Exercise 6: Twin Prime

Difficulty Level: 2 out of 5

A prime number is a whole number greater than 1, whose only two whole-number factors are 1 and itself. The first few prime numbers are 2, 3, 5, 7, 11, 13, 17, 19, 23, and 29.

“Twin Prime” is short for twin prime numbers. Basically, you have two prime numbers. They’re twins if the 1st prime number + 2 = 2nd prime number.

For example, 3 and 5 as well as 5 and 7 are twin prime numbers.

Write a program that will display all the twin prime numbers up to N number of digits. You will first ask the user to choose how many digits max they want the twin prime numbers to be. The max for N is 10 so the user can input 1-10 digits. Then display each pair of twin numbers in a new line.

For example, the output will be like this:

How many digits max do you want the twin prime numbers to be? 1

3 & 5

5 & 7

Hint: In order to decide whether this number is a prime number or not, you should keep these two things in mind:

1) You should attempt to divide the number in question (the number that you aren’t sure is prime or not) by only prime numbers. For example, if you aren’t sure if 349 is a prime number, divide it first by 2, then 3, then 5, then 7, etc… This means you don’t try to divide it by 4 (2x2), or 8 (2x2x2), or 9 (3x3) since it’s repetitive.

2) The prime number that you try to divide it by (see above) should be less than the square root of the number in question. For example, if you aren’t sure if 17 is a prime number, divide it by 2 and 3 only. You don’t need to divide it by 5 since the square root of 17 is 4.123....