

Name: ISPRIME?

Library nr: 333

Visible commands: IS $\pi$ ?

Size: 365 Bytes

Check sum: 3A91 hexadecimal

"IS $\pi$ ?" is a complete replacement for the built-in function "ISPRIME?"

Motivation:

"ISPRIME?" errs for certain values above  $10^{15}$ , eg

1195068768795265792518361315725116351898245581

as such numbers survive Rabin's pseudoprime test to bases 2, 3, 5, 7 & 11.

"IS $\pi$ ?" replaces these tests with tests to five random bases plus one additional random base for each additional 16 digits of the number to be tested. The respective random base is displayed in the menu area.

eg

Input: 1195068768795265792518361315725116351898245581

Output: 0. (or exceptionally 1.)

0. indicates not prime, 1. prime.

As the programme is not deterministic it will occasionally return incorrect answers whereas the built-in programme is always incorrect for certain numbers.