

**AMERICAN INTERNATIONAL UNIVERSITY BANGLADESH**  
**DEPARTMENT: COMPUTER SCIENCE**  
**COURSE:INTRODUCTION TO PROGRAMMING LAB**  
**ASSIGNMENT-1, TOTAL MARKS:20**  
**SEC-B5**

**Submission Date: 09/04/2019**

**MARKS: 20**

Create the following class named Point:

**Class:** point

**Data members(private):** double x, y //Cartesian co-ordinates of a point

**Member functions (public):**

```
point(double m, double n)    //initialize x and y with m and n and also use default
                             arguments to initialize x and y with 0

double getx()                //return x
double gety()                //return y
double distance(point p)     // return distance between two points [ distance between
                             calling object and received object]
```

**If there are two points (x1, y1) and (x2, y2) , distance between them:**

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Add another class in the problem-1 code:

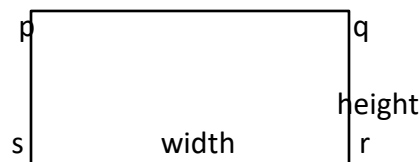
**Class:** Rectangle

**Data members (private):** point a,b,c,d //four points of a rectangle

**Member functions(public):**

```
rectangle(point p, point q, point r, point s) //initialize the four points of rectangle with point p, q, r, s

double area() //calculate the area of a rectangle and return the result.
               For rectangle, area=width x height
               Height is the distance between point q & r
               Width is the distance between point s & r
```



Now, write main function to test your code.