3460:209 Assignment 5-A

# **Assignment 5-A: Prime Number**

**Overview**

The purpose of this assignment is to make sure that you know how to write a program that contains functions that meet specific requirements. WARNING: Your work will receive no points if you solve the problem without implementing the required C++ function. Moreover, your function must work correctly for passing the argument.

**PROGRAM SPECIFICATION**

For the assignment, we will write a program and an isPrime Function.

A prime number is a number that is only evenly divisible by itself and 1. For example, the number 5 is prime because it can only be evenly divided by 1 and 5. The number 6, however, is not prime because it can be divided evenly by 1, 2, 3, and 6.

Write a function named isPrime, which takes an integer as an argument and returns true if the argument is a prime number, or false otherwise. The program should ask for the number in main, and pass that number to the isPrime function, returning the result as to whether this number was prime or not prime. It should then display that as console output, and ask for another number from the user (repeating until the user no longer wants to make a request).

For a **bonus point**, for each number the user enters, return all the prime numbers from 2 up until that number (hint, you will need an additional loop).

Validate all input. Do not use using namespace std;. Don’t forget your pre and post conditions.

***Hints:***

Recall that the % operator divides one number by another, and returns the remainder of the division. In an expression such as num1 % num2 , the % operator will return 0 if num1 is evenly divisible by num2 .

Submission Instructions – for programming solutions

On Brightspace, go to the matching Assignments for the **ASSGN@-#**, where @ is the chapter and # is the number or character of the problem assigned (eg., 5-11 for chapter 5, problem 11), and submit the program (cpp) and any (hpp) files.

*Last updated 5.22.2016 by Will Crissey.*

*Be aware that programming falls under all of the rules of plagiarism. Be careful when using any coding found in the outside world that is not your own. Any evidence of plagiarism is subject to sanctions like forfeits, suspension, and even ejection, as determined by the Department of Student Conduct and Community Standards.*

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