Euler's project problem 7

John Fox

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This document serves as a template of your solution of the bonus problem.

Problem statement

By listing the first six prime numbers: 2, 3, 5, 7, 11, and 13, we can see that the 6th prime is 13. What is the 10 001st prime number?

Answer

The 10001th prime number is 104743

Idea

Start at 2 because 2 is the first prime number. Iterate untill a prime number is found and save the number as lastPrime. Every time a prime number is found decrement n. When n is 1 then last prime is the nth prime number.

Matlab code

```
def nthPrime(n):
   lastPrime = 2
   i = 2
   while n != 1:
      i = lastPrime + 1
      while not isPrime(i):
         i = i + 1
      lastPrime = i
      n = n - 1
   return lastPrime
def isPrime(num):
   for i in range(2, (num // 2) + 1, 1):
      if num % i == 0:
         return False
   return True
print(nthPrime(10001))
```