Columbia College
Vancouver, Canada

Introduction to Computer Science and Programming 1
CSCI120

Chapter4: Functions

Chapter4-Sample Coding

Problem1

- Design and implement a function which takes 2 operands (numbers) and one operator (plus, minus, multiplication and division) and applies the operator on the operands and returns and prints the result.

  Note: If operand1 is a non-zero number and the operand2 is zero, then the program should not perform the division operand and should print the operation is not possible because one number is zero (this is only for division operator) and return -1.

Problem2

- Design and implement a function which receives a number as its input parameter and checks whether the number is a prime number or not. If it is a prime number the algorithm returns true and if not the algorithm will return false.
- Prime number: https://simple.wikipedia.org/wiki/Prime_number

Problem3

-   Design and implement a function with one parameter which is an integer and finds the next prime number which is bigger than the given input parameter and returns it. Reuse (call) the function you have defined for Problem 2.

Problem4

- Design and implement a function which receives a number as its first input parameter and a format (which is either SHAPE1 or SHAPE2 or SHAPE3) as the second input parameter and prints the following patterns. See the examples below:

- Example: number: 5 format: SHAPE1
```
*****
 ***
  *
```

- Example: number: 5 format: SHAPE2
```
*****
****
***
**
*
```

- Example: number: 5 format: SHAPE3
```
*
**
***
****
*****
```

Good Luck ☺