IT1010 – Introduction to Programming   **Semester 1, 2021**

Objectives:
At the end of the class the students should be able to:
- Use if…..else, nested if else in C programs.

Exercise 1

Write a C program to input values for three angles and display whether a triangle can be formed or not using given angle values.

Hint : To form a triangle, the summation of all three angles should be equal to 180.

  i.   Identify the inputs, calculation and output
  ii. Write the C program.
  iii. Set a break point to the statement that reads the first user input.
  iv. Using debugging option, add watches to the declared variables.
  v.   Using next line button, execute remaining statements and check how variable values are changed.
  vi. Observe how the program selects the output statement based on the calculations.

Exercise 2

Write a C program to input the first character of the shape (R – Rectangle, Triangle – T, Circle – C) and calculate the area. The following table shows the inputs and the formula to calculate the area of different shapes.

Shape	Inputs	Area
Rectangle	width, length	width * length
Triangle	base, height	base * height / 2
Circle	radius	π * radius * radius

If user inputs invalid character, display an error message.

Sample output 01

Enter the first character of the shape (R, T, C) : R
Enter width : 5.5
Enter length : 10
Area of the rectangle = 55.00

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Sample output 02

Enter the first character of the shape (R, T, C) : T
Enter base : 4
Enter height : 10
Area of the rectangle = 20.00

i.   Write a C program.
ii.   Set a break point at the statement that reads the first user input.
iii. Using debugging option, add watches to the declared variables.
iv.   Using next line button, execute remaining statements and check how variable values are changed with different user input.

Exercise 3

Adventure resort provides following packages.

Package Type	Title	Cost per person
1	Horse ride	2000/=
2	Scuba Diving	5000/=
3	Water Rafting	7000/=

Write a C program to input the package type and number of people from the key board and calculate total cost. T

i.   Identify the user inputs, calculations and outputs.
ii.   Write a C program using switch selection control structure.
iii. Set a break point at the statement that reads the first user input.
iv.   Using debugging option, add watches to the declared variables.
v.   Using next line button, execute remaining statements and check how variable values are changed with different user input.