CPSC 1070
Lab Project
Aug. 28, 2019

In the lab today, after familiarizing yourself with the vim editor you are to complete the following programming project:

Write a C program that should read one integer number at a time from the user, and tell them whether or not it is a prime number. The program should continue to read and report on numbers until the user enters either 0 or a negative number to signal the program to stop.

Rules for determining whether or not a number is a prime number:
1) 1 is not a prime, since it has only 1 factor, 1 itself.
2) 2, and 3 are both prime numbers, since each has only factors of 1 and itself.
3) Even numbers greater than 2 are not prime.
4) If it is greater than 3 and exactly divisible by any odd number from 3 on up to its square root it is not prime (e.g. if you were testing 83, its square root is 9.1104, so you would only need to test odd numbers from 3 up to 9). The mod operator % can be used to check for exact divisibility.

Create your program using the vim editor, and name it `primes.c`. If you use the square root trick, you will need to use

```
#include <math.h>
```

so that the `sqrt()` function is available to your program.

Compile and link the program using the linux command

```
gcc -o primes primes.c -lm
```

The `-lm` switch to gcc tells the loader to load the math library. If it compiles and links without errors, you can run it with the command

```
./primes
```

If it has errors, you need to go back to the vim editor , fix the errors, and recompile until you have a correctly compiling program.