

Lab1 Exercise Template

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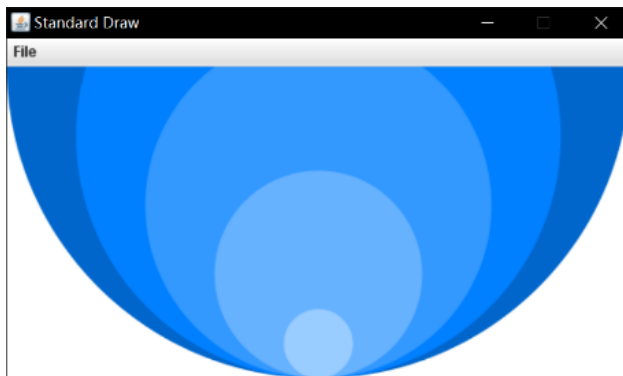
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Exercise1

● Code

```
1 package EXERCISE1;
2 import java.util.*;
3
4 public class ShapeTest {
5     public static void main(String[] args) {
6         List<Circle> circleList = new ArrayList<Circle>();
7         Circle.setScreenSize(9);
8         StdDraw.setScale(-Shape.getScreenSize(),Shape.getScreenSize());
9         for( int i = 1; i <= Shape.getScreenSize(); i += 2){
10             circleList.add(new Circle(i, 0,i));
11         }
12         Collections.sort(circleList);
13         for( int i = 0; i < circleList.size(); i++ ){
14             circleList.get(i).customizedColor(ColorScheme.SKY,i);
15         }
16     }
17 }
```

● Result



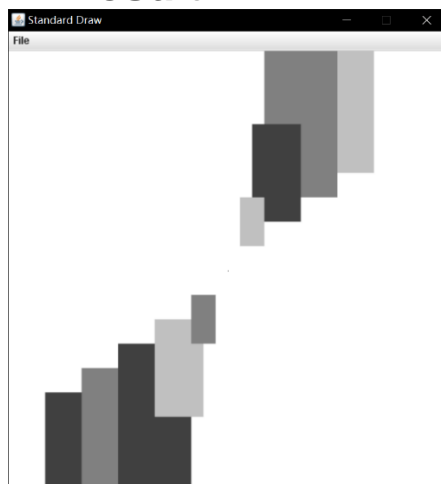
Eexercice2

● Code

```
65  @ public int compareTo( Rectangle o){
66      double area = this.height * this.width;
67      double oArea = o.height * o.width;
68      if( area > oArea ){
69          return -1;
70      }else if( area < oArea){
71          return 1;
72      }else if( this.x < o.x){
73          return -1;
74      }else if( this.x > o.x){
75          return 1;
76      }
77      return 0;
78  }
79
80  @Override
81  @ public void customizedColor( ColorScheme colorScheme, int index){
82      Color[] colorList = colorScheme.getColorScheme();
83      if( index < 0 ){
84          index = 0;
85      }
86      if( index >= colorList.length){
87          index = index % colorList.length;
88      }
89      StdDraw.setPenColor(colorList[index]);
90      StdDraw.filledRectangle(x, y, halfWidth: width/2, halfHeight: height/2);
91  }
```

Eexercice3

● Result



Eexercice4

● Code

```
@Override
} public int compareTo(Circle o){
    double k = this.x * this.x;
    double m = o.x * o.x;
    if( k > m){
        return 1;
    }else if( k < m){
        return -1;
    }
    return 0;
}
```

```

1 package EXERCISE1;
2 import java.util.*;
3 public class MyShape {
4     public static void main(String[] args) {
5         ArrayList<Circle> CircleList = new ArrayList<Circle>();
6         for(int i = 0; i < 10; i++){
7             for( int j = 0; j < 10; j++){
8                 CircleList.add(new Circle( radius: 0.1, x: i*0.1, y: j*0.1));
9             }
10        }
11        Collections.sort(CircleList);
12        for( int i = 0; i < CircleList.size(); i++){
13            CircleList.get(i).customizedColor(ColorScheme.RAINBOW, i);
14        }
15    }
16 }
17 }

```

● Result

