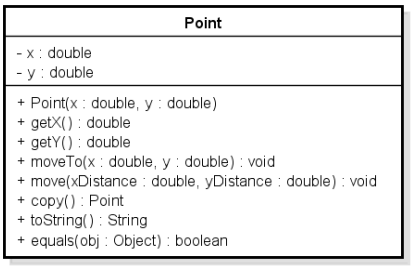
Exercise: Circle

Step 1

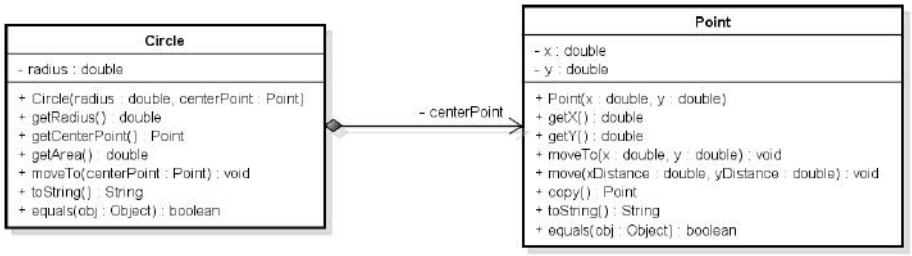


Create a class `Point` representing a point (x,y) in a plane coordinate system. The class has:

a) Two instance variables x and y both of type double.
b) Constructor with two arguments setting both x and y
c) Getters for both instance variables
d) A method `moveTo(double newX, double newY)` that moves the point (x,y) to a new position represented by (`newX, newY`)
e) A method `move(double xDistance, double yDistance)` that moves the point (x,y) to the position (`x + xDistance, y + yDistance`)
f) A method `copy()` returning a `Point` object with the same x and y values
g) A method `toString()` that return a string with the point in the format "`(x,y)`". Example: calling the `toString`-method for a point with x=3 and y=4 returns "`(3, 4)`"
h) A method `equals` returning `true` if the argument to the method is a `Point` object with the same x and y coordinates – otherwise returns `false`.

Implement a test class, `TestPoint`, with a main method and test your solution

Step 2



Create a class `Circle` with:

a) Two instance variables radius and centerPoint.
b) Constructor with two arguments setting both instance variables
c) Getters for both instance variables
d) A method `getArea` returning the area of the circle
e) A method `moveTo(Point centerPoint)` that moves the circle to a new position
f) A method `toString()` that return a string with the radius and the center point of the circle
g) A method `equals` returning `true` if the argument to the method is a `Circle` object with the same radius and center point– otherwise returns `false`.

Implement a test class, `TestCircle`, with a main method and test your solution