

**CS127-5L: Computer Programming 2 Laboratory**  
**Machine Problem #1: Introduction to Classes**

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Section:	A35	Date: 03-02-2023

**Instructions:**

1. Save your file as Surname\_Firstname\_MP1. **Ex. Isip\_MP1.cpp**
2. You will submit the following and send it to BB.
  - a. PDF file of Machine Problem 1 provided with the screenshot of your answers (Sample Run)
  - b. C++ script with .cpp extension.
3. Your program must have comments for each section.

Header Comments:

Write a description of the program.

Written by: Cheryl Mari M. Isip

Date: March 02,2023

Time: 7:30am

Program: BSCPE

Course: CS127-5L

Section: B20

School: Mapua University

**EXERCISE**

- a. Construct a class named Rectangle that has a double-precision data members named **length** and **width**. The class should have a member functions named **perimeter ( )** and **area ( )** to calculate a rectangle's perimeter and area, a member function named **setdata ( )** to set the rectangle's **length** and **width**, and a member function named **showdata ( )** that displays the rectangle's **length**, **width**, **perimeter** and **area**.
- b. Include the Rectangle class constructed in a working C++ program.

# CS127-5L: Computer Programming 2 Laboratory

## Machine Problem #1: Introduction to Classes

Take a screenshot and paste your output:

```
1 //The code is to take the length and width of the rectangle, then the results, including area and perimeter will be displayed
2 //Written by: Ma. Addine Anne T. Carreon
3 //Date: March 02, 2023
4 //Time: 10:54
5 //Course: CS127-5L
6 //Section: A35
7 //School: Mapua University
8
9 #include <iostream>
10 #include <iomanip>
11
12 using namespace std;
13
14 //The function is to provide computation of the Rectangle
15 class Rectangle {
16 private:
17     double length;
18     double width;
19
20 public:
21     void setData(double l, double w) {
22         length = l;
23         width = w;
24     }
25
26     double perimeter() {
27         return 2 * (length + width);
28     }
29 };
30
31     double area() {
32         return length * width;
33     }
34
35     void showData() {
36         cout << "Length: " << length << endl;
37         cout << "Width: " << width << endl;
38         cout << "Perimeter: " << perimeter() << endl;
39         cout << "Area: " << area() << endl;
40     }
41 };
42
43 //The function is to properly utilize the use of classes
44 int main() {
45     Rectangle r;
46     double l, w;
47
48     cout << "Enter the length: ";
49     cin >> l;
50     cout << "Enter the width: ";
51     cin >> w;
52
53     r.setData(l, w);
54     cout << endl;
55     r.showData();
56     return 0;
57 }
```

Microsoft Visual Studio Debug Console

```
Enter the length: 5
Enter the width: 7
Length: 5
Width: 7
Perimeter: 24
Area: 35
```

```
30
31     double area() {
32         return length * width;
33     }
34
35     void showData() {
36         cout << "Length: " << length << endl;
37         cout << "Width: " << width << endl;
38         cout << "Perimeter: " << perimeter() << endl;
39         cout << "Area: " << area() << endl;
40     }
41 };
42
43 //The function is to properly utilize the use of classes
44 int main() {
45     Rectangle r;
46     double l, w;
47
48     cout << "Enter the length: ";
49     cin >> l;
50     cout << "Enter the width: ";
51     cin >> w;
52
53     r.setData(l, w);
54     cout << endl;
55     r.showData();
56     return 0;
57 }
```

Microsoft Visual Studio Debug Console

```
Enter the length: 20
Enter the width: 25
Length: 20
Width: 25
Perimeter: 90
Area: 500
```