

Practical # 01

Objective:

Recall C++ programming and demonstrate C++ classes and templates using Code Blocks .

Theory:

In order to give a quick review of C++, Rectangle Class (class Declaration, Member function definition, calling) is demonstrated in the lab.

Rectangle Class Pseudo Code:

- ✓ Declare a class Rect, with data members: length, breadth, area, and perimeter.
- ✓ Declare member functions to accept input and compute area and perimeters: input(), ComputeArea(), ComputePeri(), Display()
- ✓ Write a main function:
 - instantiate the class by passing appropriate arguments to the constructor
 - invoke ComputeArea(), ComputePeri() and Display() functions

Program in C++ :

```
#include<iostream>
using namespace std;
class Rect{
public:
    int length, breadth, area, perimeter;

    void input() {
        cout << "Enter length of rectangle:";
        cin >> length;
        cout << "Enter breadth of rectangle:";
        cin>>breadth;
    }

    void ComputeArea() {
        area = length * breadth;
    }

    void ComputePerimeter() {
        perimeter = 2 * (length + breadth) ;
    }

    void display() {
        cout << "Area of rectangle is:" << area;
        cout << "\nPerimeter of rectangle is:" << perimeter;
    }
};

int main() {
    Rect obj;

    obj.input();
    obj.ComputeArea();
    obj.ComputePerimeter();
    obj.display();

    return 0;
}
```

OUTPUT:

```
Enter length of rectangle:4
Enter breadth of rectangle:8
Area of rectangle is:32
Perimeter of rectangle is:24
```

Review Questions/ Exercise:

1. Write C++ program to add two integer values and print the output with descriptive message.
2. Write C++ program to convert temperature from centigrade to Fahrenheit.
3. Write C++ program to build simple calculator using switch case statement.
4. Write a program to display the pattern as shown below:

```

*
***
*****
*****
*****
*****
*****
*****
*****
***
*
```

5. Write a program to display the average of three numbers entered by the user by creating a class named 'Average' having a function to calculate and display the average..

6. Write a program to display the sum, difference and product of two complex numbers by creating a class named 'Complex' with separate functions for each operation whose real and imaginary parts are entered by the user.

Name: _____

Roll #: _____

Date: _____

Remarks:

Subject Teacher