ASSIGNMENT ONE

CONSOLE INPUT, OUTPUT, FUNCTIONS WITH A RETURN VALUE, LOOPS AND
CONDITIONS, ARITHMETIC COMPUTATIONS

CS2263, Fall 2021

LEARNING OUTCOMES

Develop and test a program that determines if a value is a valid Fibonacci prime number.

FIBONACCI PRIMES

A.   Describe the Fibonacci primes: define what they are, describe what's known about them, include at least
TWO references.

B.   Write a C function (show the source code) that accepts as one parameter: an integer, and determines if it
is a prime number. Return 0 if it is not and 1 if it is.

```
int isPrime(int i);
```

C.   Write a C program (show the source code and the screen capture for the test run) that prompts for an
integer value and prints a message if the number is a prime. The test program should use isPrime function
stored in a separate file. The compilation command may look like this:

```
$gcc testingprimes.c isprime.c –o prog1
```

D.   Write a C function (show the source code) that accepts an integer as a parameter and determines if it is a
number from the Fibonacci sequence. Return 0 if it is not and 1 if it is.

```
int isFib(int i);
```

E.   Write a C program (show the source code and the screen capture for the test run) that prompts for an
integer value and prints a message if the number is from the Fibonacci sequence. The test program should
use isFib function stored in a separate file. The compilation command may look like this:

```
$gcc testingfibs.c isfib.c –o prog2
```

F.   Now, write a C program (show the source code and the screen captures for the test runs) that accepts two
integer values x1 and x2 specifying the range of integers (all inclusive), and tests all the values in the
specified range printing only the Fibonacci primes in this range. Use the functions defined in separate files
isprime.c and isfib.c. Run the program on each of the ranges:
   i.   10 to 100
   ii. 1597 to 1597

PREPARE:

- the source code
- directory listing from the directory where your program is stored showing the source code file(s) and the compiled program file(s) names.
- the screen shot of the terminal, including your compile and testing.

SUBMISSION FORMAT

Before the due date for this assignment, students should submit a single zip or tar file (named *LastName_FirstName_A1.zip or LastName_FirstName_A1.tar*) online to the lms containing:
- the written material for each question (use the headings indicating the question number) in a single pdf file (named *LastName_FirstName_A1.pdf)*
- the source files you created/used.