1. Define a Java class according to the UML class diagram given on the right side. The methods given in the UML diagram are self-explanatory. The third constructor is the *copy constructor*. The *copy* method creates a Point object with same coordinates and returns it. The *toString* method returns a string like (x,y) and the *getDistance* method returns the distance between a point object and the point object p using the formula $\sqrt{(x-x_p)^2+(y-y_p)^2}$. [10]
2. Declare two objects named, p_1 and p_2 of Point class with (n_1,n_2) and (n_3,n_4) coordinates and show the distance bwteen them using member method *getDistance*. The n_1 to n_4 are the middle four digits of your NSU ID. [5]
3. Create an array of Point objects of size (n_4+5) and initialize with random coordinates between (n_1+n_3) to (n_2+10). The n_1 to n_4 are the middle four digits of your NSU ID. [5]

Point
-x:int -y:int
+Point() +Point(x,y:int) +Point(p:Point) +getX():int +setX(x:int): void ~~+getY():int~~ ~~+setY(y:int):void~~ +copy():Point +getDistance(p:Point):double +toString():String