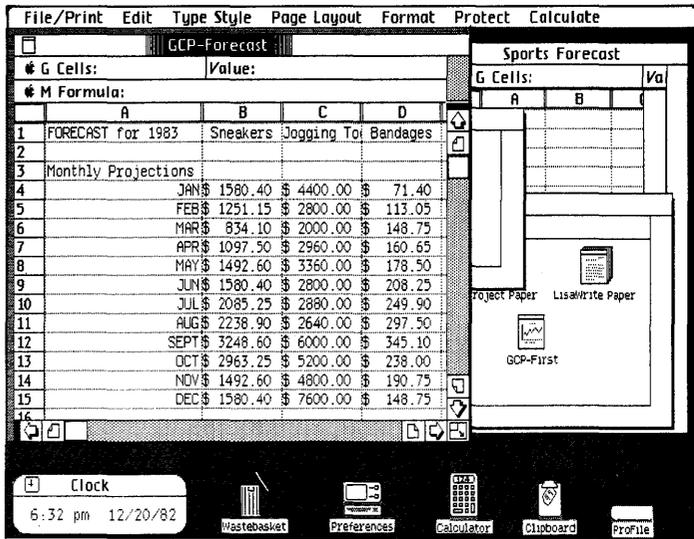


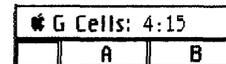
Figure 35. LisaCalc and LisaGraph Documents Share Desktop

You can decide to plot LisaCalc data as a graph any time, even if your LisaCalc spreadsheet is not set up like a LisaGraph table, with the X-axis data in column A and the Y-axis data in columns B through I. You can copy rows from a LisaCalc spreadsheet and paste them into columns in a LisaGraph table or copy columns and paste them into rows. You can also paste cells from LisaGraph into LisaCalc to perform calculations.

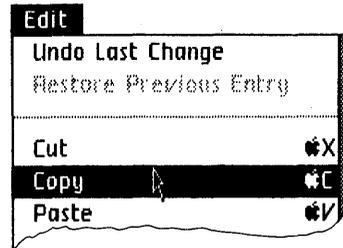
This particular spreadsheet was prepared specifically for use with LisaGraph. Notice that column A contains dates, the X-axis data; columns B, C, and D contain projected sales figures for the year, the Y-axis data.

You need to copy only the cells that contain the data you intend to graph: the dates and sales figures. To copy the cells from LisaCalc to LisaGraph,

- ▶ Select rows 4 through 15 in the spreadsheet.

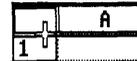


- ▶ Choose Copy from the Edit menu.

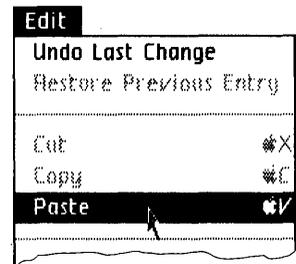


- ▶ Move the pointer into the document named "Sports Forecast" and click the mouse button to activate it.

- ▶ Select the grid handle between the edge of the table and row 1.



- ▶ Choose Paste from the Edit menu.



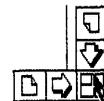
Before pasting the cells, you could have selected cell A1, row 1, or rows 1 through 12 instead of the grid handle. For specific details about where you can copy cells, see the Copy Cells procedure, under Format, in Section C, LisaGraph Reference Guide.

You are finished with the LisaCalc document at this point. To arrange the LisaGraph document so that your screen looks like the one shown in Figure 36,

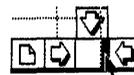
- ▶ Move the document window to the upper left corner of the screen.



- ▶ Move the window's size control box to the lower right corner of the screen.



- ▶ Move the width control to the left side of the window.



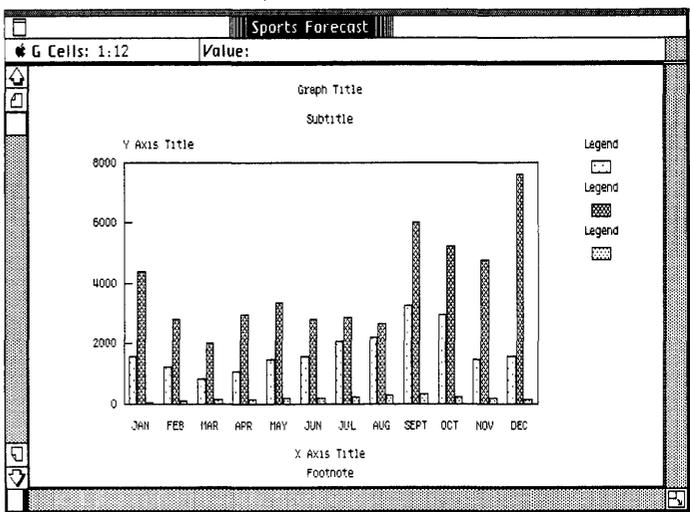
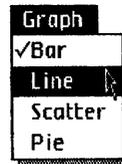


Figure 36. Your Graph

To complete the graph, you need to make some changes. For instance, a line graph will make the comparison clearer.

- ▶ Choose Line from the Graph menu.



Finally,

- ▶ Edit your graph so that it reads like the one in Figure 37.

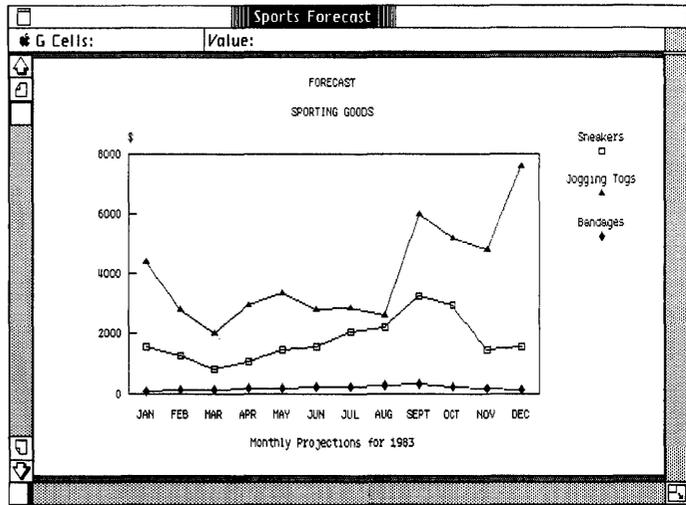


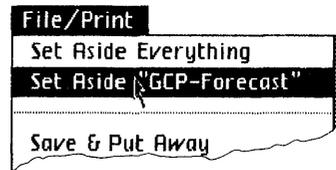
Figure 37. Line Graph Clarifies Comparison

- ▶ Print the graph if you like.
- ▶ Put the document away; then file it in your personal folder.

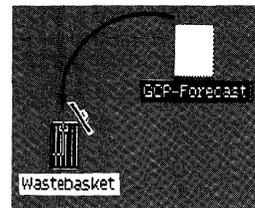
Ordinarily you would keep both the graph and the spreadsheet in which the information was calculated. However, in this case, the spreadsheet is a stationery pad from which you can get a new spreadsheet anytime.

To discard the spreadsheet you used in this example,

- ▶ Activate the document named "Forecast," and then choose Set Aside from the File/Print menu.



- ▶ Move the document's icon from the desktop to the Wastebasket.



## **LisaGraph and LisaDraw**

You can copy a graph and paste a copy into a LisaDraw document; however, you cannot paste a LisaGraph table into a LisaDraw document. Once you paste the graph into LisaDraw, it becomes part of a LisaDraw document, and you can add art to it.

To copy a graph into a LisaDraw document,

- ▶ Open the ProFile window.
- ▶ Open the LisaGraph Examples folder.



- ▶ Tear off a graph from the stationery pad named "Report," name the new document as you like, and open its window.



To arrange the LisaGraph document so that you can view another document beside it on the screen,

- ▶ Move the width control to the left, so that you can view only the graph.
- ▶ Move the document window's size control box to the left, so the window will be only half as wide as the screen.

Your screen should look something like the one in Figure 38.

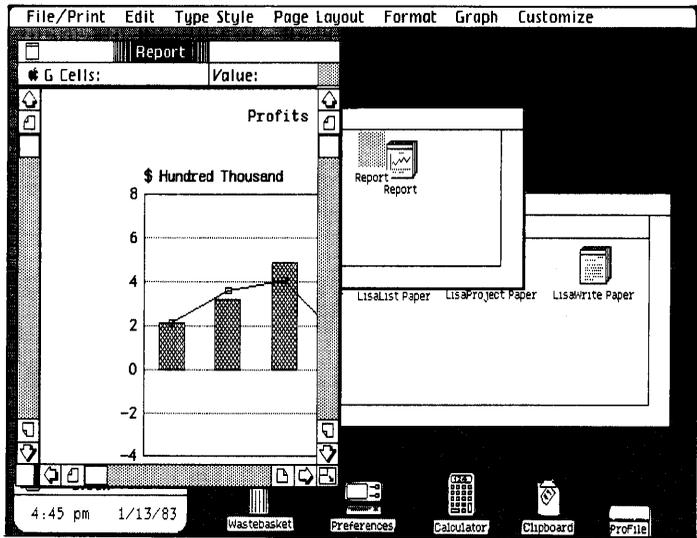
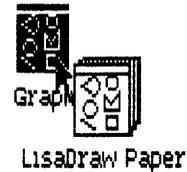


Figure 38. Graph on Left Side of Screen

Now, get the LisaDraw document.

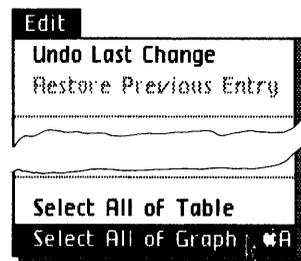
- ▶ Move the pointer into the ProFile window and click the mouse button to activate it.

- ▶ Tear off a sheet of LisaDraw stationery, name it as you like, and open the new document's window.

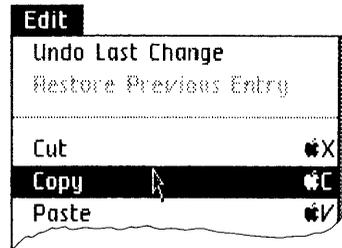


- ▶ Move the pointer into the LisaGraph document, which is mostly hidden beneath the LisaDraw document, and click the mouse button once to activate it.

- ▶ Choose Select All of Graph from the Edit menu.

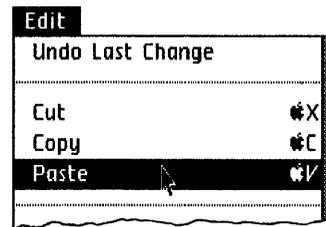


- ▶ Choose Copy from the Edit menu.



- ▶ Move the pointer into the LisaDraw document and click the mouse button to activate it.

- ▶ Select the center of the LisaDraw document and choose Paste from the Edit menu.



After pasting the graph, your screen should look something like the one shown in Figure 39.

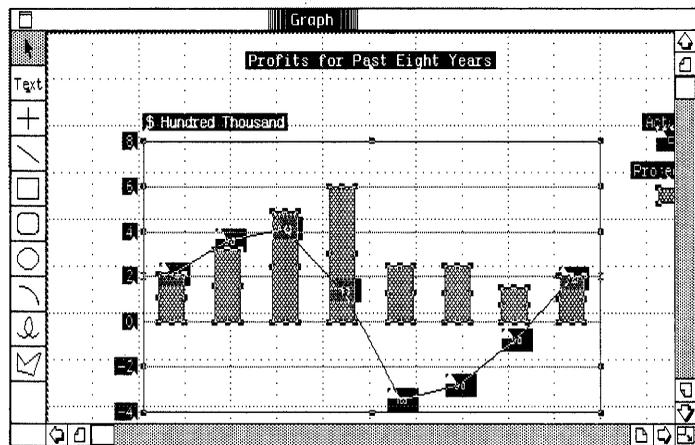


Figure 39. Each Graph Component Highlighted

The graph is centered on the insertion point you selected and the graph is now part of the LisaDraw document. Each component of the graph is selected, and highlighted, in case you want to group them all or deselect some and group the rest.

To add arrows or other art to this graph, see Chapter 5, LisaDraw and Other Tools, in the *LisaDraw* manual. For complete information about copying a graph into a LisaDraw document, see Chapter 2 of Section C, LisaGraph Reference Guide, under Other Tools.



---

## **Chapter Summary**

### Copy cells from LisaCalc to LisaGraph

- Tear off a graph from the LisaGraph stationery pad.
- Open the LisaGraph document and move it to one side of the screen.
- Open the LisaCalc spreadsheet.
- Select the cells to be copied.
- Choose Copy from the Edit menu.
- Activate the LisaGraph document.
- Select the appropriate cell, rows, or columns in the LisaGraph table.
- Choose Paste from the Edit menu.
- Customize the graph.
- Print the graph.
- Put the graph away.
- Put the spreadsheet away.

---

Copy a graph  
from LisaGraph  
to LisaDraw

- Open the LisaGraph document and move it to one side of the screen.
- Open a LisaDraw document or tear off a sheet of LisaDraw stationery, name it, and open it.
- Activate the LisaGraph document.
- Choose Select All of Graph from the Edit menu.
- Choose Copy from the Edit menu.
- Activate the LisaDraw document.
- Place the insertion point where you want the graph to be centered.
- Choose Paste from the Edit menu.
- Enhance the picture.
- Print it.
- Put the LisaDraw document away.
- Put the LisaGraph document away.

# ***Chapter 5***

## ***Sample Graphs***

---

# Sample Graphs

---

This chapter explains the graph formats available with LisaGraph and the kind of comparison best suited for each. Sample graphs that show LisaGraph's versatility appear at the end of the chapter, including

- Quarterly statistics for Dow Jones Industrials.
- Derivatives of a polynomial calculated with LisaCalc and plotted with LisaGraph.
- A pie chart, exploded with LisaDraw and enhanced with new shadings.

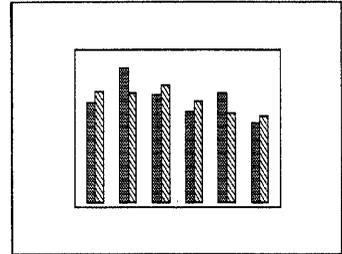
Unlike other chapters in this section, there are no activities to complete.

## About Graphs

With LisaGraph you can make bar graphs, line graphs, pie charts, and scattergrams. In addition, you can plot some data on a bar graph as a line. For information on mixed line and bar graphs, see Chapter 2, Customizing a Graph, in this tutorial.

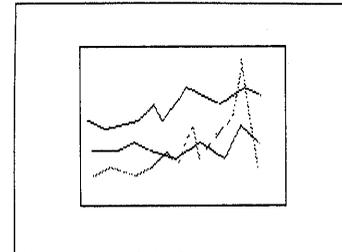
Each graph format best suits a particular kind of comparison, as described below. Included are several key words that help get each message across.

Bar graphs are best for comparing the size or quantity of two or more items to each other, but not to the total. Keywords include: rank, differences, variation among.

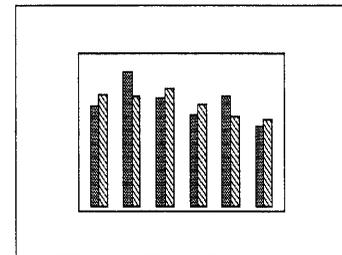


Both line graphs and bar graphs illustrate how the quantity of an item varies over time.

Line graphs are best when plotting many points.



Bar graphs are best when plotting only a few time periods or when there is extreme variability in the data.

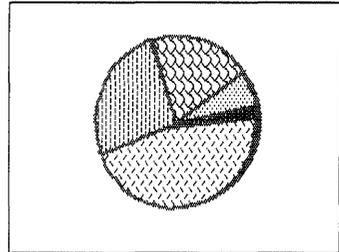


The guidelines below may help you decide which graph format to use to illustrate a comparison over time.

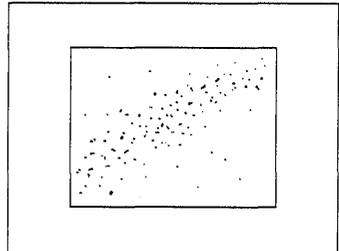
- Line graphs emphasize movement and angles of change and therefore are best for showing data that carry over from one time period to the next, such as inventory data.
- Bar graphs emphasize levels or magnitude and are more suitable for production data and activities that occur within a set period of time.

Keywords include: increase, decrease, change, fluctuate, rise, decline, growth, trends, since, and from (time period) to (time period).

Pie charts are best for comparing the contribution of components to the whole. LisaGraph uses only the data in columns A and B for pie charts. Keywords include: percentage, contribution, share.



Scattergrams show how a variation in one respect relates to variation in another, and whether or not the relationship follows a meaningful pattern. This is known as a co-relationship comparison. Keywords and phrases include: related, changes with, varies with, increase or decrease with, and doesn't increase or decrease with.



---

## **Sample Graphs**

Here are three examples of what you can do with LisaGraph, other Lisa tools, and a little imagination. Figure 40 shows a complex line graph.

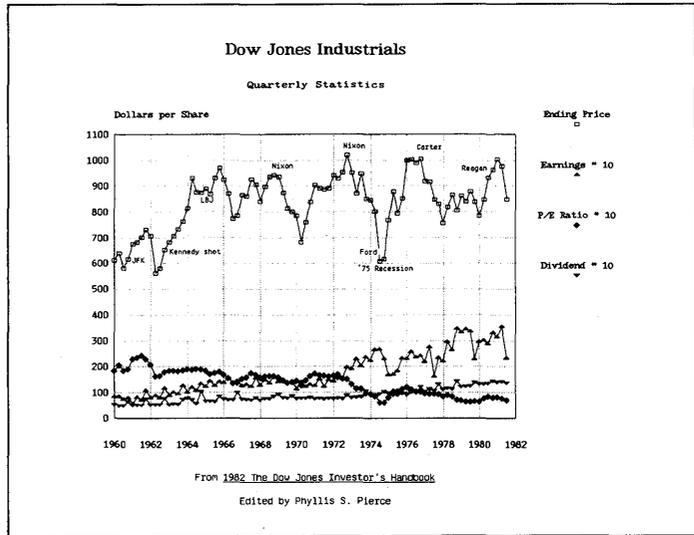


Figure 40. Line Graph

For the graph in Figure 40, data were entered directly into LisaGraph and important events were annotated. The data for the graph was taken from the 1982 *Dow Jones Investor's Handbook*.

The graph in Figure 41 is another example of a line graph.

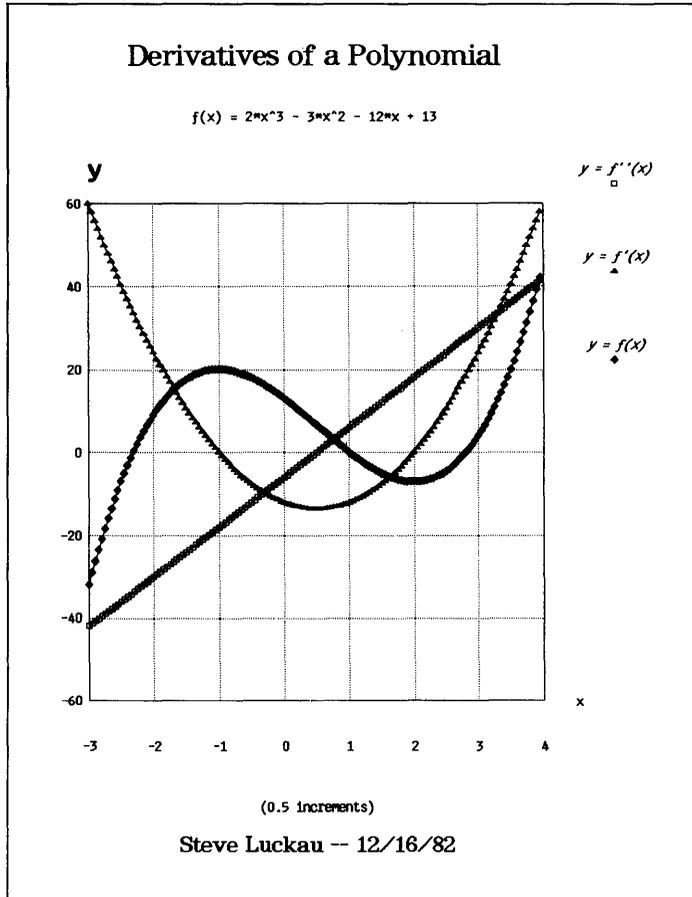


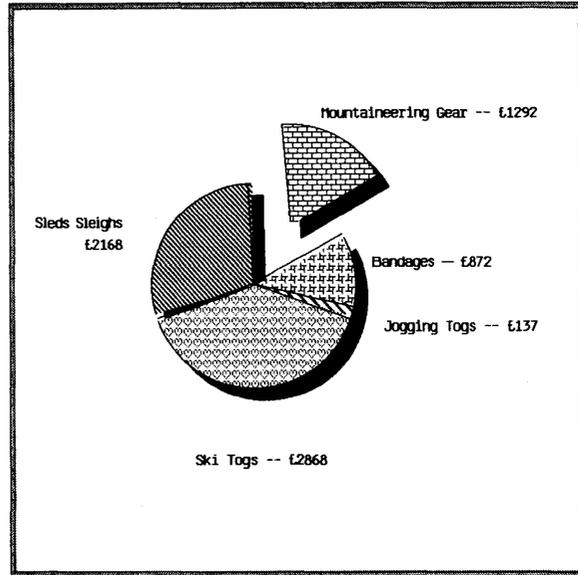
Figure 41. Line Graph Plots LisaCalc Data

In Figure 41, the values that are plotted were computed with LisaCalc and copied into LisaGraph. Type styles enhance the graph.

Figure 42 shows an exploded pie chart.

## Matterhorn Sports Shop

### Projection for Fiscal 1984

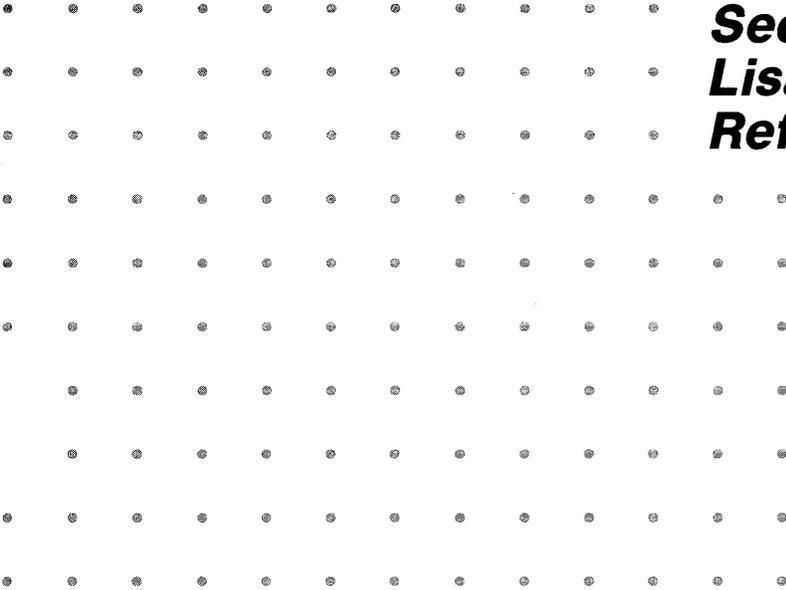


Income -- Thousands of English Pounds

Figure 42. Pie Chart Enhanced with LisaDraw

The pie chart was enhanced with LisaDraw. The graph was copied into LisaDraw where pie segments were traced and shaded. Other shadings were added to complete the graph.

**Section C**  
**LisaGraph**  
**Reference Guide**



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# ***What's in the LisaGraph Reference Guide?***

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This LisaGraph Reference Guide contains complete information about LisaGraph and is divided into two parts. Chapter 1 briefly explains basic LisaGraph concepts. Read Chapter 1 for an overview of LisaGraph and how to use it. Chapter 2 is divided into categories. Within each category there are procedures for accomplishing specific tasks and some examples. Use Chapter 2 for step-by-step instructions on how to complete a particular task within LisaGraph.

You can look for specific topics in the Index, in the table of contents of this Reference Guide, or at the beginning of each category of Chapter 2 of this Reference Guide.

The information in the LisaGraph Reference Guide is based on the assumption that you have completed LisaGuide, for an introduction to your Lisa, and Section A, Getting Started with LisaGraph, for a brief introduction to the basic skills needed to use LisaGraph. For more self-paced instructions on LisaGraph, you can use the LisaGraph Tutorial, Section B.

# ***Chapter 1***

## ***Overview***

---

# Overview

## What's in Chapter 1?

Chapter 1 covers the basic concepts and terminology for LisaGraph. It introduces you to the LisaGraph screen, elements of a LisaGraph document, selecting, scrolling, menus, dialog boxes, alert boxes, and the LisaGraph work flow.

## The LisaGraph Screen

A LisaGraph document window is divided into two parts: the graph view and the table view. When you work with a LisaGraph document, the screen typically looks like Figure 1.

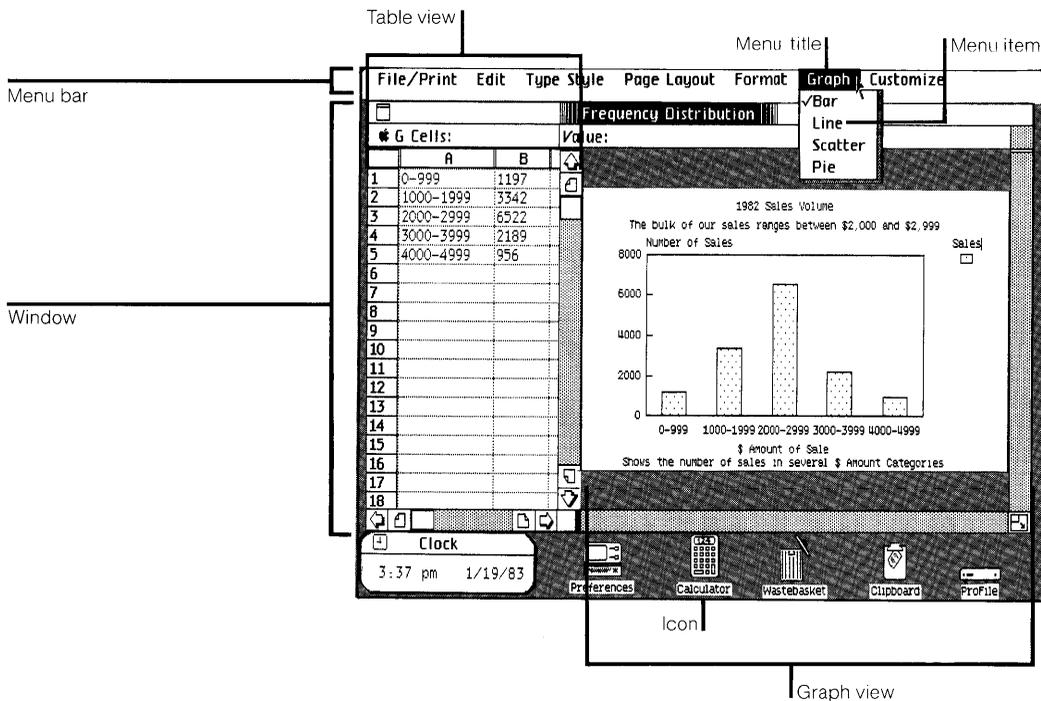


Figure 1. Typical LisaGraph Screen

Following are brief descriptions of what you see in Figure 1.

Icon	Graphic symbol representing something on the Lisa desktop.
Window	Displays the contents of an open icon, such as the contents of a document or a disk.
Graph view	Displays the graph.
Table view	Displays the table.
Menu bar	Displays the names of all available LisaGraph menus.
Menu title	Name of a list of menu items.
Menu item	An option or instruction that affects the current selection when you choose it.

---

### ***Graph View***

---

Graphs are automatically displayed on the right side of the document window, as shown in Figure 2. The Scrolling section in this chapter explains how to move the width control to widen the graph view so that the graph fills the entire document window.

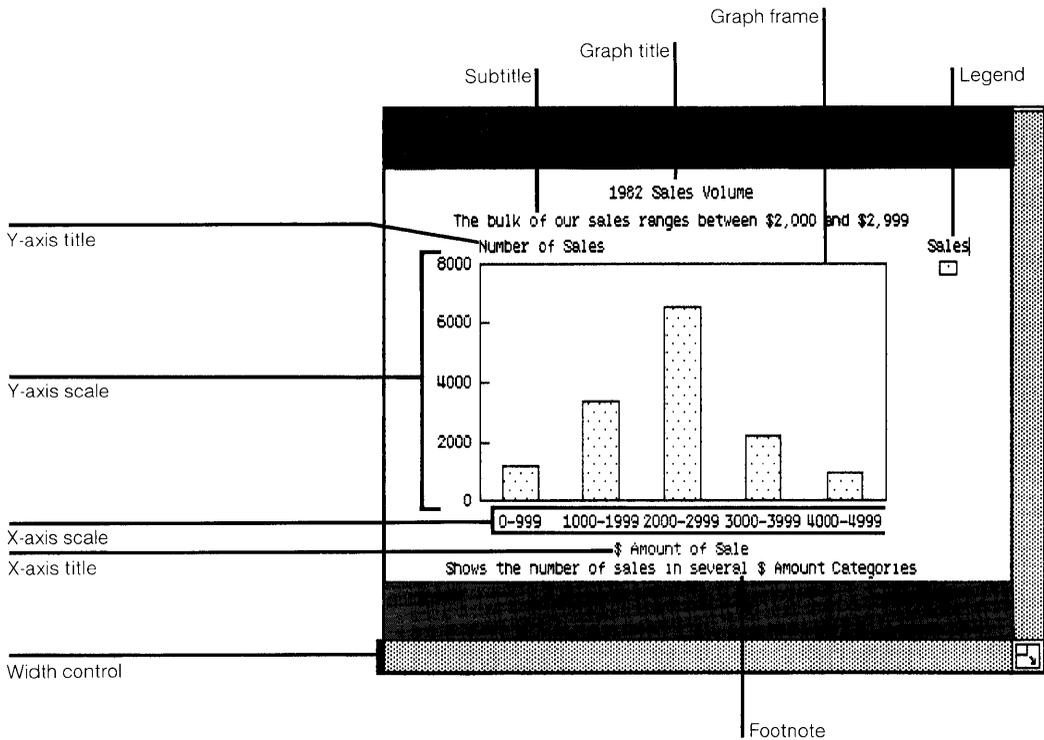


Figure 2. Graph View

Following are brief descriptions of what you see in Figure 2.

Width control	Movable bar that controls the width of the table and graph views.
Graph title	Text that describes the comparison shown on the graph.
Subtitle	Text that further clarifies the comparison shown.
Legend	Text that identifies what the various patterns on a graph represent.
Graph frame	Border around the graph.

Y-axis scale	Range of values along the vertical axis of a graph's two-dimensional coordinate system. LisaGraph automatically computes and prints a range of labels along this axis.
Y-axis title	Text that identifies Y-axis information, which is taken from columns B through I of the table.
X-axis scale	Range of values along the horizontal axis of a graph's two-dimensional coordinate system. LisaGraph automatically computes and prints a range of labels along this axis.
X-axis title	Text that identifies the X-axis information, which is taken from column A of the table.
Footnote	Text that further explains the data on the graph.

---

### ***Table View***

---

Tables are automatically displayed on the left side of the document window, as shown in Figure 3. The Scrolling section in this chapter explains how to move the width control to widen the table view so that the table fills the entire document window.

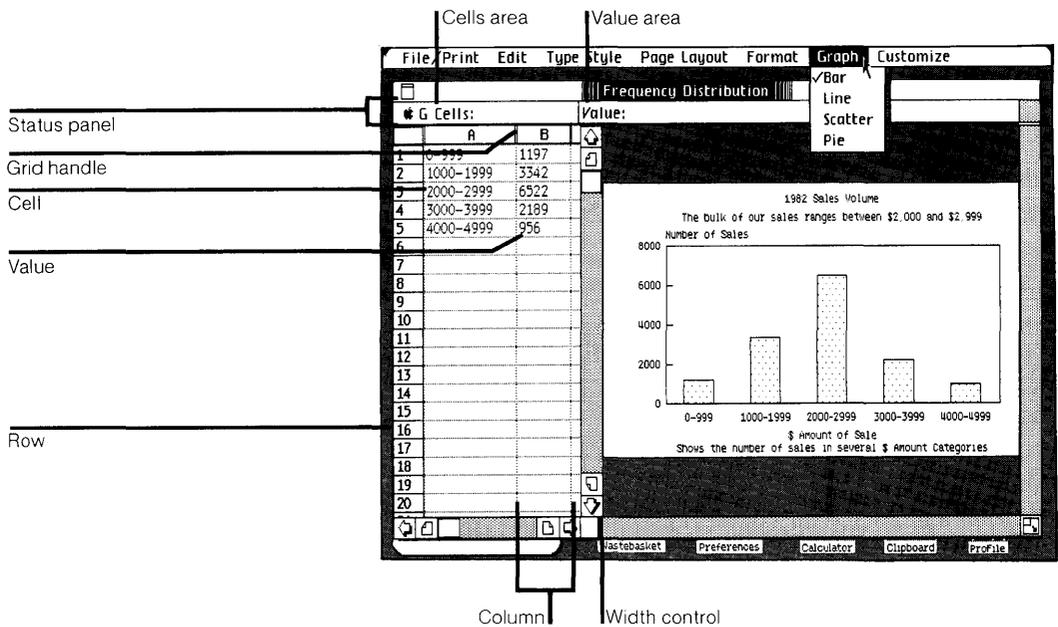


Figure 3. Table View

Figure 3 also shows the status panel that displays information about the selection in the table. Following are brief descriptions of what you see in Figure 3.

**Width control**

Movable bar that controls the width of the table and graph views.

**Cell**

A box at the intersection of a row and a column, A10, for example.

**Column**

Cells arranged vertically. Each column contains one set of information; for instance, in Figure 3, column A contains sales figures that have been divided into several dollar-amount ranges.

Data in column A are plotted along the graph's X axis. Data in columns B through I are plotted along the Y axis. Data in other columns are ignored.

Grid handle	The double line that divides columns and rows.
Row	Cells arranged horizontally. Each row contains different sets of information; for instance, in Figure 3, row 1 contains a range of dollar amounts from column A and the number of sales within that range from column B.
Value	Text in a cell, including letters, numbers, symbols, punctuation, and spaces.
Status panel	Shows information about the selection in the table. It contains a Cells area and a Value area.
Cells area	Shows which cell or cells are selected.
Value area	Shows the contents of the selected cell and the kind of value it contains: number, text, or date. When two or more cells are selected, the Value area remains blank.

---

## ***LisaGraph Concepts***

With LisaGraph you can make bar graphs, line graphs, scattergrams, and pie charts. A graph is a single-page drawing that displays numerical relationships using a two-dimensional coordinate system. As you enter values in the table, LisaGraph automatically plots the graph.

When plotting bar graphs, line graphs, or scattergrams, LisaGraph uses the values in the table as follows:

- Values in column A become X-axis data, such as time periods or categories.
- Values in columns B through I become Y-axis data, such as profit or loss figures.
- LisaGraph pairs all X-axis values in column A with all corresponding Y-axis values in columns B through I of the table and plots the intersections of data points.

- Each set of data appears in a different pattern on the graph. For instance, data pairs from columns A and B are plotted in one pattern, data pairs from columns A and C are plotted in another pattern, and so on until the graph is finished.

When plotting pie charts, LisaGraph uses only values in columns A and B of the table.

- All the positive values in column B are totaled.
- Each positive value in column B is plotted as a pie segment that represents its share of the total.
- Values in column A become pie segment labels.

A LisaGraph table is arranged like a LisaCalc spreadsheet: cells are arranged into rows and columns. Each cell is identified by its coordinates, that is, the row number and the column letter. For example, cell A1 is in row 1 and column A.

To edit the contents of a cell or to edit text on a graph, you select the portion that you want to change and then you replace, insert, cut, copy, or move the selection. To format a cell or to change the style of the graph or text on it, you select the portion to be changed and then you choose a cell format, a type style, or a graph format from a menu. The graph is redrawn when you choose a new format for it or when you edit the table.

---

## ***Pointers***

---

As you move the mouse, the pointer moves around the screen and assumes different shapes as you move from one area to another. LisaGraph has the following pointer shapes.



The text pointer appears whenever you can select text on a graph or in the table.



The hollow cross-hair pointer appears in the table to show when you can select cells.



The arrow appears outside a table or graph to show when you can select icons, use scroll controls, and choose menu items. It always points up and to the left.



The check pointer is used to make choices within some dialog boxes or the Preferences window.



The hourglass appears when you need to wait while the Lisa finishes what it is doing.

---

## **Selecting**

---

You indicate text that you want to change or alter in some way by “selecting” it on the screen. This is an important concept: you must *always* select text before you can edit or format it.

Table 1 explains how to select the elements of a graph and a table that you can edit and format. Note that you cannot select an axis label or a pattern on a graph.

Whatever you have selected is referred to as the “selection.” The selection is highlighted on the screen to show you what will be changed when you choose a menu item; the highlighting doesn’t print. If a selection doesn’t include everything you want, you can always select again to correct it.

---

Table 1. Selecting in LisaGraph

---

To Select	Do the Following
One cell, one column, or one row	<ul style="list-style-type: none"><li>■ Move the pointer into the cell, column header, or row header and click the mouse button.</li></ul> or <ul style="list-style-type: none"><li>■ Type the cell, column, or row coordinates into the Cells area of the status panel, followed by <b>(Enter)</b>.</li></ul> Examples of coordinates: C selects column C 5 selects row 5 C5 selects cell C5
Next cell to the left, right, up, or down	<ul style="list-style-type: none"><li>■ Press <b>(←)</b> key.</li><li>■ Press <b>(→)</b> key or <b>(Tab)</b> key.</li><li>■ Press <b>(↑)</b> key.</li><li>■ Press <b>(↓)</b> key.</li></ul>
First cell in next row	<ul style="list-style-type: none"><li>■ Press the <b>(Return)</b> key.</li></ul>
Insertion point within a cell	<ul style="list-style-type: none"><li>■ Select the cell.</li><li>■ Move the pointer to the desired location in the cell and click the mouse button to set the insertion point.</li></ul> The insertion point is a blinking vertical bar that shows where the next typed character will go; the pointer vanishes until you move the mouse.
Insertion point on a graph	<ul style="list-style-type: none"><li>■ Move the pointer to the desired location and click the mouse button.</li></ul>

---

Table 1. Selecting in LisaGraph, continued

---

To Select	Do the Following
The line between two columns or between two rows	<ul style="list-style-type: none"><li>■ Position the pointer on the grid handle between two columns or rows and click the mouse button.</li></ul>
Several cells, columns, or rows	<ul style="list-style-type: none"><li>■ Move the pointer into the first cell, column header, or row header.</li><li>■ Press the mouse button and hold it down while moving the pointer into the last cell, column header, or row header; then release the mouse button.</li></ul> <p>or</p> <ul style="list-style-type: none"><li>■ In the Cells area of the status panel, type the coordinates of the first cell, column, or row.</li><li>■ Type a colon (:).</li><li>■ Type the coordinates of the last cell, column, or row, followed by <b>Enter</b>.</li></ul> <p>Examples of coordinates: A:C, 3:4, A1:B4</p>
One or more characters	<ul style="list-style-type: none"><li>■ Move the pointer to the left of the first character.</li><li>■ Press and hold down the mouse button.</li><li>■ Move the pointer directly through to the last character and release the mouse button.</li></ul> <p>To select one or more characters in a cell, select the cell first.</p>

---

Table 1. Selecting in LisaGraph, continued

---

To Select	Do the Following
One word	<ul style="list-style-type: none"><li>■ Move the pointer into the word and click the mouse button twice.</li></ul> <p>To select a word in a cell, select the cell first.</p>
One line of text	<ul style="list-style-type: none"><li>■ Move the pointer into the line and click the mouse button three times.</li></ul> <p>To select a line of text in a cell, see the entry below, under Whole cell value.</p>
Several words	<ul style="list-style-type: none"><li>■ Move the pointer into the first word.</li><li>■ Press the mouse button; then press it again and hold it down.</li><li>■ Move the pointer into the last word and release the mouse button.</li></ul> <p>To select words in a cell, select the cell first.</p>
Whole cell value	<ul style="list-style-type: none"><li>■ If the cell is not selected, move the pointer into the cell and click the mouse button.</li><li>■ If the cell is already selected, click the mouse button three times; or press the <b>Enter</b> key.</li></ul>
Whole graph or whole table	<ul style="list-style-type: none"><li>■ Choose Select All of Graph or Select All of Table from the Edit menu.</li></ul>

---

Table 1. Selecting in LisaGraph, continued

---

To Select	Do the Following
Value in Cells area of status panel	<ul style="list-style-type: none"><li>■ Move the pointer to the Cells area and click the mouse button three times.</li><li>or</li><li>■ Hold down the  key and press the G key.</li></ul>
Value in Value area of status panel	<ul style="list-style-type: none"><li>■ Move the pointer to the Value area and click the mouse button three times.</li></ul>
Extend the existing selection	<ul style="list-style-type: none"><li>■ Move the pointer to the end of what you want included in the selection.</li><li>■ Press and hold down the  key and click the mouse button.</li></ul>
Deselect; select nothing in the document	<ul style="list-style-type: none"><li>■ Move the pointer into the unlabeled box in the upper left corner of the table and click the mouse button.</li></ul>

---

### ***Scrolling***

---

When you can't see all the data in the table or the entire graph, use the view controls to scroll hidden portions of the document into view. Figure 4 shows LisaGraph's view controls. Scrolling does not alter the selection in any way.

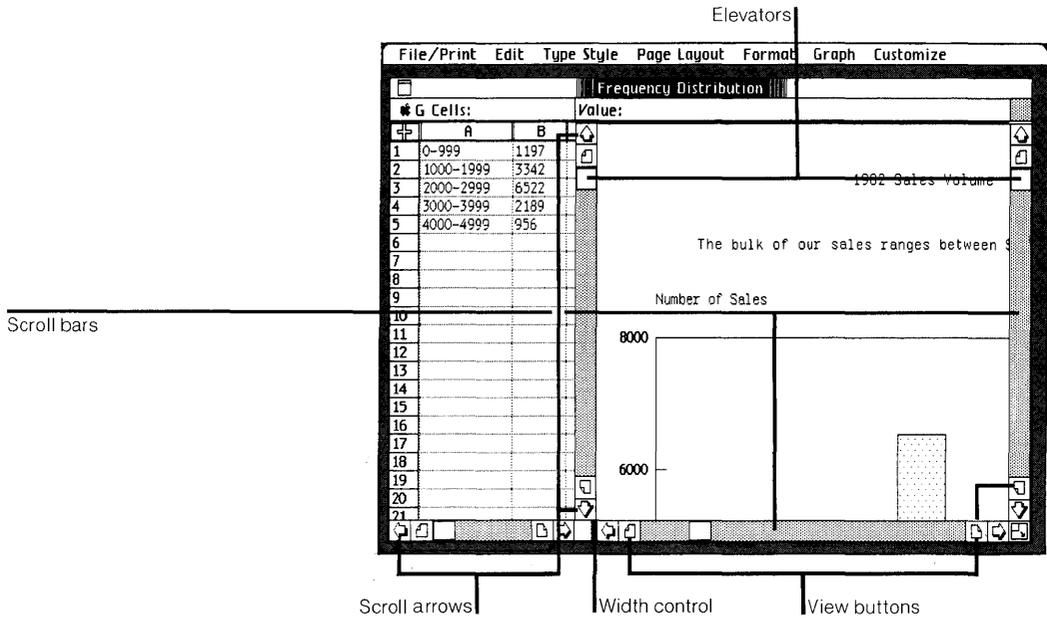


Figure 4. Window with View Controls

The following brief descriptions explain the purpose of the controls shown in Figure 4.

- Scroll bars** Contain controls that scroll hidden portions of a graph or table into view.
- Scroll arrows** Bring hidden portions of a graph or table into view slowly: line-by-line, row-by-row, or column-by-column.
- Elevators** Indicate where the current view is in relation to the rest of the table or graph. You can move them to scroll quickly to any spot in the document.
- View buttons** Scroll the next or previous full view into sight.
- Width control** Controls the width of the table and graph views.

Table 2 explains the different ways to scroll in LisaGraph.

Table 2. Scrolling in LisaGraph

To Scroll	Do the Following
Line by line, row by row, or column by column	<ul style="list-style-type: none"><li>■ Move the pointer into a scroll arrow and click the mouse button once for each line, row, or column.</li></ul>
Continuous lines, rows, or columns	<ul style="list-style-type: none"><li>■ With the pointer in a scroll arrow, press the mouse button and hold it down until you can see what you want.</li></ul>
View-sized increments	<ul style="list-style-type: none"><li>■ Move the pointer into a view button and click the mouse button once for each view change.</li></ul>
Continuous view-sized increments	<ul style="list-style-type: none"><li>■ With the pointer in a view button, press the mouse button and hold it down until you can see what you want.</li></ul>
Large jumps	<ul style="list-style-type: none"><li>■ Move the pointer into an elevator and hold down the mouse button while moving the elevator.</li><li>■ Release the mouse button when the elevator is in the correct position relative to the beginning and end of its scroll bars and, therefore, the document.</li></ul> <p>Example: Elevator at top of scroll bar shows beginning of page.</p>



The width control, located at the bottom of the scroll bar between the table and graph, determines the size of the table and graph views.

To widen a view,

- ▶ Move the pointer into the width control; press and hold down the mouse button while moving the control and flickering boundary to the right or left.
- ▶ Release the mouse button when the outline shows the desired width.

---

## About Menus

---

LisaGraph's editing, formatting, printing, and filing operations are listed on menus. The menu bar at the top of the screen shows the names of the available menus. Figure 5 shows the menu bar with the names of LisaGraph menus. A description of all LisaGraph menu items can be found in Appendix 1, Menu Items, of this manual.

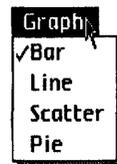


Figure 5. LisaGraph Menu Bar

---

To choose a menu item,

- ▶ Move the pointer to the menu bar and position it over the name of the menu you want to open.
- ▶ Press the mouse button and hold it down. Notice that the menu is now showing.
- ▶ Move the pointer into the menu item you want. Notice that the item is highlighted.
- ▶ Release the mouse button.



Some menu items are accompanied by an Apple symbol and a letter of the alphabet. This means that you can hold down the  key and the letter to choose that menu item rather than choosing the item with the mouse. Refer to Appendix 2, Apple Keys, in this manual, for a list of the menu items that you can choose using the  key.

Some menu items are followed by an ellipsis (. . .). When you choose one of these menu items, a dialog box appears requesting additional information that is required before the operation can be completed. Dialog boxes are explained in the following section.

When a menu item is shown in gray instead of black, it cannot be chosen at that time. This is usually because it does not apply to the current selection.

Some menu items are grouped together and represent the available choices for a particular menu setting. The current setting has a check mark next to it, while the others don't. If you choose another setting in the group, the current one automatically turns off.

---

## **Dialog Boxes**

---

A dialog box appears beneath the menu bar after you choose a menu item followed by an ellipsis (. . .). Figure 6 shows a LisaGraph dialog box. The current specifications that apply to the operation are described for you to accept or to change. Notice that the first value in the box is selected automatically.

---

Y Axis: Minimum:	<input checked="" type="checkbox"/> Automatic	<input type="button" value="Cancel"/>
Origin:	<input type="checkbox"/> Automatic	
Maximum:	<input type="checkbox"/> Automatic	
Increment:	<input type="checkbox"/> Automatic	

Please enter a number or the word "Automatic".

---

Figure 6. Y-Axis Range Dialog Box

---

To fill in a dialog box,

- ▶ Position the pointer on the option you want to change, click the mouse button three times to select it, then type the desired specification. Repeat to change others.

You may press the **(Tab)** key or the **(Return)** key to select the next item in a dialog box.

- ▶ When the dialog box shows the information you want, position the pointer in OK and click the mouse button.

To dismiss the dialog box without changing the document, whether or not you changed a specification in the dialog box,

- ▶ Click the button that reads Cancel.

---

## **Alert Boxes**

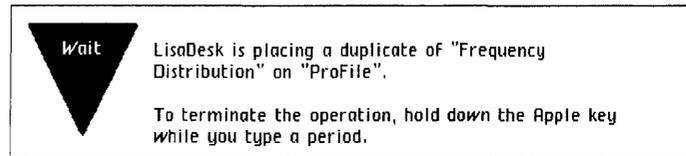
---

An alert box is a box in which a message from the Lisa is displayed. The message can be Wait, Note, Caution, Stop, or ?, as described below. You can usually respond to these messages by clicking the OK or Cancel button. To do this, move the pointer to the OK or Cancel button and click the mouse button.

---

### **Wait Message**

The Wait message tells you that the Lisa is carrying out an operation that can take some time. You don't need to respond to a Wait message. However, some Wait messages give you the option of being able to terminate the operation by holding down the  key while typing a period. Figure 7 is an example of a Wait message.



---

Figure 7. Wait Message

---

---

### **Note Message**

The Note message tells you that something might need your attention. Most likely, everything is all right, but the Lisa wants to tell you about something just in case. To dismiss the alert box with a Note message, you just click OK. Figure 8 shows a LisaGraph Note message.

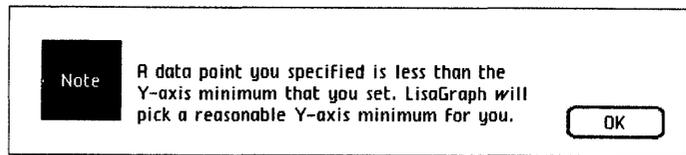


Figure 8. LisaGraph Note Message

---

### **Caution Message**

The Caution message tells you that you are about to do something risky that cannot be undone or something that can take a long time. To dismiss an alert box with a Caution message, you click OK or Cancel. Figure 9 shows a Caution message.

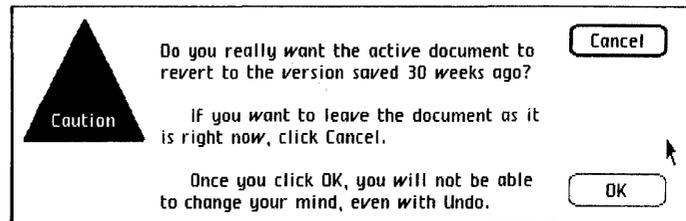


Figure 9. Caution Message

---

### **Stop Message**

The Stop message tells you that something you requested cannot be done and why. To dismiss the alert box with a Stop message, you click Cancel. Figure 10 is an example of a LisaGraph Stop message.

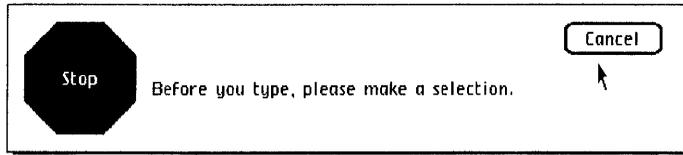


Figure 10. LisaGraph Stop Message

### **? Message**

The ? message tells you that you can choose one of a number of alternative actions. Most ? messages have two or three choices. You dismiss the alert box with a ? message by clicking on one of the choices. Figure 11 is an example of a ? message.

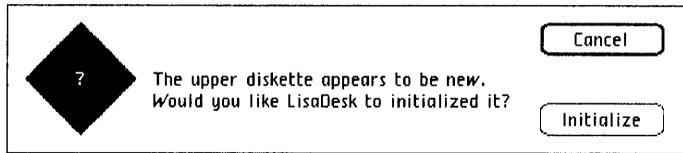


Figure 11. ? Message

---

## **LisaGraph Work Flow**

The following sections outline how to start a new LisaGraph document and how to work with an existing document. For specific information and step-by-step instructions, refer to Chapter 2 of this Reference Guide and to Section D, Desktop Manager Reference Guide, in the *Lisa Owner's Guide*.

---

### **Starting a New Document**

To start a new LisaGraph document,

- ▶ Open the ProFile window.



- ▶ Tear off a sheet of paper from the LisaGraph stationery pad.



- ▶ Type the new document's name.



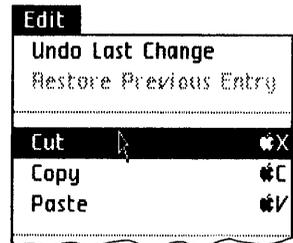
- ▶ Open the new document's window.



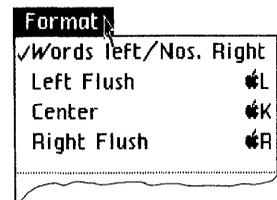
- ▶ Enter data into the table.

	A	B	C
1	1975	2.1	2.1
2	1976	3.6	3.2
3	1977	4.1	4.9
4	1978	1.4	6
5	1979	-3.5	2.5
6	1980	-2.8	2.5
7	1981	-8	1.5
8	1982	1.9	2

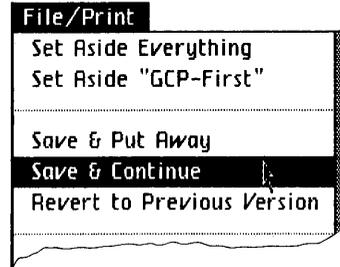
- ▶ Edit data, graph titles, and legends.



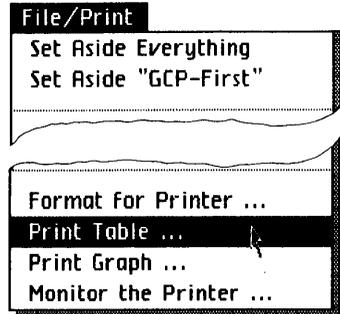
- ▶ Format cells, the graph, and text.



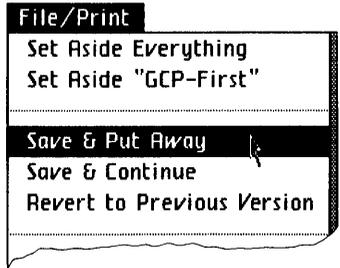
- ▶ Save all changes about every 15 minutes and continue working.



- ▶ Print the table or the graph, if you like.

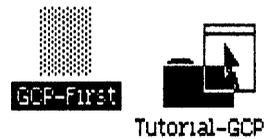


- ▶ Put the completed document away.



To organize your documents in a folder and to keep the disk window uncluttered, you might want to,

- ▶ Move the saved document into a folder of related documents, or tear a new folder from the folder pad, name the folder, and move the document into it.



## Working with an Existing Document

To get a filed LisaGraph document to work with,

- ▶ Open the ProFile window.



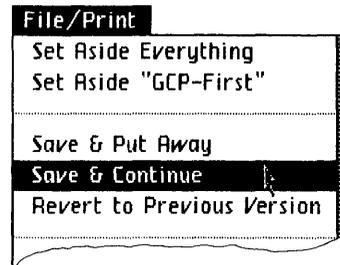
- ▶ If the document is in a folder, open the folder that contains the document that you want to work with.



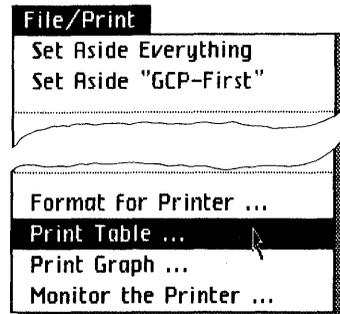
- ▶ Open the document.



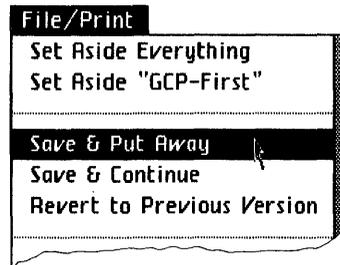
- ▶ Edit and format the document, saving it every 15 minutes.



- ▶ Print the table or graph, if you like.



- ▶ Put away the document in its original location.



# ***Chapter 2***

## ***Procedures***

---

# Procedures

---

## **What's in Chapter 2?**

Chapter 2 contains the procedures for doing everything that can be done in LisaGraph. To make the procedures easier to find, they have been divided into categories according to functions. The categories are:

---

### **Edit**

Look here for operations that change the content of a table or graph.

- C30 Clear Cells
- C31 Copy Cells
- C35 Copy Text
- C38 Cut Cells
- C39 Cut Text
- C40 Enter Value
- C43 Insert Blank Columns or Rows
- C44 Insert Text
- C46 Move Cells
- C50 Move Text
- C52 Replace Text
- C54 Restore Previous Entry
- C56 Revert to Previous Version
- C57 Undo Last Change

---

## **Format**

Look here for operations that change the appearance of a graph or table.

- C60 Cell Alignment
- C62 Cell Number Style
- C66 Column Width
- C68 Graph Format
- C71 Graph Legend
- C75 Grid Lines on a Graph
- C79 Line on a Bar Graph
- C82 Size of Graph on the Screen
- C83 Type Styles for the Graph
- C87 Type Styles for the Table
- C89 X-Axis Range
- C94 Y-Axis Range

---

## **Print**

Look here for print operations.

- C100 Change Graph Printing Size
- C101 Format for Specific Printers
- C107 Print Graph
- C112 Print Table

---

## **Other Tools**

Look here to learn how to use LisaGraph with other tools.

- C120 LisaCalc
- C122 LisaDraw

- 
- C30 Clear Cells
  - C31 Copy Cells
  - C35 Copy Text
  - C38 Cut Cells
  - C39 Cut Text
  - C40 Enter Value
  - C43 Insert Blank Columns or Rows
  - C44 Insert Text
  - C46 Move Cells
  - C50 Move Text
  - C52 Replace Text
  - C54 Restore Previous Entry
  - C56 Revert to Previous Version
  - C57 Undo Last Change

# Edit

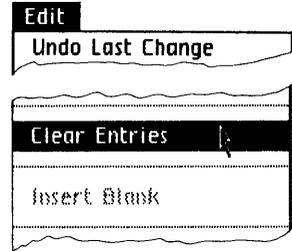
---

## Clear Cells

To clear one or more cells

- ▶ Select the cell or cells that you want to clear.
- ▶ Choose Clear Entries from the Edit menu.

	C
16	
17	101.3
18	+ 101.3



---

You can clear entries from one or more cells in the table, including entire columns or rows. When you clear entries, values are removed from selected cells, but the cells retain their format.

Cleared entries are not placed on the Clipboard and therefore cannot be pasted. You can reverse this operation immediately if you choose Undo Last Change from the Edit menu.

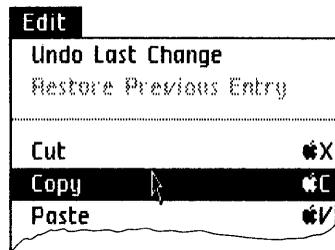
## Copy Cells

To copy one or more cells and paste the copy into the same table

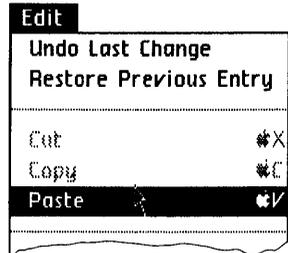
- ▶ Select the cell or cells that you want to copy.



- ▶ Choose Copy from the Edit menu.



- ▶ Select the location where you want to paste the cells.
- ▶ Choose Paste from the Edit menu.



You can copy one or more cells, columns, or rows and paste an exact duplicate into the same table or into another LisaGraph table.

# Edit

---

## Copy Cells

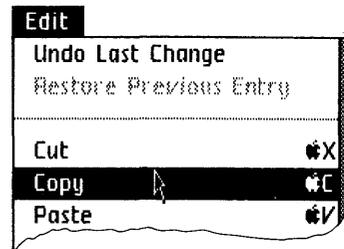
*(continued)*

To copy one or more cells into another LisaGraph table

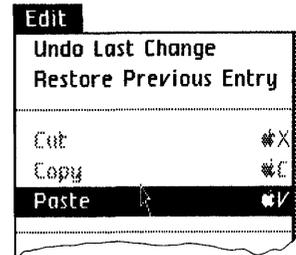
- ▶ Select the cell or cells that you want to copy.



- ▶ Choose Copy from the Edit menu.



- ▶ Get or activate the other LisaGraph document.
- ▶ Select the location where you want to paste the cells.
- ▶ Choose Paste from the Edit menu.



## Copy Cells (continued)

The copied cells remain in the table and an exact duplicate, including values and formats, is put on the Clipboard. When you paste, you are pasting a copy of the cells from the Clipboard; a copy remains on the Clipboard so you can paste again. Note that if you don't select a new area, the paste operation puts the copy over the original and no change is apparent.

You can immediately reverse either the copy or paste operation by choosing Undo Last Change from the Edit menu.

When copying cells, the following combinations are possible.

A single cell can be copied to another cell.

	A	B	C
1	21.95		
2		21.95	
3			

A single cell can be copied to a range of cells. The range can be of any size or shape.

	A	B	C
1	21.95		
2			
3		21.95	21.95
4		21.95	21.95

A range of cells can be copied to another range of cells with the same size and shape.

	A	B	C
1	21.95	32.47	
2	23.87	14.79	
3			
4		21.95	32.47
5		23.87	14.79

# Edit

## Copy Cells

(continued)

A range of cells can be copied to a larger range if the new range is an exact multiple of the size and shape of the old range.

	A	B	C
1	21.95	32.47	
2	23.87	14.79	
3			
4		21.95	32.47
5		23.87	14.79
6		21.95	32.47
7		23.87	14.79

A range of cells can be copied to a single cell. In this case, the range is pasted such that the single cell becomes the upper left corner of a range that is the same size and shape as the range that was copied.

n	A	B	C
1	21.95	32.47	23.6
2	23.87	14.79	46.87
3			
4	21.95	32.47	23.6
5	23.87	14.79	46.87

One or more columns can be pasted into or between columns or rows and vice versa; the data are rearranged automatically.

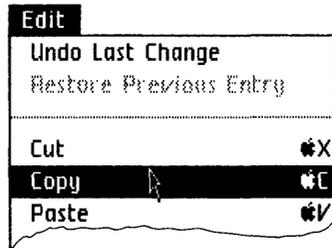
You also can copy cells from a LisaGraph table into a LisaCalc spreadsheet, and vice versa. For details, see the LisaCalc procedure, under Other Tools, in this chapter.

---

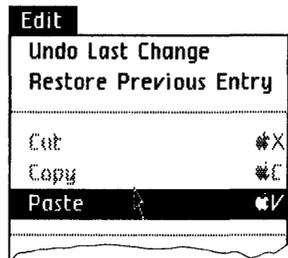
To copy text and paste a copy into the same graph

## Copy Text

- ▶ Select the text that you want to copy.
- ▶ Choose Copy from the Edit menu.



- ▶ Set the insertion point or select the text that you want to replace.
- ▶ Choose Paste from the Edit menu.



---

You can copy text from a graph, or some of the text in a cell, and paste an exact duplicate into the same graph or into another graph. You cannot copy the X- or Y-axis labels that are generated automatically, because you can't select them.

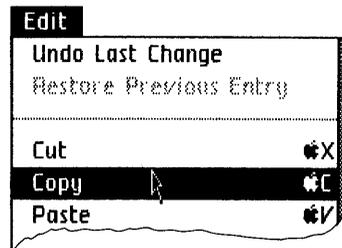
# Edit

## Copy Text

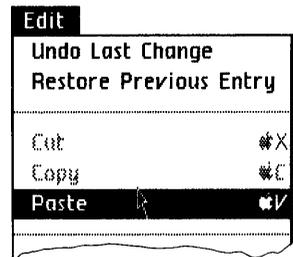
(continued)

To copy text and paste a copy into another graph

- ▶ Select the text that you want to copy.
- ▶ Choose Copy from the Edit menu.



- ▶ Get or activate the other LisaGraph document.
- ▶ Set the insertion point or select the text that you want to replace.
- ▶ Choose Paste from the Edit menu.



---

When you copy text on a graph, or part of a cell value, an exact duplicate is put on the Clipboard. When you paste, you are pasting a copy of the text on the Clipboard; a copy remains on the Clipboard so you can paste it again and again. Note that all text is pasted to the right of the insertion point.

You can immediately reverse either the copy or the paste operation by choosing Undo Last Change from the Edit menu. To copy a cell value, see the Copy Cells procedure, under Edit, in this chapter.

## **Copy Text** *(continued)*

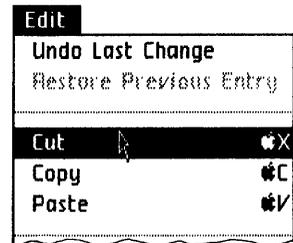
# Edit

---

## Cut Cells

To cut one or more cells from a table

- ▶ Select the cell or cells that you want to cut.
- ▶ Choose Cut from the Edit menu.



---

You can cut the values from one or more cells, including columns and rows; the cell itself and its alignment and number style remain in the table. The values are removed from the table and placed on the Clipboard.

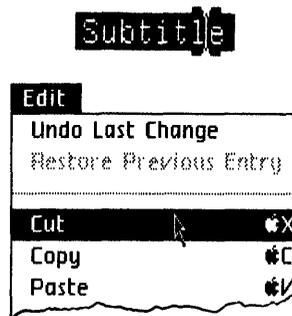
When you cut rows or columns, the entire row or column is removed from the table. Remaining rows or columns are reordered automatically, which means that they fill the space left by the ones that you cut and they are assigned new numbers or letters.

You can reverse the cut operation if you do it immediately: choose Undo Last Change from the Edit menu. In addition, you can paste cells that you cut into the same table or into another LisaGraph table; see the Move Cells procedure, under Edit, in this chapter. Also, you can paste the cut cells into a LisaCalc spreadsheet; see the LisaCalc procedure, under Other Tools, in this chapter.

## Cut Text

To cut text from a graph

- ▶ Select the text that you want to cut.
- ▶ Choose Cut from the Edit menu.



You can cut text from a graph or cut part of a cell's value. You cannot cut the X- or Y-axis labels that are generated automatically, because you can't select them. Text that you cut is removed from the document and placed on the Clipboard.

When you cut part of a cell's value, the changed value isn't complete until you press the **Enter** key or select another cell. If an entry isn't complete, it cannot be paired with the corresponding entry and plotted on the graph. Also, the changes cannot be saved and the document cannot be put away.

You can reverse the cut operation if you do it immediately: choose Undo Last Change from the Edit menu. In addition, you can paste cut text into the same graph or into another graph; see the Move Text procedure, under Edit, in this chapter.

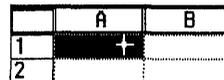
# Edit

---

## Enter Value

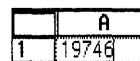
To enter a value in a cell

- ▶ Select the cell in which you want to enter a value.



	A	B
1	+	
2		

- ▶ Type the value.



	A	B
1	19746	
2		

- ▶ Select another cell by using the mouse and pointer, or by pressing **(Tab)** or **(Return)**, one of the arrow keys, or the **(Enter)** key.

---

A cell is either blank or it contains a value. If you select a cell that contains a value and you type a new value, the old value is replaced by the new one. To replace part of a value in a cell, see the Replace Text procedure, under Edit, in this chapter. To add data to a cell value, see the Insert Text procedure, under Edit, in this chapter.

When you enter a value, the entry isn't complete until you press the **(Enter)** key or select another cell. If an entry isn't complete, it cannot be paired with the corresponding entry and plotted on the graph. Also, the changes to the document cannot be saved and the document cannot be put away.

When a single cell is selected, you see either the whole value or as many characters in the leftmost part of the value as will fit in the cell. The selected cell's full value is shown in the Value area of the status panel. You can edit a value in either the Cells or the Value area of the status panel with identical results.

---

## **Enter Value** *(continued)*

The value of the selected cell is identified in the Value area of the status panel as either a number, text, or a date. Any value that LisaGraph does not understand as either a number or a date is classified as text.

For example, LisaGraph understands 1-3-83 as text, 1/3/83 as a date, 1.383 as a number, and 1.3.83 as text. Also, a cell that contains only a space character will look empty; however, LisaGraph understands the space character as text.

The word displayed in the Value area for the selected cell also tells you, in some cases, that you have mistyped a value. For example, if you type 1983 with the letter L instead of with the digit 1, the Value area says Text rather than Number.

When a selected cell's value is a number, the number is shown in floating decimal number style. Essentially, what this means is:

- If the value is equal to a whole number, it is shown without any decimal places. That is, if you enter 2.000, it is shown as 2 in the Value area.
- If the number has decimal places, the number that is displayed may not be equal to the number that you entered. For example, 123.454 might be shown as 123.45399999999999. This is because it is not always possible to store a decimal value exactly.
- The Value area cannot show more than 23 characters, including the sign and the decimal point, if any. Of these 23, no more than 15 can follow the decimal point. If the value is too large to be shown in this many characters, it is shown in scientific number style. See the Cell Number Style procedure, under Format, in this chapter.

# **Edit**

---

## **Enter Value**

*(continued)*

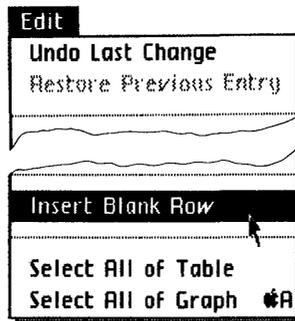
Most cells will not be selected when you look at them. In this case, if the value is too long to be displayed in the cell, the cell is filled with asterisks. You can see the whole value by widening the column that the value is in. See the Column Width procedure, under Format, in this chapter.

## ***Insert Blank Columns or Rows***

To insert a blank column or blank row in the table

- ▶ Select the grid handle between the columns or rows that will border the new one.
- ▶ Choose Insert Blank Column or Insert Blank Row from the Edit menu.

	A
11	
12	



When you insert a blank column or row, any following columns or rows are reordered automatically, which means that they move over and are assigned new letters or numbers. You can reverse the operation if you do so immediately; choose Undo Last Change from the Edit menu. Once you have inserted a blank row or column, you can enter and edit data in it as usual.

To insert two or more blank rows or columns in the same area, select a grid handle and choose the menu item once for each new row or column that you want to add. To insert rows or columns that you have copied or cut from a table, see the Copy Cells or Move Cells procedure, under Edit, in this chapter.

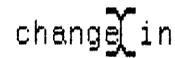
# Edit

---

## Insert Text

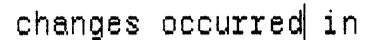
To insert text on a graph

- ▶ Position the pointer where you want to add text and click the mouse button to set the insertion point.



changes|in

- ▶ Type.



changes occurred|in

---

You can add text to a graph or to a cell's value. You cannot add text to the X- or Y-axis labels directly because you cannot select them. To change a range of axis labels, see the X-Axis Range or Y-Axis Range procedure, under Format, in this chapter.

---

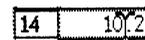
To add text to a cell value

- ▶ Select the cell.



14

- ▶ Position the pointer where you want to add text and click the mouse button to set the insertion point.



14|

- ▶ Type.



141.2

- ▶ Select another cell by using the mouse and pointer, or by pressing **(Tab)** or **(Return)**, one of the arrow keys, or the **(Enter)** key.
-

---

## ***Insert Text***

*(continued)*

When you click the mouse button once, a blinking vertical bar, called the insertion point, appears to show you where the next typed character will go. The pointer disappears when you set the insertion point and reappears when you move the mouse.

You can add text to a graph one line at a time. When you add to a cell value, the new value isn't complete until you press the **(Enter)** key or select another cell. If an entry isn't complete, it cannot be paired with the corresponding entry and plotted on the graph. Also, the changes cannot be saved and the document cannot be put away.

# Edit

---

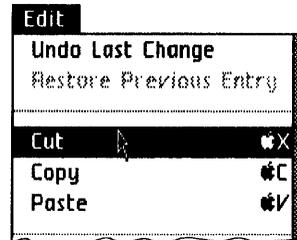
## Move Cells

To move one or more cells within the same LisaGraph table

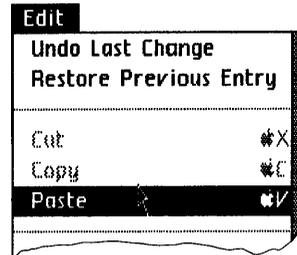
- ▶ Select the cell or cells that you want to move.



- ▶ Choose Cut from the Edit menu.



- ▶ Select the new location for the cells.
- ▶ Choose Paste from the Edit menu.



---

You can move one or more cells, columns, or rows to another spot in the same table or to another LisaGraph table. When you move a column, the legend captions on the graph do not change to reflect the new order of columns in the table; you must edit legend captions to reflect the new order.

## Move Cells

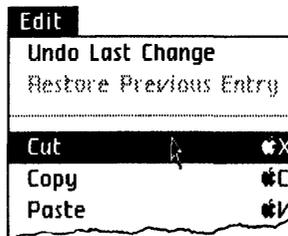
(continued)

To move one or more cells to another LisaGraph table

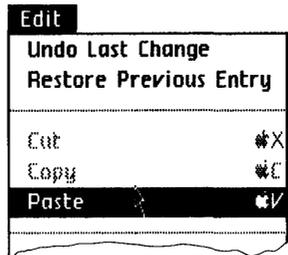
- ▶ Select the cell or cells that you want to move.



- ▶ Choose Cut from the Edit menu.



- ▶ Get or activate the other table.
- ▶ Select the new location for the cells.
- ▶ Choose Paste from the Edit menu.



# Edit

## Move Cells

(continued)

When you cut a range of cells, the values are removed from the table and placed on the Clipboard; the cells remain in the table and retain their alignment and number style.

When you cut a range of rows or columns, those that remain fill the space left by the cut cells. The remaining columns or rows are reordered automatically, which means that the columns are relettered or the rows renumbered.

When you paste, you are pasting a copy of the cells from the Clipboard; a copy remains on the Clipboard so you can paste again and again. Note that if you don't select a new area, the paste operation puts the cut cells back where they came from. You can reverse either the cut or the paste operation immediately by choosing Undo Last Change from the Edit menu.

When moving cells, the following combinations are possible:

A single cell can be moved to another cell.

	A	B	C
1	21.95		
2		21.95	
3			

A single cell can be moved to a range of cells. The range can be any size or shape.

	A	B	C
1	21.95		
2			
3		21.95	21.95
4		21.95	21.95

A range of cells can be moved to another range of cells with the same size and shape.

	A	B	C
1	21.95	32.47	
2	23.87	14.79	
3			
4		21.95	32.47
5		23.87	14.79

A range of cells can be moved to a larger range if the new range is an exact multiple of the size and shape of the old range.

	A	B	C
1	21.95	32.47	
2	23.87	14.79	
3			
4		21.95	32.47
5		23.87	14.79
6		21.95	32.47
7		23.87	14.79

## Move Cells (continued)

A range of cells can be moved to a single cell. In this case, the range is pasted such that the single cell becomes the upper left corner of a range that is the same size and shape as the range that was copied.

	A	B	C
1	21.95	32.47	23.6
2	23.87	14.79	46.87
3			
4	21.95	32.47	23.6
5	23.87	14.79	46.87

One or more columns can be pasted into or between columns or rows and vice versa; the data are rearranged automatically.

For an example of moving a column, see Section B, LisaGraph Tutorial, Chapter 3.

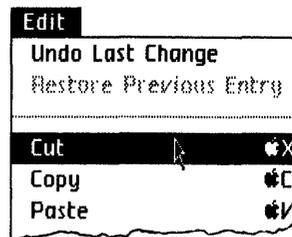
# Edit

---

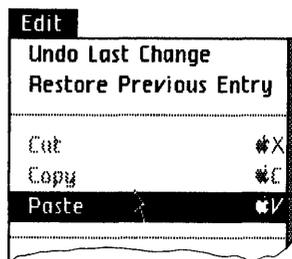
## Move Text

To move text within the same graph

- ▶ Select the text that you want to move.
- ▶ Choose Cut from the Edit menu.



- ▶ Set the insertion point or select the text that you want to replace.
- ▶ Choose Paste from the Edit menu.



---

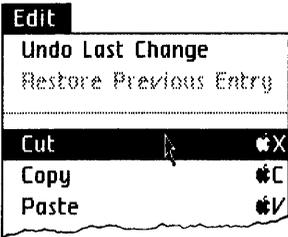
You can move text from one area of a graph to another or move it to another graph. However, you cannot move X- or Y-axis labels because you can't select them.

You can reverse either the cut or the paste operation by choosing Undo Last Change from the Edit menu immediately following the operation. To move a cell's value, see the Move Cells procedure, under Edit, in this chapter.

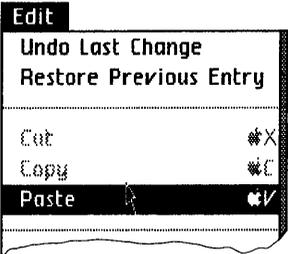
## Move Text (continued)

To move text to another graph

- ▶ Select the text that you want to move.
- ▶ Choose Cut from the Edit menu.



- ▶ Get or activate the other graph.
- ▶ Set the insertion point or select the text that you want to replace.
- ▶ Choose Paste from the Edit menu.



When you cut text from a graph, it is placed on the Clipboard. When you paste, you are pasting a copy of the text on the Clipboard; a copy remains on the Clipboard so you can paste it again. If you don't select a new area before pasting, the cut text is pasted back where it was.

# Edit

---

## Replace Text

To replace text on a graph

- ▶ Select the text that you want to replace.
- ▶ Type.



\$ Hundred Thousand

---

You can replace text on a graph or in a cell. However, you cannot replace the X- and Y-axis labels because you can't select them.

---

To replace some of the text in a cell

- ▶ Select the cell.
- ▶ Select the text that you want to replace.
- ▶ Type.
- ▶ Select another cell by using the mouse and pointer, or by pressing **Tab** or **Return**, one of the arrow keys, or the **Enter** key.



---

When you replace text in a cell, the resulting value isn't complete until you press the **Enter** key or select another cell. If an entry isn't complete, it cannot be paired with another entry and plotted on the graph. Also, the changes cannot be saved and the document cannot be put away.

You can reverse the replacement immediately if you choose Undo Last Change from the Edit menu.

## **Replace Text** *(continued)*

# Edit

---

## Restore Previous Entry

To restore the previous entry to the cell that you are editing

- ▶ Choose Restore Previous Entry from the Edit menu.



---

Restore Previous Entry is available only while you are editing a cell. It cancels all changes made to that cell. As soon as you select another cell or press the **Enter** key, this menu item is unavailable.

### Example

Suppose you select a cell with this value and you

	A
15	1234567890

1. Insert some text.

	A
15	1234555567890

2. Cut some text.

	A
15	15567890

3. Add more text.

	A
15	22215567890

4. Choose Restore Previous Entry.



All changes to the value are reversed. The value the cell started with is restored.

	A
15	1234567890

**Restore Previous Entry**  
(continued)

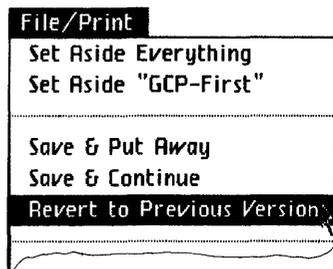
# Edit

---

## ***Revert to Previous Version***

To cancel all changes made to a document

- ▶ Choose Revert to Previous Version from the File/Print menu.



---

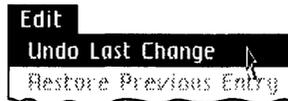
This menu item is always available and operates on the active document. The operation restores the document to the condition it was in when you last saved it or put it away.

After you choose this menu item, an alert box appears where you confirm your choice. If no changes have been made since the document was last saved or put away, the alert box tells you this.

---

To reverse the effect of the last change

- Choose Undo Last Change from the Edit menu.



## **Undo Last Change**

---

Operations that you can undo include cutting, copying, pasting, clearing entries, changing a column's width, inserting a blank row or column, formatting a cell, changing a graph format or screen size, adding or removing legends or grid lines, changing type styles, and changing lines to bars or vice versa. You can usually undo the Undo Last Change command too.

If the Undo Last Change menu item is gray, the last change cannot be reversed. Occasionally, the menu item is available when the operation cannot be reversed. In this case a message appears telling you that LisaGraph cannot undo the last change.

For example, if you enter a value in a cell, Undo Last Change is available in the menu, but an alert box explains that this change cannot be undone. To undo the last change after inserting text on a graph, you must select at least one of the inserted characters before choosing Undo Last Change.

# **Format**

- 
- C60 Cell Alignment
  - C62 Cell Number Style
  - C66 Column Width
  - C68 Graph Format
  - C71 Graph Legend
  - C75 Grid Lines on a Graph
  - C79 Line on a Bar Graph
  - C82 Size of Graph on the Screen
  - C83 Type Styles for the Graph
  - C87 Type Styles for the Table
  - C89 X-Axis Range
  - C94 Y-Axis Range

# Format

---

## Cell Alignment

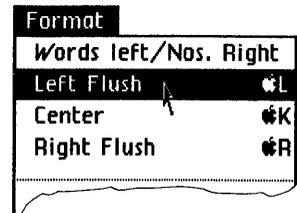
To change the alignment of a value in a cell

- ▶ Select the cell or cells that you want to format.



B	C
101.8	101.3
\$102.30	\$101.20

- ▶ Choose an alignment option from the Format menu.



---

A cell's alignment determines the placement of a value within the cell. The cells, including columns or rows, can be blank when you choose an alignment option, as they are on LisaGraph stationery. The standard alignment on LisaGraph stationery puts words on the left and numbers on the right when a value is entered.

# Format

You can change the alignment of the value within one or more cells, including columns and rows. The example below shows columns with various cell alignments.

## Cell Alignment (continued)

Centered

	A	B	C	D
1	1980	103.2	101.8	101.3
2		102.1	102.3	101.2
3		101.8	102.6	101.1
4		101.9	102.09	102.09
5	'81	104.2	103.09	101.2
6		104.1	102.5	101.8
7		95	101.9	101.9
8		98.9	103	103.5
9	'82	104.9	104.7	100.4
10		104.9	104.9	100.4

Left flush

Right flush

Words left  
Numbers right

# Format

## Cell Number Style

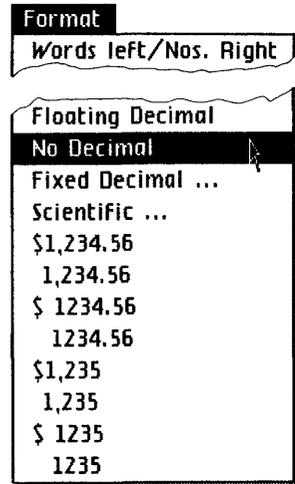
To change the number style of one or more cells

- ▶ Select the cell or cells that you want to format.



B	C
101.3	101.3
\$102.50	\$101.20

- ▶ Choose a number style from the Format menu.



---

## **Cell Number Style** *(continued)*

A number in a cell can be displayed in any of several styles, depending on the number style chosen and the size of the cell. For example, you can display the value 498 as 498.0 or \$498.00 or with a scientific notation, 4.980E+2, and so forth.

Some number styles require that LisaGraph round a value. In this case, the value in the cell is not changed, only the way it is displayed. If the value ends in 5, it is rounded so that the preceding digit is even to ensure an accurate average. For instance,

- 1234.5 is rounded and displayed as 1234.
- 1235.5 is rounded and displayed as 1236.

The number styles are:

Floating Decimal	Shows numbers in the most convenient style for the size of the value and the width of the column.
No Decimal	Shows numbers rounded to the nearest whole number value.
Fixed Decimal	Shows numbers with a fixed number of decimal places. When you choose this menu item, a dialog box appears allowing you to set the number of decimal places.

# Format

## **Cell Number Style**

*(continued)*

### Scientific

Shows numbers with scientific notation and a fixed number of decimal places. When you choose this menu item, a dialog box appears allowing you to set the number of digits to the right of the decimal point.

A positive number after the E means the decimal point in the number to the left of the E is to be moved to the right that many places. A negative number after the E means the decimal point in the number to the left of the E is to be moved to the left that many places.

### Monetary style

Shows numbers in any of the monetary styles described below.

\$1,234.56  
1,234.56  
✓\$ 1234.56  
1234.56  
\$1,235  
1,235  
\$ 1235  
1235

Dollar sign, commas, cents  
Commas, cents  
Dollar sign, cents  
Cents  
Dollar sign, commas  
Commas  
Dollar sign  
Numbers only

---

Note that both No Decimal, in the upper portion of the menu, and the monetary style, 1235, display a number without a decimal point.

## **Cell Number Style** (continued)

### **Example**

To give you an idea of how a cell's number style affects the way its value is displayed, the value 987.6543 is shown below as it will appear in a cell that is eight characters wide.

<b>Number Style</b>	<b>Displayed Value</b>
Floating Decimal	987.6543
No Decimal	988
Fixed Decimal (1)	987.7
Scientific (3)	9.877E+2
\$ 1234.56	987.65

Note that the styles above are displayed when the cell is not selected. When a cell is selected, its value is displayed in floating decimal number style.

# Format

---

## Column Width

To change the width of one column,

- ▶ Position the pointer in the grid handle on the right side of the column.

	A	B
1	****	101.8
2	****	\$102.30

- ▶ Press and hold down the mouse button while moving the pointer and flickering boundary to the left or right.
- ▶ Release the mouse button when the flickering outline shows the column width you want.

	A	B
1	****	101.8
2	****	\$102.30

---

You can move the right boundary of a column when it is too wide or not wide enough. In addition, you can use a menu item to set the width of several columns at once.

## Column Width (continued)

To change the width of several columns at once,

- ▶ Select the columns.



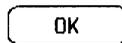
- ▶ Choose Column Widths from the Page Layout menu.



- ▶ When the dialog box appears showing the number of characters the leftmost cell in the selection can display, type a new number.

of Characters: 9

- ▶ Click OK.

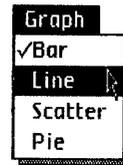


# Format

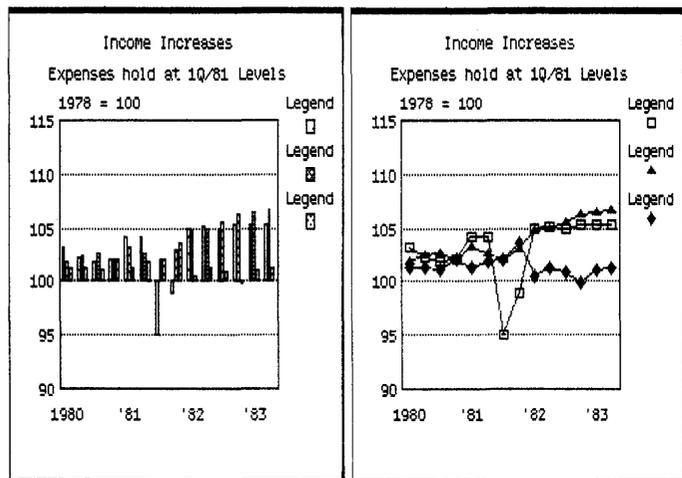
## Graph Format

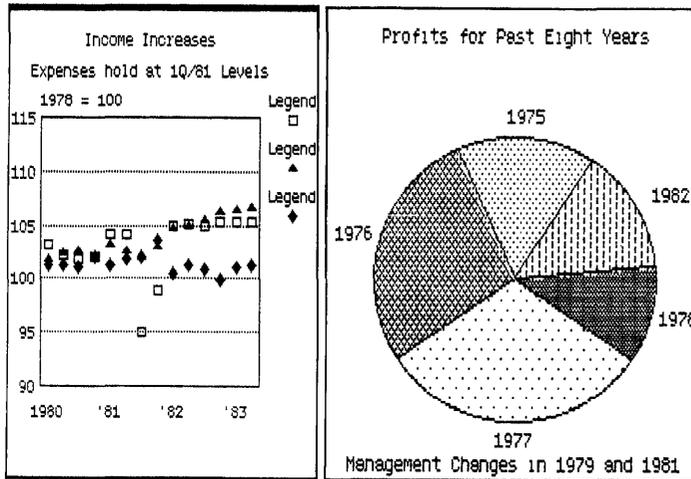
To change a graph's format

- ▶ Choose a format from the Graph menu.



With LisaGraph you can create the four kinds of graphs shown here. In addition, you can mix bar and line graphs; to do this, see the Line on a Bar Graph procedure, under Format, in this chapter.





**Graph Format**  
(continued)

On bar graphs, line graphs, and scattergrams, LisaGraph coordinates and pairs X-axis data from column A of the table with Y-axis data from columns B through I, and then plots the intersections of "data pairs" on the graph.

On pie charts, LisaGraph totals all the positive values in column B and plots each positive value as a segment representing its percentage of the total; negative and zero values are ignored. Pie segments are arranged in clockwise order from largest to smallest. Values in column A become segment labels.

Most sets of data are suitable for one of the following kinds of comparisons.

- **Component:** each value is compared with the total. For example, a pie chart shows annual expenses divided among salaries, benefits, materials, facilities, and advertising.
- **Item:** size or quantity of two or more items is compared. For example, annual profits for each of five branches of a store are plotted as a bar graph.

# Format

## Graph Format

(continued)

- Time series: size or quantity is compared over time. For example, sales for one branch over a 7 year period is plotted as a line graph.
- Frequency distribution: distribution of an item in each of several categories of progressive size or rank is compared. For example, number of people in each of five weight categories is shown on a line graph.
- Co-relationship: variation in one respect is compared with variation in another to see if a meaningful pattern emerges. For example, birth weight versus gestation period of dolphins studied is plotted as a scattergram.

Each kind of graph best suits a particular comparison; each graph format works well if your data are complete. However, if data are sparse, a meaningful graph cannot be produced.

For more information about graphs and comparisons, see Section B, LisaGraph Tutorial, Chapter 5. Also, use the table below to help you decide which format to use for the comparison you want to make.

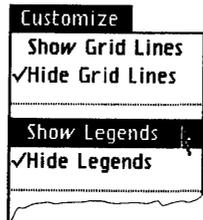
	<i>Component</i>	<i>Item</i>	<i>Time Series</i>	<i>Frequency</i>	<i>Co-relation</i>
<i>Pie</i>					
<i>Bar</i>					
<i>Line</i>					
<i>Scattergram</i>					

---

## Graph Legend

To display the legend on a graph

- ▶ Choose Show Legends from the Customize menu.



---

To hide the legend

- ▶ Choose Hide Legends from the Customize menu.

---

LisaGraph automatically provides a legend on the right side of a graph. It displays a caption above each pattern currently being used on the graph. You replace the text provided in the legend with a meaningful description of what each pattern represents.

If you hide the legend, the graph gets wider; it expands to fill the space the legend occupied. On pie charts, the values in column A become segment labels and no legend is provided.



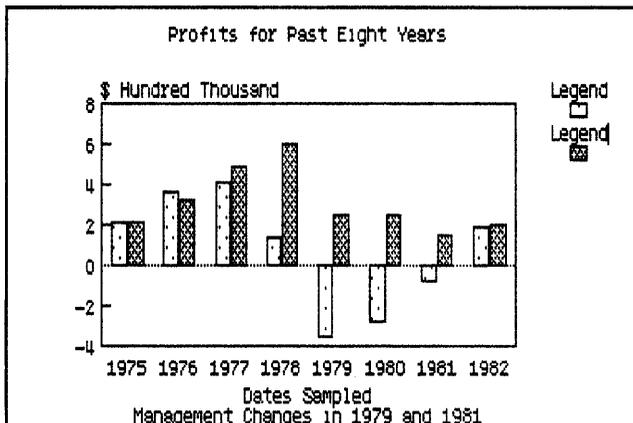
# Format

1. You begin a new document and enter the data into the table, but save the headings for later.

	A	B	C
1	1975	2.1	2.1
2	1976	3.6	3.2
3	1977	4.1	4.9
4	1978	1.4	6
5	1979	-3.5	2.5
6	1980	-2.8	2.5
7	1981	-0.8	1.5
8	1982	1.9	2

## Graph Legend (continued)

LisaGraph automatically coordinates and pairs the X-axis values in column A with the Y-axis values in column B and draws the intersections of those values on the graph in one pattern. Then, LisaGraph coordinates the values in column A with the values in column C and draws another set of bars in a different pattern. After you edit the titles on the graph, it looks like this:



# Format

---

## **Graph Legend**

*(continued)*

- 2. You replace the text provided in the legend with the column headings on your original.

Actual



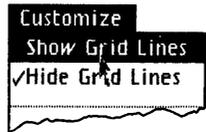
Projected



---

To add grid lines to a graph

- ▶ Choose Show Grid Lines from the Customize menu.



## ***Grid Lines on a Graph***

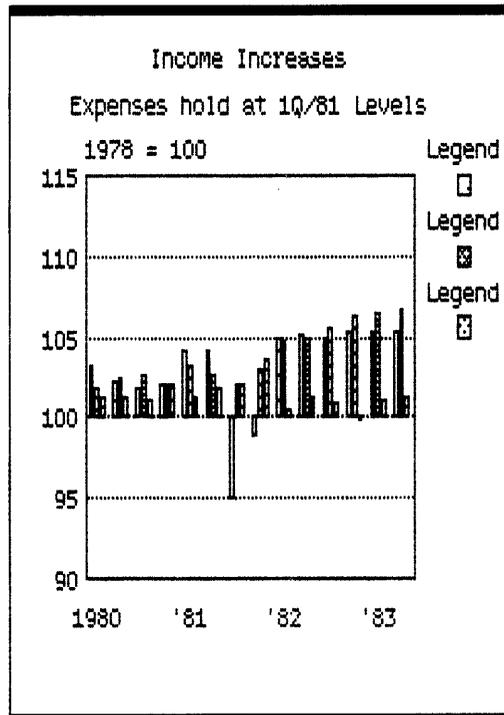
---

To hide grid lines

- ▶ Choose Hide Grid Lines from the Customize menu.
-

# Format

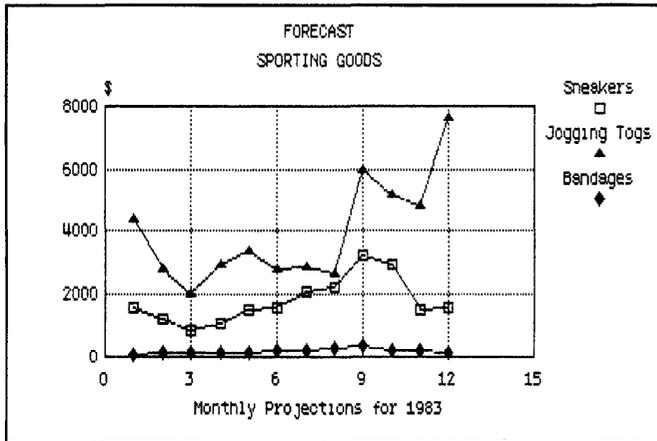
## Grid Lines on a Graph (continued)



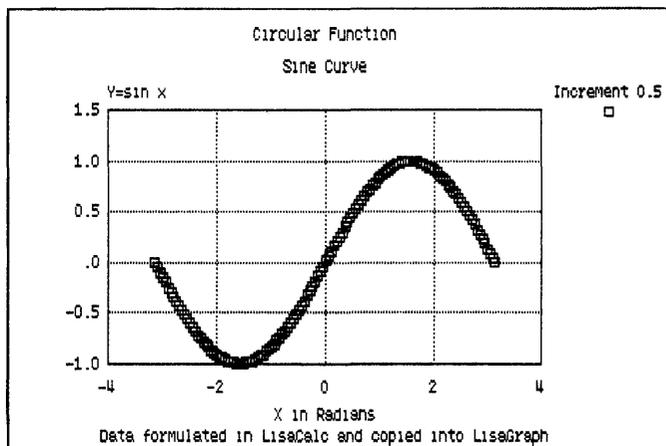
Bar Graph with Grid Lines

Grid lines extend across the graph from each Y-axis label. Pie charts have segment divisions, which are always visible, instead of grid lines.

## Grid Lines on a Graph (continued)



Line Graph with Grid Lines



Scattergram with Grid Lines

# **Format**

---

## **Grid Lines on a Graph** *(continued)*

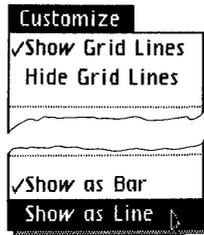
When a line graph or scattergram has a numerical X axis, grid lines also extend from each X-axis label to the top of the graph. The preceding figures show examples of a line graph and a scattergram having a numerical X axis.

---

To change a bar to a line

- ▶ Make sure the graph is a bar graph.
- ▶ Select the column or columns that contain the data that you want plotted as a line.
- ▶ Choose Show as Line from the Customize menu.

A	B	C
	2.1	
	3.6	



## ***Line on a Bar Graph***

---

To enhance a bar graph, you can change one or more sets of bars to lines. To do so, you select one or more columns that contain Y-axis data, columns B through I in the table, and plot that data as a line. However, if you change all sets of bars to lines, the bar graph will look like a line graph.

---

To change a line back to a bar

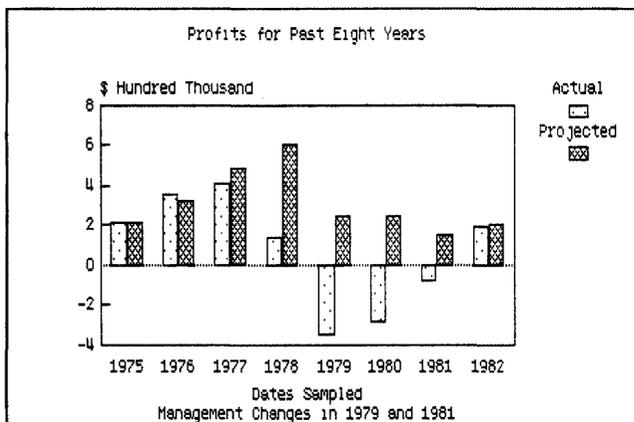
- ▶ Select the column whose data is plotted as a line.
  - ▶ Choose Show as Bar from the Customize menu.
-

# Format

## Line on a Bar Graph (continued)

### Example

Suppose your graph compares actual profits with projected profits over time; in the table, column A contains dates, column B contains actual profits, and column C contains projected profits. It looks like this:

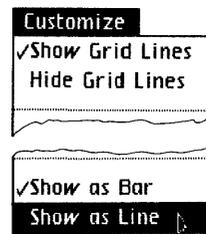


To plot projected profits as a line,

1. Select column C in the table.



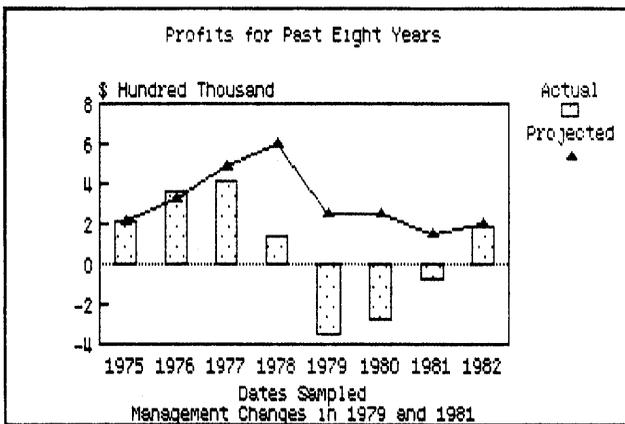
2. Choose Show as Line from the Customize menu.



# Format

The data in column C is automatically replotted as a line.  
The graph looks like this:

## **Line on a Bar Graph** *(continued)*



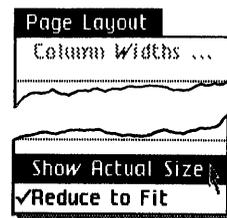
# Format

---

## ***Size of Graph on the Screen***

To see the graph in the same size as it will print

- ▶ Choose Show Actual Size from the Page Layout menu.



---

To reduce the graph to fit in the graph view

- ▶ Choose Reduce to Fit from the Page Layout menu.

---

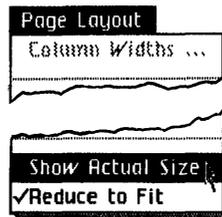
On the screen, a graph is usually reduced to fit in the graph view. The gray background of the graph view enables you to see the size and proportions of the reduced graph. The proportions of the reduced graph depend on the graph's printing size.

You can edit a graph when it is reduced; however, you must display the graph in its actual size when you change type styles or when you want to see how it will look when it is printed. To change a graph's printing size, see the Change Graph Printing Size procedure, under Print, in this chapter.

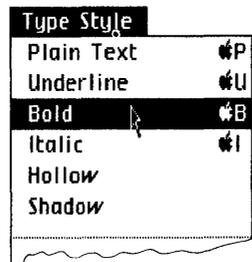
## Type Styles for the Graph

To change the style of type on a graph

- ▶ Choose Show Actual Size from the Page Layout menu.



- ▶ Select the text on the graph that you want to change.
- ▶ Choose one or more styles from the top section of the Type Style menu.



Type styles are found in the top section of the Type Style menu and are available only when the graph is shown in its actual size and some text on the graph is selected. Any combination of styles is possible; however, some are distracting.

# Format

---

## **Type Styles for the Graph** *(continued)*

### ***Guidelines for Type Styles***

Use type styles judiciously to add impact to your words and to aid the reader. Avoid distracting combinations; keep the document legible.

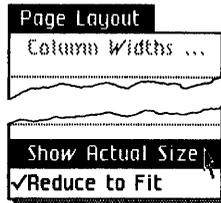
- Bold is good for titles or strong emphasis. Use it whenever you would otherwise underline twice.
- Italic is good for quotations or to add subtle emphasis to other words.

In addition to the type styles, LisaGraph provides several different type fonts. Any set of characters in a particular size and face is called a font.

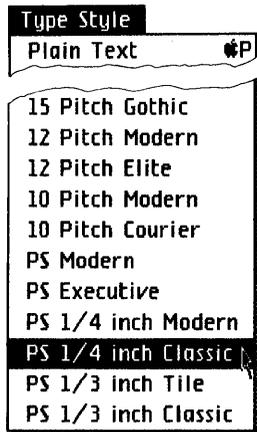
---

To change a type font on the graph

- ▶ Choose Show Actual Size from the Page Layout menu.



- ▶ Select the text that you want to change.
- ▶ Choose one font from the bottom section of the Type Style menu.



## **Type Styles for the Graph** *(continued)*

# Format

---

## **Type Styles for the Graph** *(continued)*

Fonts for the graph are listed by size and face at the bottom of the Type Style menu. Size, or pitch, refers to the number of characters printed per inch; 15 pitch prints 15 characters per inch and so on. PS means characters are proportionally spaced.

The “face” is the portion of the character that displays and prints. In the Type Style menu, names like Modern and Gothic refer to the typeface. For instance, Modern is a sans serif face, one without serifs, or “feet,” on the characters; Gothic is a serif face, one with “feet.”

LisaGraph will display and print a type font in any style you choose from the top section of the Type Style menu. See Appendix 3, Type Fonts, in this manual, for a sample of all LisaGraph type fonts.

---

### **Guidelines for Type Fonts**

Professional printers use various sizes of the same face to produce an aesthetically pleasing document. Mixed type faces are distracting.

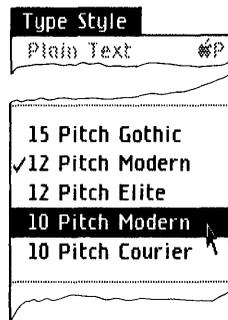
# Format

## ***Type Styles for the Table***

---

To change the printing type font of a table

- ▶ Select any cell in the table.
- ▶ Choose a font from the middle of the Type Style menu.



---

LisaGraph provides several different printing type fonts for the table; any set of characters in a particular size and face is called a font. In addition, LisaGraph provides several sizes of type for the table on the screen. When you choose a type font for a table, the entire table is changed even if only one cell or the deselect box is selected.

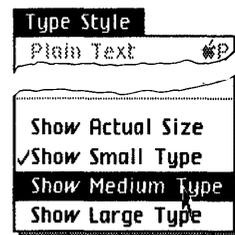
# Format

---

## **Type Styles for the Table** (continued)

To change the type size of the table on the screen

- ▶ Select any cell in the table.
- ▶ Choose a display type size from the bottom of the Type Style menu.



---

The table can be displayed on the screen in small, medium, or large type, regardless of the size in which it will print. For instance, you can choose Show Small Type, 15 characters per inch, to check the table's appearance, or Show Large Type, 10 characters per inch, to read and edit values easily. Show Actual Size shows the size of type in which the table will print.

Fonts for the table are listed by size and face in the middle of the Type Style menu. Size, or pitch, refers to the number of characters printed per inch; 15 pitch prints 15 characters per inch and so on. PS means characters are proportionally spaced.

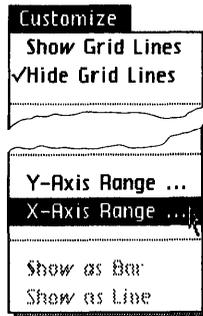
The "face" is the portion of the character that displays and prints. In the Type Style menu, names like Modern and Gothic refer to the type face. For instance, Modern is a sans serif face, one without serifs, or "feet," on the characters and Gothic is a serif face, one with "feet."

Fonts in a table display and print only in plain type style; other styles cannot be used. See Appendix 3, Type Fonts, in this manual, for a sample of all LisaGraph type fonts.

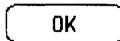
## X-Axis Range

To change the range of labels along a graph's X axis

- ▶ Choose X-Axis Range from the Customize menu.



- ▶ When the dialog box appears with the current specifications, select the value you want to change.
- ▶ Type a number or the word "automatic" and press the **(Return)** key to move to and select the next value. Repeat until the dialog box shows the desired range.
- ▶ Click OK.



A graph displays numerical relationships using a two-dimensional coordinate system. The horizontal scale is the graph's X axis. The range of X-axis labels along the bottom of the graph is derived from the data in column A. Data in column A are used in the following ways:

- On pie charts, each value in column A appears as a label beside the segment it identifies.
- On bar graphs, the values in column A are evenly spaced across the bottom of the graph in the same order as they appear in the table.

# Format

---

## **X-Axis Range**

*(continued)*

- On line graphs and scattergrams with one or more text values in column A, the values themselves are evenly spaced across the bottom of the graph in the same order as they appear in the table.

Also, if any cell in column A contains only a space, the X-axis label will be a blank space. If column A contains no data, there will be no X-axis labels.

- On line graphs and scattergrams with only numbers in column A, LisaGraph automatically computes a range of labels that includes all values in column A. Values appear along the X axis from lowest to highest; they are not plotted in the same order as they appear in the table. The X-Axis Range menu item is available for use with these graphs only.

If a numeric range of X-axis labels on a line graph or scattergram doesn't suit your needs, you can change the range. Of course, if you enter a value in the table that exceeds the range you specified, LisaGraph will adjust the range automatically to include the new value. The X-axis range has four attributes:

Minimum value	The lowest number in the range. It determines how much space appears between the graph's left border and the lowest value plotted.
Axis origin	The number at which the reference line appears, from which distances or angles are measured.
Maximum value	The highest number in the range. It determines how much space appears between the graph's right border and the highest value plotted.

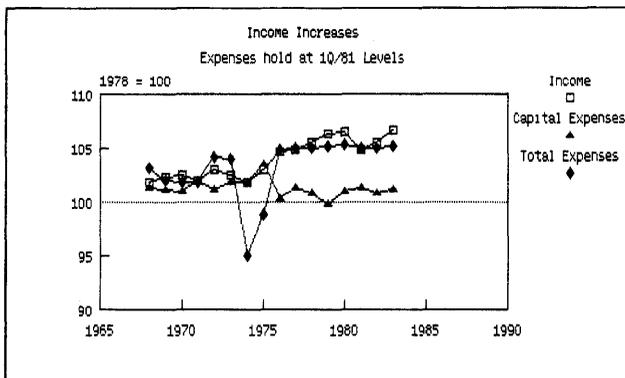
Increment                      The number amount between successive labels. It determines the number of labels across the X axis.

## ***X-Axis Range*** *(continued)*

Note that the X-Axis Range menu item is available only when you have a line graph or scattergram with a numerical X axis. If you enter a text value in column A, the X-axis labels will revert to text labels and the X-Axis Range menu item will be unavailable; see the discussion about data in column A earlier in this procedure. Also note that instead of typing the word “automatic” you can press the **(Backspace)** key to remove a value in the dialog box and let LisaGraph determine that part of the range automatically.

### ***Example***

Suppose you have created a line graph that compares income, capital expenses, and total expenses from 1968 through 1983 and the automatic X-axis labels look like this:



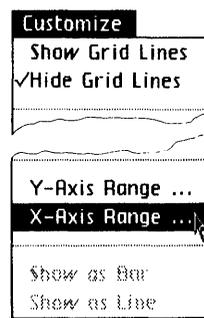
# Format

## **X-Axis Range**

(continued)

To change the range of the numerical X-axis labels,

1. Choose X-Axis Range from the Customize menu.

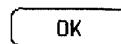


2. When the dialog box appears, you type

1966    
1984   
2

Minimum:	1966
Origin:	Automatic
Maximum:	1984
Increment:	2

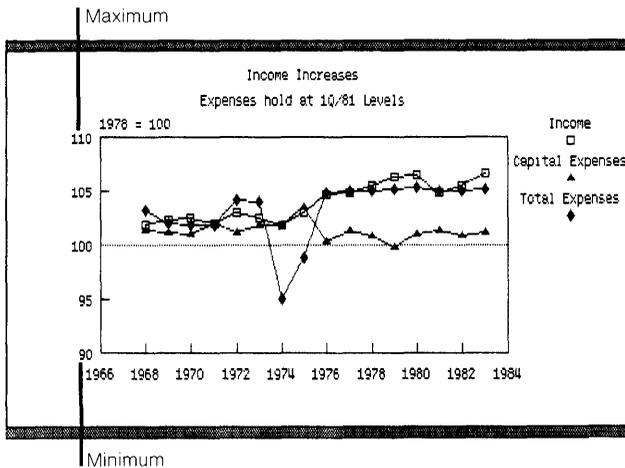
3. Click OK.



# Format

The new X-axis labels are computed and displayed. Your graph now looks like this:

## **X-Axis Range** *(continued)*



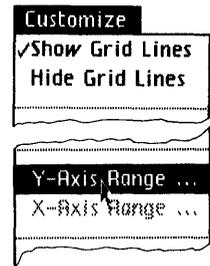
# Format

---

## Y-Axis Range

To change the range of labels along the graph's Y axis

- ▶ Choose Y-Axis Range from the Customize menu.



- ▶ When the dialog box appears with the current specifications, select the value you want to change.
- ▶ Type a number or the word "automatic" and press the **(Return)** key to move to and select the next value. Repeat until the dialog box shows the desired range.
- ▶ Click OK.

OK

---

A graph displays numerical relationships using a two-dimensional coordinate system. The vertical scale is the Y axis of the graph. Y-axis data must be numeric to be plotted.

## **Y-Axis Range**

*(continued)*

The range of Y-axis labels along the graph's left border is derived from the data in columns B through I in the table. Y-axis data are used in the following way on bar graphs, line graphs, and scattergrams:

- The Y-axis values in column B are coordinated and “paired” with the X-axis values in column A, and the intersections of these “data pairs” are plotted in one pattern. The Y-axis values in column C are coordinated and paired with the X-axis values in column A, and these intersections are plotted in another pattern, and so on until as many as eight sets of data have been plotted in eight different patterns.
- Before data pairs are plotted on the graph, LisaGraph computes a range of Y-axis labels that includes the lowest and highest values plotted. The range is divided into four or five labels that are spaced evenly along the graph's Y axis.

# Format

---

## **Y-Axis Range**

*(continued)*

When the range of Y-axis labels is not sufficient for your needs, you can change it. Of course, if you enter a value in the table that exceeds the range you specified, LisaGraph will adjust the range automatically to include the new value. The Y-axis range has four attributes:

Minimum value	The lowest number in the range. It determines how much space appears between the graph's bottom border and the lowest value plotted.
Axis origin	The number at which the horizontal reference line appears.
Maximum value	The highest number in the range. It determines how much space appears between the graph's top border and the highest value plotted.
Increment	The number amount between successive labels. It determines the number of labels along the Y axis.

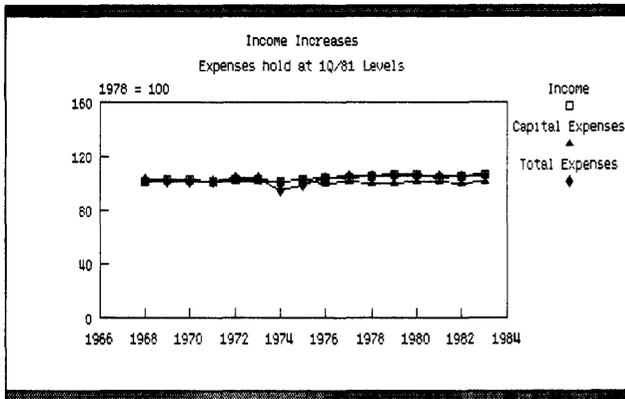
Pie charts have no Y axis. When making pie charts, LisaGraph totals the positive Y-axis values in column B only and divides each positive value into a percentage of the whole. The resulting percentages are plotted as pie segments. Values in column A are coordinated with values in column B to become segment labels.

Note that you can press the **(Backspace)** key to remove a value in the dialog box and let LisaGraph determine that part of the range automatically.

## Example

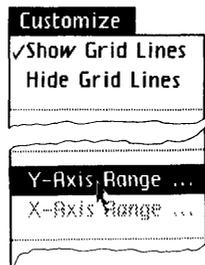
Suppose the values in columns B through D of your table range from 95 to 106 and that the Y-axis labels provided automatically range from 0 to 160. This range produces a very flat graph.

## Y-Axis Range (continued)



To label the Y axis with a range between 90 and 110, with increments of 5 between each label and the origin line drawn at 100,

1. Choose Y-Axis Range from the Customize menu.



# Format

## Y-Axis Range

(continued)

2. When the dialog box appears, you type the range shown here.

90

100

110

5

Minimum: 90

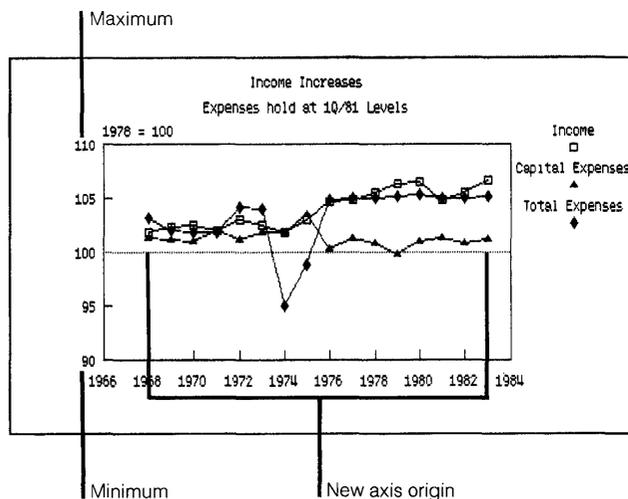
Origin: 100

Maximum: 110

Increment: 5

3. Click OK.

The new Y-axis labels are computed and displayed. Your graph now looks like this:



- 
- C100 Change Graph Printing Size
  - C101 Format for Specific Printers
  - C107 Print Graph
  - C112 Print Table

# ***Print***

---

## ***Change Graph Printing Size***

To change the size in which the graph will print

- ▶ Choose a size option from the Page Layout menu.

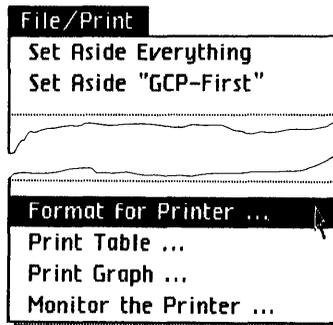
---

You can print a graph in one of four sizes: full page, half page, third page, or quarter page. The graph fills the portion of the page that is dictated by its size and by the paper size and the orientation specified when you format the document for a specific printer. See the Format for Specific Printers procedure, under Print, in this chapter. To change the size of the graph on the screen, see the Size of Graph on the Screen procedure, under Format, in this chapter.

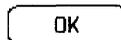
## **Format for Specific Printers**

To format your document for a specific printer

- ▶ Choose Format for Printer from the File/Print menu.



- ▶ Check the type of printer that this document will print on.
- ▶ If you are using a dot matrix printer, check the orientation and resolution that you want to use for this document.
- ▶ If you are using a daisy wheel printer, check the paper size and print wheel style that you want to use for this document.
- ▶ Check the response you want the Lisa to make if no printer matches the settings you've picked.
- ▶ Click OK.



The settings you check in the Format for Printer dialog box work with the formats you set in your document as you enter data and edit the document. These printer settings are saved with each document and become part of the settings that determine how your document displays on the screen, as well as how it prints out.

# Print

---

## **Format for Specific Printers** (continued)

It's a good idea to choose the Format for Printer settings for a document before you customize your document, because some Format for Printer settings may limit the other formatting settings available to you. These are discussed under the individual settings, below.

Printer format settings take effect after you click OK in the dialog box.

---

### **Settings in the Format for Printer Dialog Box**

The Format for Printer dialog box lets you check the kind of printer you want this document to print on, and then lets you specify some details on size of paper and resolution.

You can tell the Lisa to print your document on a dot matrix or daisy wheel printer. The items that follow Print Method in the dialog box change when you change your printer preference from dot matrix to daisy wheel, or back.

---

### **Dot Matrix Printer Settings**

When you choose Dot Matrix printer in the Format for Printer dialog box, you see these additional choices:

---

Format For Printer... Cancel

On which printer do you intend to print this document?

Print Method:  Dot Matrix  Daisy Wheel

Paper Length:  11"  14"

Orientation:  Portrait (tall)  Landscape (wide)

Resolution:  Normal  High

What do you want done if the printer you've specified does not appear to be connected to this machine?

Tell Me  Pick an Available Printer for Me  Disregard it OK

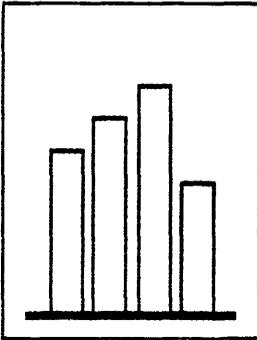
---

**Paper Length:** With a dot matrix printer, you can print on 11 or 14 inch paper.

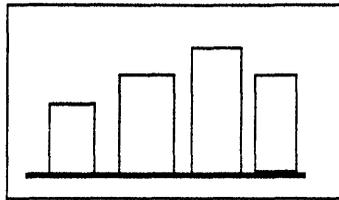
---

## **Format for Specific Printers** *(continued)*

**Orientation:** This setting tells the Lisa whether to print your document horizontally or vertically on the paper in your printer. When the orientation is Portrait, the Lisa prints the table or graph across the 8-1/2 inch width of your paper, from left to right. When the orientation is Landscape, the Lisa treats the length of the paper, 11 or 14 inches, as the width. In other words, it treats the paper as though it could turn it on its side before printing.



Portrait



Landscape

**Resolution:** This tells the Lisa what quality you want the document to print with. Normal resolution gives you a standard character image. High resolution produces a much finer quality character image but takes longer to print.

When using landscape orientation and normal resolution, the font size of the text will be smaller when it is printed than it was shown on the screen.

# Print

## Format for Specific Printers (continued)

### Daisy Wheel Printer Settings

When you choose Daisy Wheel printer in the Format for Printer dialog box, you see these additional choices:

Format For Printer... Cancel

On which printer do you intend to print this document?

Print Method:  Dot Matrix  Daisy Wheel

Paper Size:  8.5x11"  11x8.5"  
 8.5x14"  14x8.5"  14x11"

Print Wheel:  Octnic 15  Elite 12  Courier 10  Executive PS  
 PS plus *Italics*  10/12/PS  10/12+Addn'l characters

What do you want done if the printer you've specified does not appear to be connected to this machine?

Tell Me  Pick an Available Printer for Me  Disregard it OK

**Paper Size:** When you print with a daisy wheel printer, you have five choices for paper size: 8-1/2 x 11 inches; 11 x 8-1/2 inches; 8-1/2 x 14 inches; 14 x 8-1/2 inches; and 14 x 11 inches. The size you choose here is reflected on the graph on the screen when you show it in its actual size, and also by the dotted gray page boundaries on the table.

**Print Wheel:** You have a range of choices in print wheels. The wheel you decide to use does limit the range of type styles and fonts that you can use in your document. For instance, if the print wheel you choose does not contain italic characters, italics will not display in the text of your document. Similarly, if you check 15 pitch as your print wheel, text will not display in 10 pitch on your screen, even if you've chosen it on the Type Style menu. When you try to use a type style or font that is incompatible with the current printer settings, you'll see this alert box:

**Note** You said to format this document for a printer that has a fixed-pitch print wheel different from the one you chose from the Type Style menu.

LisaGraph will figure out where to put page breaks in the table based on the style of the print wheel not on the style you chose from the menu. OK

---

## **When Settings Don't Match a Printer**

In order for the Lisa to follow your instructions in this Format for Printer dialog box, two other factors must be true: Preferences must show that the type of printer with the settings you choose here is attached to the Lisa, and such a printer must be attached.

Whenever you click OK in the Format for Printer dialog box, the Lisa checks the new settings against the printer settings listed in Preferences. If they don't match, the Lisa then looks at the bottom line of the dialog box to see what you want done.

*Tell Me:* When Tell Me is checked, the Lisa notifies you that no printer specified in Preferences meets the settings you have checked. An alert box appears, so that you can decide what you want to do next. Here is what it looks like:

---

### **Intended Printer Unavailable!**

According to the Preferences Window's list of Device Connections, the Intended Printer for this document is not connected to this machine.

### **On which printer do you intend to print this document?**

- A printer that is not listed in Preferences right now.
- Slot 2 Upper -- Dot Matrix -- 11"

What do you want done if the printer you've specified does not appear to be connected to this machine?

- Tell Me
- Pick an Available Printer for Me
- Disregard it

 OK

## **Format for Specific Printers** *(continued)*

# Print

---

## **Format for Specific Printers** (continued)

**Pick an Available Printer:** When Pick an Available Printer is checked, the Lisa will choose an alternative printer if one doesn't match exactly the settings you requested. For instance, if you've specified a daisy wheel printer but only a dot matrix is attached and checked in Preferences, the Lisa formats your document for the dot matrix printer, rather than for a daisy wheel printer.

**Disregard It:** When Disregard It is checked, the Lisa notes the difference in printer settings and available printers, but doesn't do anything. This allows you to continue working with your document without being interrupted to make a decision about print formats now. You should check this box when you intend to print the document on a different printer from the one that is connected to your Lisa now.

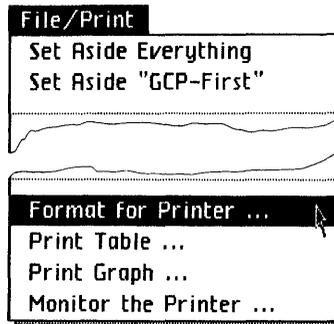
## Print Graph

To print a graph

- ▶ Make sure your printer is set up and connected to your Lisa. For assistance, see the manual that came with your printer.
- ▶ If you have not previously specified the printer(s) you use in Preferences, do so now. For assistance, refer to Section D, Desktop Manager Reference Guide, in the *Lisa Owner's Guide*, under Set Printer Configuration.

▶ Get or activate the document.

- ▶ If you need to change any of the options in the Format for Printer dialog box for this document, choose Format for Printer from the File/Print menu.



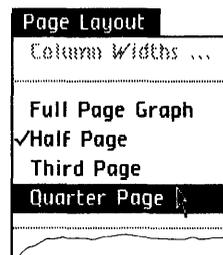
- ▶ Make any necessary changes in the Format for Printer dialog box that appears.
- ▶ Click OK.

OK

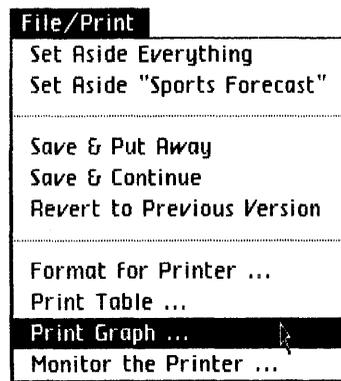
# Print

## **Print Graph** (continued)

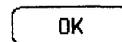
- ▶ Choose a size option from the Page Layout menu.



- ▶ Choose Print Graph from the File/Print menu.



- ▶ Make any necessary changes in the Print dialog box that appears.
- ▶ Click OK.



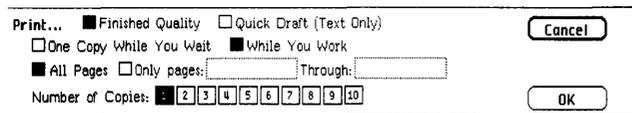
## Print Graph (continued)

Using the current printer settings and the formats you specified for the graph and table, the graph begins printing after you click OK.

To learn how to make changes in the Format for Printer dialog box, see the Format for Specific Printers procedure, under Print, in this chapter.

If the printer settings and printer don't match, an alert box appears. Alert boxes resulting from a mismatch are discussed in the Format for Specific Printers procedure, under Print, in this chapter.

### Print Dialog Box Settings



The screenshot shows the Print dialog box with the following settings: **Print...** is selected. Under **Quality**,  Finished Quality and  Quick Draft (Text Only) are visible. Under **Options**,  One Copy While You Wait and  While You Work are visible. Under **Pages**,  All Pages and  Only pages: [ ] Through: [ ] are visible. Under **Number of Copies**, the value 2 is selected in a list box. **Cancel** and **OK** buttons are at the bottom right.

The Print dialog box lets you specify some final details about how your graph will print. The choices in the Print dialog box are discussed below.

### Quality

**Finished Quality:** Finished Quality prints your graph as you have formatted it on the screen, including special type styles and fonts.

**Quick Draft:** Quick Draft lets you get a printed copy of the text faster, but without any graphics or special type styles and fonts used in your graph. On a dot matrix printer, the built-in font is used for Quick Draft. On a daisy wheel printer, whatever print wheel is on the printer will be used, even if you've specified a different one in your graph.

# Print

---

## Print Graph

(continued)

### Speed

**While You Wait:** You can have the Lisa use most of its attention to print your graph while you wait. A graph will print more quickly if you choose While You Wait, but you won't be able to use the Lisa for any other tasks. Also, you will get only one copy if you print while you wait, even if you've specified two or more copies in the Print dialog box.

**While You Work:** You can have the graph print while you continue to use the Lisa for other tasks. Some printing conditions make printing while you work inconvenient, however. For example, if you are single sheet feeding paper into your printer, and printing a Quick Draft, you won't have time to do other activities on the Lisa.

When you choose While You Work, the Monitor the Printer dialog box appears.

---

Monitor the Printer..	Terminate
Document being printed: GCP-Chapter 3	
Copy being printed: 0 OF 0	
Page being printed: -1 OF 1	
If you want to do other work while the document is being printed, click Proceed. Otherwise, just wait.	
If you do decide to Proceed, you can get back here by choosing Monitor the Printer from the File/Print menu. You should do that if you hear a whistle or if you want to terminate printing.	
	Proceed

---

This dialog box tells you the name of the document, the copy, and the page now being printed. Click Proceed to return to LisaGraph and to continue working. Click Terminate if you want to stop the printing. If you decide to proceed, you can return to this dialog box at any time to stop the printing by choosing Monitor the Printer from the File/Print menu.

Note that if you hear a whistle, there is a problem with printing while you work. Choose Monitor the Printer from the File/Print menu to see what the problem is.

---

## **Number of Pages**

**All Pages:** A graph is always printed on a single page. If All Pages is checked in the Print dialog box, the graph will print without a problem.

**Selective Pages:** A graph is always a single page. To print it, check either All Pages or Only Pages and “1.”

---

## **Number of Copies**

You can print from 1 to 10 copies of a graph. Just check the box with the number of copies you want printed. Only one copy will print if you also have checked While You Wait.

## **Print Graph**

*(continued)*

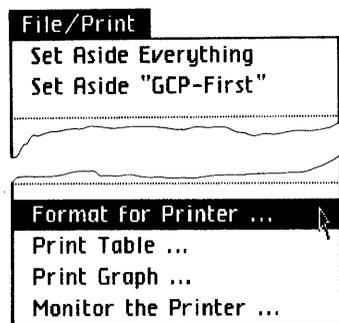
# Print

---

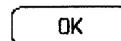
## Print Table

To print a table

- ▶ Make sure your printer is set up and connected to your Lisa. For assistance, see the manual that came with your printer.
- ▶ If you have not previously specified the printer(s) you use in Preferences, do so now. For assistance, refer to Section D, Desktop Manager Reference Guide, in the *Lisa Owner's Guide*, under Set Printer Configuration.
- ▶ Get or activate the document.
- ▶ If you need to change any of the options in the Format for Printer dialog box for this document, choose Format for Printer from the File/Print menu.

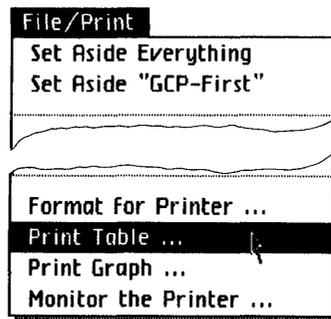


- ▶ Make any necessary changes in the Format for Printer dialog box that appears.
- ▶ Click OK.

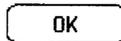


## **Print Table** (continued)

- ▶ Choose Print Table from the File/Print menu.



- ▶ Make any necessary changes in the Print dialog box that appears.
- ▶ Click OK.



Using the current printer settings and the formats you specified for the table, the table begins printing after you click OK.

To learn how to make changes in the Format for Printer dialog box, see the Format for Specific Printers procedure, under Print, in this chapter.

If the printer settings and printer don't match, an alert box appears. Alert boxes resulting from a mismatch are discussed in the Format for Specific Printers procedure, under Print, in this chapter.

Sometimes a Monitor the Printer dialog box will appear. See While You Work, later in this chapter, for information on this alert box.

# Print

---

## Print Table (continued)

### Print Dialog Box Settings

---

Print...  Finished Quality  Quick Draft (Text Only) Cancel

One Copy While You Wait  While You Work

All Pages  Only pages:  Through:

Number of Copies:  1  2  3  4  5  6  7  8  9  10 OK

---

The Print dialog box lets you specify some final details about how your table will print. The choices in the Print dialog box are discussed below.

---

### Quality

**Finished Quality:** Finished Quality prints your table as you have formatted it on the screen, including type fonts.

**Quick Draft:** Quick Draft lets you get a printed copy of the text faster, but without any special type fonts used in your table. On a dot matrix printer, the built-in font is used for Quick Draft. On a daisy wheel printer, whatever print wheel is on the printer will be used, even if you've specified a different one in your table.

---

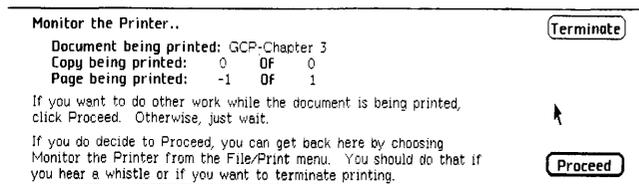
### Speed

**While You Wait:** You can have the Lisa use most of its attention to print your table while you wait. A document will print more quickly if you choose While You Wait, but you won't be able to use the Lisa for any other tasks. Also you will get only one copy if you print while you wait, even if you've specified two or more copies in the Print dialog box.

## Print Table (continued)

**While You Work:** You can have the table print while you continue to use the Lisa for other tasks. Some printing conditions make printing while you work inconvenient, however. For example, if you are single sheet feeding paper into your printer, and printing a Quick Draft, you won't have time to do other activities on the Lisa.

When you choose While You Work, the Monitor the Printer dialog box appears.



This dialog box tells you the name of the document, the copy, and the page now being printed. Click Proceed to return to LisaGraph and to continue working. Click Terminate if you want to stop the printing. If you decide to proceed, you can return to this dialog box at any time to stop the printing by choosing Monitor the Printer from the File/Print menu.

Note that if you hear a whistle, there is a problem with printing while you work. Choose Monitor the Printer from the File/Print menu to see what the problem is.

# Print

---

## Print Table

(continued)

### Number of Pages

**All Pages:** You can print all pages of the table that contain data. Just make sure All Pages is checked in the Print dialog box. LisaGraph tables are automatically divided into pages for printing. Page divisions appear as dotted lines along column and row boundaries. When the data in a table are more than one page long and one page wide, the pages are printed in this order:

Page 1	Page 3
Page 2	Page 4

---

**Selective Pages:** To print selective pages of a table, check Only Pages and then fill in the boxes with the starting and ending pages to print.

## **Print Table**

*(continued)*

When you want to print from the beginning of a table through some page number, say 8, you enter “8” in the second box after Through. Similarly, if you want to start at a given page number and print to the end, you need to enter the starting page number in the box after Only Pages.

---

### **Number of Copies**

You can print from 1 to 10 copies of any table. Just check the box with the number of copies you want printed. Only one copy will print if you also have checked While You Wait.

# ***Other Tools***

---

C120 LisaCalc  
C122 LisaDraw

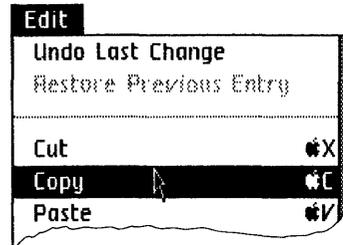
# Other Tools

---

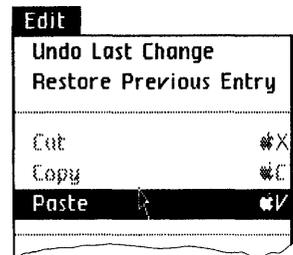
## LisaCalc

To copy data from a LisaCalc spreadsheet into a LisaGraph table

- ▶ Get or activate the LisaCalc spreadsheet.
- ▶ Select the cells, columns, or rows that you want to copy.
- ▶ Choose Copy from the Edit menu.



- ▶ Get or activate the LisaGraph document or tear off a new sheet of LisaGraph stationery and open it.
- ▶ Select the location in the LisaGraph table where you want to paste the cells.
- ▶ Choose Paste from the Edit menu.



- ▶ Edit and format the graph and table, and then save, print, and file the LisaGraph document as usual.
-

# Other Tools

---

When you copy data from a LisaCalc spreadsheet and paste it into a LisaGraph table, LisaGraph retains the values, alignment, and number style but not the formulas, protection, or column width. You can paste rows of LisaCalc cells into columns, and you can paste columns of LisaCalc cells into rows. This enables you to arrange the data from the spreadsheet into X- and Y-axis data necessary to produce an accurate graph.

## **LisaCalc** *(continued)*

The values that you paste are automatically plotted in the graph view after pasting. If you would like to try this yourself, follow the step-by-step example in Section B, LisaGraph Tutorial, Chapter 4.

You can also copy cells from LisaGraph into LisaCalc to perform calculations on the values.

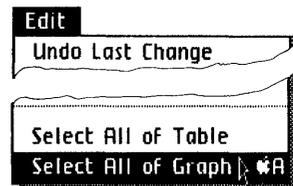
# Other Tools

---

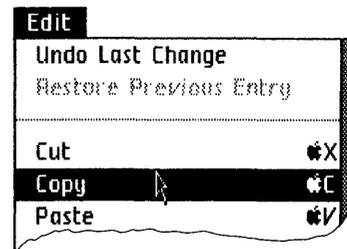
## LisaDraw

To copy a graph from LisaGraph into LisaDraw

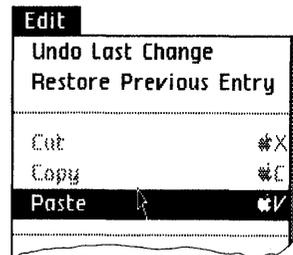
- ▶ Get or activate the graph.
- ▶ Choose Select All of Graph from the Edit menu.



- ▶ Choose Copy from the Edit menu.



- ▶ Get or activate the LisaDraw document or tear off a new sheet of LisaDraw stationery and open it.
- ▶ Select the spot where you want to paste the graph.
- ▶ Choose Paste from the Edit menu.



- ▶ Add lines, arrows, or other drawings, or change the patterns on the graph; then save, print, and file the document as usual.
-

# Other Tools

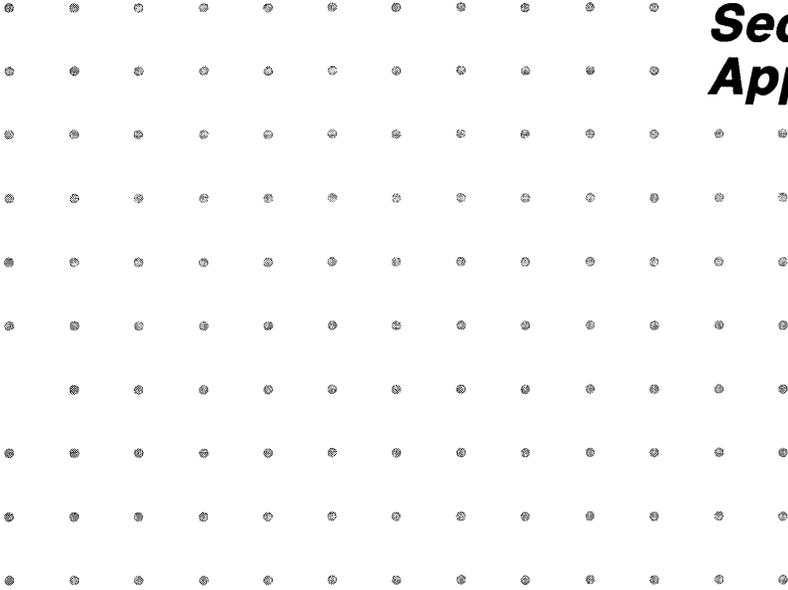
---

You can copy a graph into a LisaDraw document to enhance the graph. Once you enhance a graph with LisaDraw, the graph becomes a LisaDraw document rather than a LisaGraph document. Rules that apply to LisaDraw documents now apply to the enhanced graph. You cannot move a table into LisaDraw, and you cannot move the enhanced graph back into LisaGraph.

When you paste the graph into a LisaDraw document, the center of the graph is placed on the selected spot. If you would like to try a simple example, see the *LisaDraw* manual, Section B, LisaDraw Tutorial, Chapter 5, LisaDraw and Other Tools.

***LisaDraw***  
(continued)

**Section D**  
**Appendixes**



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***D5 Appendix 2. Apple Keys***

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***D7 Appendix 3. Type Fonts***

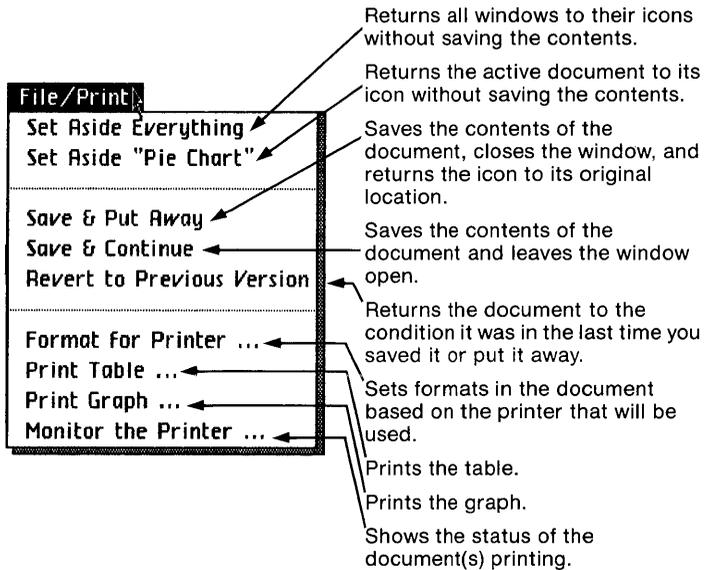
---

# Appendix 1

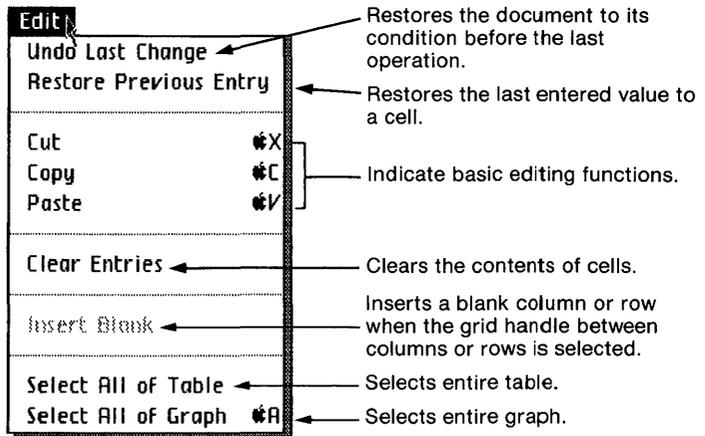
## Menu Items

---

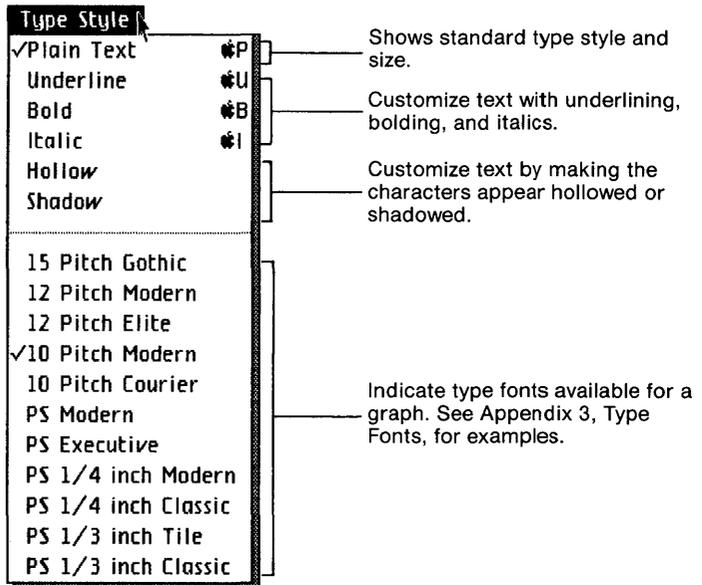
### File/Print Menu



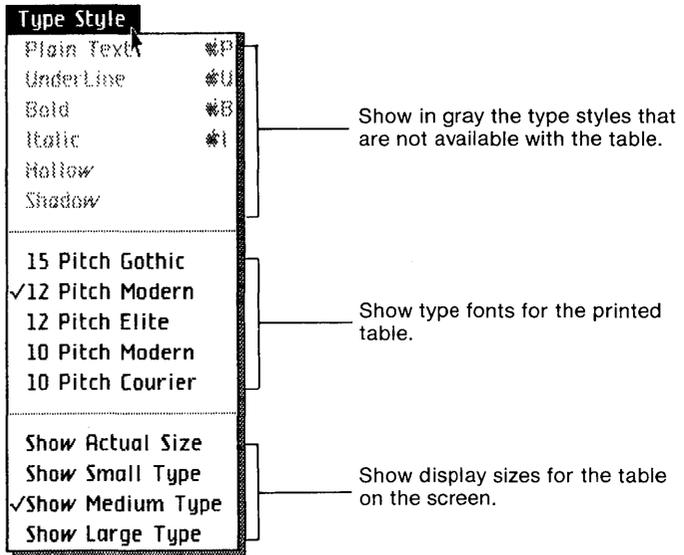
## Edit Menu



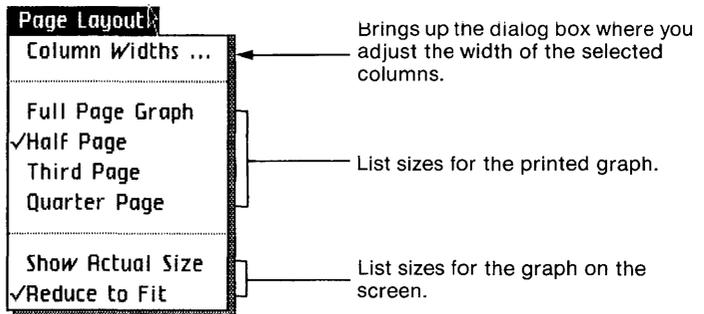
## Graph Type Style Menu



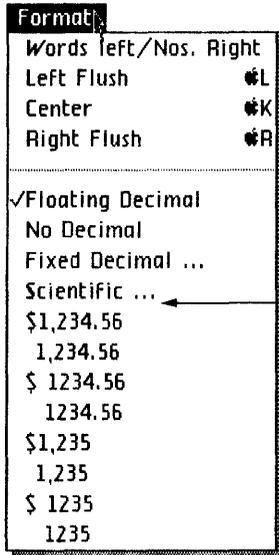
## Table Type Style Menu



## Page Layout Menu



## Format Menu



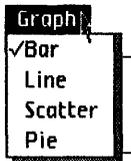
Align the value in a cell so that words appear on the left and numbers on the right, or so that the value appears on the cell's left boundary, centered within the cell boundaries, or on the cell's right boundary.

Style the number in a cell so it fits, or styles the number without a decimal or with a fixed number of decimal places.

Styles the number in a cell with a scientific notation.

Style the number in a cell with the monetary symbols shown.

## Graph Menu



Plot data pairs from columns A:B through A:I of the table as either a bar graph, line graph, scattergram, or pie chart.

## Customize Menu



Draw grid lines on a graph, or hides grid lines.

Add legends to a graph, or hides legends.

Bring up a dialog box where you can specify a new range for the labels along a graph's X- or Y-axis scale.

Plot data in the selected column in the table as a bar or a line. For use with bar graphs only.

# Appendix 2

## Apple Keys

---

Some LisaGraph menu items contain the Apple key symbol followed by a character.

Menu items that appear with the Apple key symbol can be chosen by using the mouse or by pressing the  key and the character associated with that menu item. For example, to use the Cut menu item, you first select what you want to delete, press the  key, and while holding it down, press the X key.

The following list shows the characters that can be used in combination with the  key in LisaGraph:

- A     Select All of Graph
- B     Bold
- C     Copy
- I     Italics
- K     Center
- L     Left Flush
- P     Plain Text
- R     Right Flush
- U     Underline
- V     Paste
- X     Cut
- .     Terminate

# **Appendix 3**

## **Type Fonts**

---

Type of one size and face is called a font. The “face” is the portion of the character that displays and prints. On the Type Style menu, some font names are preceded by a number that indicates character size. This number indicates how many characters will print per inch when you use that type font. “PS” in front of a font name stands for proportionally spaced.

The list on the next page shows the fonts as they print. The type style of each font is “plain.” On a graph, each of these fonts also may be styled in bold, italics, hollow, shadow, or underlined. Text in the table may be plain only; items in the top portion of the Type Style menu are gray when any part of the table is selected.

You can print any combination of type fonts and styles on a dot matrix printer. In order to use them with a daisy wheel printer, however, you must have the appropriate print wheel for each font. If you choose a font that your printer is not set up to use, an alert message is displayed on the screen.

15 Pitch Gothic  
12 Pitch Modern  
12 Pitch Elite  
10 Pitch Modern  
10 Pitch Courier  
PS Modern  
PS Executive

1/4 inch Modern

1/4 inch Classic

1/3 inch Modern

1/3 inch Classic

### Serif faces

12 Pitch Elite  
10 Pitch Courier  
PS Executive

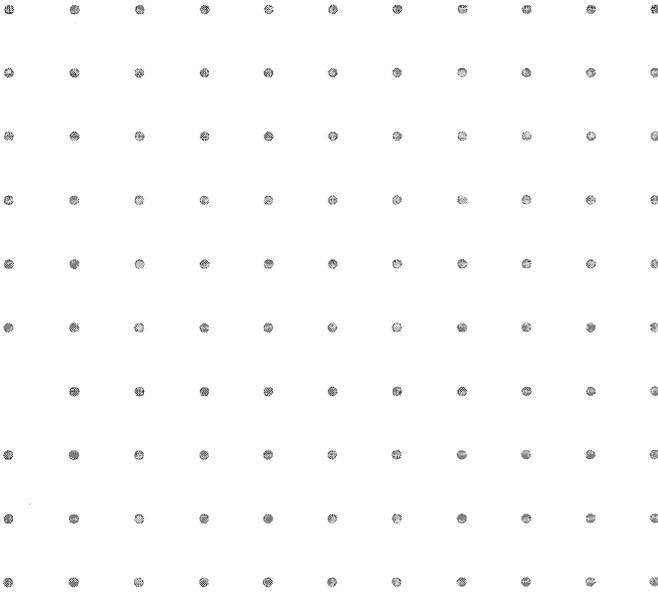
1/4 inch Classic

1/3 inch Classic

### Sans serif faces

15 Pitch Gothic  
12 Pitch Modern  
10 Pitch Modern  
PS Modern

1/3 inch Modern



# **Section E**

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# ***Index***

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