Assignment 4

**package** geometry;

**import** java.awt.geom.Point2D;

**import** java.lang.Math;

**import** java.util.ArrayList;

**import** java.util.List;

**public** **class** Circle{

**public** ArrayList<Point2D> points;//declare an ArrayList with type Point2D

**public** **double** num;//declare the number of edges in the figure

**public** **double** radius;//declare the radius

**public** Circle(**double** num, **double** radius){//declare a constructor with two variables num and radius

**this**.num = num;//I am not very clear about this. I goodled, it says to distinguish two variables. Not fully understood

**this**.radius = radius;

**this**.points = **new** ArrayList<Point2D>();

}

**public** **static** **void** main(String args[]){//declare main method

**double** radius = 5;

**double** num = 720;

**double** alpha = 360/num;

System.***out***.println("The length of each side is: " + alpha);

Circle circle = **new** Circle(num, radius);//instantiate a circle with type Circle, including to variables

**for** (**int** i = 0; i < num; i++){

**double** alpha1, alpha2;

**double** x1, y1, x2, y2;

x1 = radius \* Math.*cos*(alpha \* i);

y1 = radius \* Math.*sin*(alpha \* i);

circle.points.add(**new** Point2D.Double(x1, y1));

}

System.***out***.println("The points construct the circle are: " );

**for** (**int** i=0; i<circle.points.size(); i++){//I don't understand why there are two "if" loop

System.***out***.println(circle.points.get(i).getX() + ";" + circle.points.get(i).getY());//why we have to use "get(i)"?

}

}

}