CS172 -- ASSIGNMENT #1

GRADE:

CATEGORY	POINTS	
EX01_01		25
EX01_02		25
EX01_03		25
EX01_04		25
TOTAL		100

REVIEW of CS171

EXERCISES:

Put all assignments on GitHub and submit the GitHub link to BlackBoard.

EX01_01 – Write a function called ex02 which takes no arguments and returns a void. Call this function from main(). In that function:

- **a)** Declare a variable hasPassedTest , and initialize it to true .
- **b)** Declares two variables x and y which are initialized to random numbers, then outputs whether x is greater than or equal to y .
- **c)** Declares a variable numberOfShares and prompts the user for a value, and outputs whether the value is less than 100 .
- **d)** Prompts the user for a box width and a book width, then outputs if the box width is evenly divisible by the book width
- **e)** Prompts the user for the shelf life of a box of chocolate and the outside temperature, then decreases the shelf life by 4 if the outside temperature is greater than 90

EX01_02 – Write a function called ex03, which takes no arguments and returns a void. Call this function from main() (and yes, you can reuse the project for ex02). In that function:

- a) Prompt the user for the length and height of a right triangle. Output the length of the hypotenuse of that triangle.
- b) Prompt the user for a yes or no response (y or n) using a char variable. Output "yes" if the user gave you a 'y', and "no" if the user gave you 'n'.
- c) Initialize a char variable tab to the tab character.
- d) Declare a string variable mailingAddress, and prompt the user for their mailing address.
- e) Initialize a string variable to the empty string.

EX01_03 – Write a function called ex03, which takes no arguments and returns a void. Call this function from main() (and yes, you can reuse the project for ex02). In that function:

- **a)** Write code to ask the user for a number between 1 and 10. Loop until the user gives a valid input.
- **b)** Use the number in part (a) to output the sum of the cubes from 1 to the number given (by cube, I mean that for a given number x, determine x*x*x).
- **c)** Use a do-while loop to output a number of asterisks, again using the input from (a)
- **d)** Use a for loop to output the even numbers from 0 to 40.
- **e)** Implement a separate function that takes an integer, and doubles that integer. Call that function from your ex03 function, using the value prompted in (a).

f) Write a function called add that takes two integers, and returns the sum of those integers. Call it using two random numbers.

g) Write a function that adds one to its parameter. The function should take the integer as pass by reference.

EX01_04 – Write a function called ex04, which takes no arguments and returns a void. Call this function from main() (and yes, you can reuse the project for ex02). In that function:

a) Write a loop that asks the user for three integers, and stores those integer values in an array.

b) Write some code that calculates the sum and the product of the values in the integers, and outputs those results.

c) Write a function that takes an array and the size of the array, and outputs the values in that array. Call the array from your ex04 function, passing the array of 5 integers from (a)

d) Write a function that takes an array and the size of that array, then prompts the user for a value. let that value be x and the array be a. output the result of calculating p = a[2] * x^2 + a[1] * x + a[0].