CS102 - Introduction to Computing
Teacher - M. Shahzad

Assignment 01:
Input/Output/Conditionals/Loops/Arrays

Note: The last date of submission is 13-November-2017

1. Input two numbers and work out their sum, average and sum of the squares of the numbers.

2. Write a program to read a "float" representing a number of degrees Celsius, and print as a "float" the equivalent temperature in degrees Fahrenheit. Print your results in a form such as

100.0 degrees Celsius converts to 212.0 degrees Fahrenheit.
Formula: Tf= (9/5)*Tc+32

3. Given as input an integer number of seconds, print as output the equivalent time in hours, minutes and seconds. Recommended output format is something like 7322 seconds is equivalent to 2 hours 2 minutes 2 seconds.

4. Write a program that works out the largest and smallest values from a set of 3 inputted numbers.

5. Read an integer value. Assume it is the number of a month of the year; print out the name of that month.

6. Write a program which reads two integer values. If the first is less than the second, print the message up. If the second is less than the first, print the message down If the numbers are equal, print the message equal If there is an error reading the data, print a message containing the word Error and perform exit (0).

7. If the ages of Wasim Akram, Javaid Miandad and Imran Khan are input through the keyboard, write a program to determine the youngest of the three.

8. Write a program to check whether a triangle is valid or not, when the three angles of the triangle are entered through the keyboard. A triangle is valid if the sum of all the three angles is equal to 180 degrees.

9. Write a program to print the multiplication table of the number entered by the user. The table should get displayed in the following form:

2 * 1 = 2
2 * 2 = 4 etc

10. Read a positive integer value, and compute the following sequence: If the number is even, halve it; if it's odd, multiply by 3 and add 1. Repeat this process until the value is 1, printing out each value. Finally print out how many of these operations you performed.

Typical output might be:
Initial value is 3
Next value is 10

Next value is 5
Next value is 16
Next value is 8
Next value is 4
Next value is 2
Next value is 1
Final value 1, number of steps 19

If the input value is less than 1, print a message containing the word "Error" and perform an exit (0);

11. Take five numbers from user as an input, sort it as ascending order and descending order.

12. Write a C program to read through an array of any type. Write a C program to scan through this array to find a particular value.

13. Write a program to copy the contents of one array into another in the reverse order.

14. Write a program to pick up the largest number from any 5 row by 5 column matrix.

15. Write a program to add two 6 * 6 matrices.

16. Write a program to delete all vowels from a sentence. Assume that the sentence is not more than 80 characters long.

SUBMISSION:
Submit the deliverables as a zip bundle or as a tarball using the SLATE system.

LATE SUBMISSION POLICY:
Your final assignment grade will be penalized 20 points per late day.

CHECK THE ANNOUNCEMENT IN SLATE REGULARLY FOR POSSIBLE UPDATES ON THE ASSIGNMENT.