

RECOMP II USER'S PROGRAM NO. 1107

PROGRAM TITLE: CALCULATION OF PI (DEMONSTRATION)

PROGRAM CLASSIFICATION: Demonstration

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PURPOSE: For demonstration, this program calculates
 the value of π from Pierce's algorithm

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Calculation of Pi

Purpose For demonstration, this program calculates the value of π from

Pierce's algorithm:

$$\pi = 3 \times f_0 \times f_1 \times f_2 \times \dots \times f_m \times \dots \times f_\alpha$$

$$f_m = 1 + \frac{1}{16m^3 + 60m^2 + 72m + 27}$$

Result is displayed on the console.

Use To start, press start 3. To stop, use preset stop at 4021.0 If interrupted in mid-program, restart may give wrong result; stop program in 4021.0 and restart. To stop at any m, place that m in 4073 (floating).

<u>Time</u>	Correct significant figures	0	2	3	4	5	6	12
	Time, minutes/seconds	0/3	0/4	0/14	0/33	1/34	6/46	63/0

Accuracy After 12 significant figures, round-off error gradually reduces the number of correct figures to zero. The accuracy of any displayed result is better than 1 part in d, where d is the floating point number in 4054-5 when program is stopped at 4027.0

Location 4000-4100 inclusive, non-relocatable, and 0003.0

File Uniterms demonstration, pi, round-off, display

Contained Original Subroutines none,