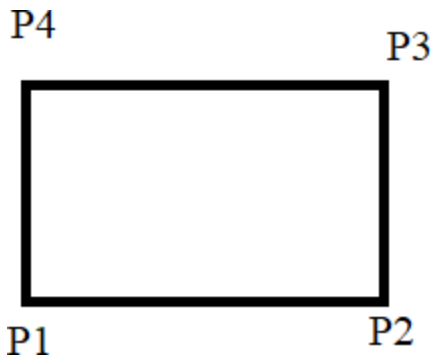
Write a class named “Point” having two variables x(int) and y(int).

Write another class named “Rectangle” having 3 variables P1(Point), P2(Point), p3(Point), p4(Point) where the sides of the rectangle are parallel to x or y axis.

Write constructors for both of the classes.

A rectangle looks like this:



Each side of the rectangle is either parallel to x axis or y axis.

Now write another the following functions that:

1. Returns the length of a diagonal of a rectangle.
2. Returns the perimeter of a rectangle.
3. Checks if a point resides inside a rectangle.
   The function looks like this:
   ```
   public int PointInsideRectangle(Point p){}
   ```
4. Checks if a rectangle resides inside another rectangle.
   The function looks like this:
   ```
   public void RectangleInsideRectangle(Rectangle r){}
   ```

Bonus question:

Write a class named “Circle” having two variables, Center(Point) and Radius(double).

Now write another function inside the Rectangle class that checks if a Circle resides inside a Rectangle.