Object Oriented Programming (IGS2130)

Lab 3

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Exercise #1

- Make the program on pages 12-14 of the lecture note.
  - Use the main.cpp as it is
  - After understanding the codes of the lecture note,
    - Create your own Point class (Point.h and Point.cpp) for the main.cpp
    - Create your own Rectangle class (Rectangle.h and Rectangle.cpp) for the main.cpp

Exercise #2

■ Upgrade Exercise #1

➢ Upgrade the InitMembers() function of the Rectangle class so it will automatically decide two corners, left-top and right-bottom, of the rectangle
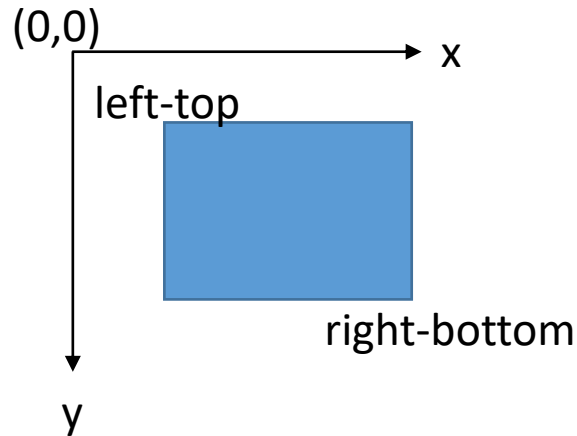
Exercise #3

■ Upgrade Exercise #2

➢ Add a member function IsInside() in the Rectangle class

• Return true if the given point is inside the rectangle

• Return false if the given point is outside the rectangle

➢ The following piece of the code in the main() should run with no error

```cpp
Point pos3;
pos3.InitMembers(3, 6);
cout << "pos3: [" << pos3.GetX() << ", " << pos3.GetY() << "]" << endl;
if (rec.IsInside(pos3))
    cout << "The pos3 is inside the rectangle." << endl;
else
    cout << "The pos3 is outside the rectangle." << endl;
```

```
Pos3: [3, 6]
The pos3 is inside the rectangle.
```