CSC 210, Spring 2018
Prime Number Assignments

Assignment #1:

Write a program named *prime.java* that behaves as follows:

1) The program prompts the user to enter a positive integer greater than 1. If the number entered is not valid, the user is repeatedly prompted until an integer greater than 1 is entered.

2) The program outputs whether or not the number is prime. Note that a prime number is an integer that is only evenly divisible by 1 and itself (i.e., it is not evenly divisible by any other integer). An algorithm for finding a prime number is below.

3) Check that your program works correctly for a variety of numbers, such as 3 and 7 (which are prime), and 2 and 16 (which are not prime). When you are finished show your program to the instructor.

Algorithm for checking whether a positive integer number is prime (where number > 1).

1) Set *prime* to *true* (we will assume initially that the number is prime)
2) for each number *i* between 2 and *number-1* (inclusive)
   if *number* is evenly divisible by *i*, then the *number* is not prime, so
   a) set *prime* to *false*
   b) you are done (i.e., stop checking additional numbers)

3) if the number is prime (i.e., if *prime* is *true*) then output that the number is prime; otherwise, output that the number is not prime.

Assignment #2:

Write a program named *outputPrimes.java* that behaves as follows:

The program outputs all of the prime numbers between 2 and 1000.

Note: To do this, it is suggested to copy and modify the *primes.java* program.

Submission instructions: If you were not checked off for completing this in class, submit your program through Blackboard (http://www.easternct.edu/onlinecourses/) under the Assignments link.