BSc (Hons) in Information Technology
Year 1

Lab Sheet-Week-01

IT1050 – Object Oriented Concepts   Semester 1, 2022

Objective : Revising C Programming

Instructions : Please attempt the following exercises in any platform familiar to you which you used in Semester 1. (Dev C++, Repl.it, VScode etc..).

Attempt the questions alone and if you have any questions, please clarify them with the instructors when you have physical classes.

Exercise 01

Write a C program to do the following;

    i)   Input marks of three modules done by a student and calculate the average mark of the student.

Modify the program to

    i)   check whether the student is selected to Software Engineering degree program. Those who have achieved the average mark greater than 60 are selected to Software Engineering degree program.

    ii)   Input marks of three students and display the average marks and whether they get selected for Software Engineering.

Exercise 02

Write a C program to implement the following functions.

        int Square(int x)   - >   output x * x

   int Cube(int x) -> output x * x * x

Write a main() function to call these two functions and display the following table.

x	square	cube
1	1	1
2	4	8
3	9	27
....	...	...
10	100	1000

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Exercise-03

Write a C program to do the following;

i) Write a function called area() to send the length and the width of a rectangle as parameters and return the area.

ii) In the main program, create variables to store length and the width of the Yard and the House as shown in the diagram below, and find the Lawn area (in green) using the area() function.
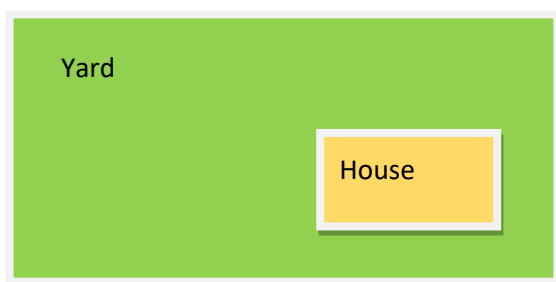
Exercise -04

Write a program to input the marks a student for two assignments and find the final mark of each assignment according to the percentages given. In your program;

1) Implement two function to find the contribution of each assignment mark sent to the functions as parameters.

Eg:

```
float findCA_1 (int t_marks1);
```

The final CA mark for each assignment is calculated as shown below;

       Assignment 1   20%

       Assignment 2   30%

2) In the main program, input marks for 5 students and show the percentages of the marks using functions you developed in a table as shown below. Format the output to 2 decimal places.

Student	Marks1	Marks2	CA_1	CA_2
1	60	65	12.00	19.50
2	37	43	7.40	12.90
3	75	80	15.00	24.00
4	92	75	18.40	22.50
5	53	45	10.60	15.90