Quiz 1
Instructor: Albert Hambardzumyan

Duration: 2h

Classes

1 (20 points). Implement the concept of point in the given below ways by including the following methods:
The constructor that takes **double** new_x, **double** new_y;
double get_x(); // x coordinate
double get_y(); // y coordinate
int int_x(); // returns rounded x coordinate
int int_y();// returns rounded x coordinate
void shift(double x, double y); // shifts own x, and y by the given arguments
double distance(MyPoint p); // calculates the distance between given point and itself

Write short test for each of your implementation.

2 (80 points). Implement the concept of line in the given below ways by including the following methods:

The constructor that takes **double** x1, **double** y1, **double** x2, **double** y2;
The constructor that takes MyPoint p1, MyPoint p2;

double get_x(); //returns starting x coordinate
double get_y(); //returns starting y coordinate
int int_x(); //returns rounded starting x coordinate
int int_y(); //returns rounded starting y coordinate

double end_x(); //returns ending x coordinate
double end_y(); //returns ending y coordinate
int end_int_x(); //returns rounded ending x coordinate
int end_int_y(); //returns rounded ending y coordinate

double length(); //returns length
double angle(); //returns angle relative to x-axis

void shift(**double** dx, **double** dy); //shifts the line by dx and dy
void rotate(**double** da); //rotates by da around starting point

1.1

```
public class MyLine1 {

	private MyPoint start;
	private double len, ang;
}
```

1.2

```
public class MyLine2 {

	private MyPoint start, end;
}
```

1.3

```
public class MyLine3 {

	private MyPoint ends[];
}
```

1.4

```
public class MyLine0 extends MyPoint {

	private double len, ang;
}
```