

CSCI 136 C++ programming

Lab exercise 7

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Implement a class Point as below:

```
class Point {  
  
    private:  
        float x;  
        float y;  
  
    public:  
  
        //constructors  
  
        . . .  
  
        //member functions  
  
        . . .  
  
};
```

and provide a function to compute the symmetry of a point with respect to the line $y = x$, as before:

```
Point symmetry(Point p) {  
    return ... ;  
}
```

You have to complete the class by:

- adding a constructor that takes two parameters and initializes the point accordingly
- adding a default constructor that puts the point at the origin
- adding a member function to return the x coordinate of the point
- adding a member function to return the y coordinate of the point
- adding a member function to set the x and y coordinates of the point

The above interface should be enough to complete the symmetry function and make the following program work:

```
int main() {
    float x;
    float y;
    cout<<"input the x coordinate";
    cin>>x;
    cout<<"input the y coordinate";
    cin>>y;
    Point p=Point(x,y);
    Point q=symmetry(p);
    //output information about point q
    cout<<"the symmetric point is "...;
}
```