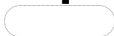


Shapes



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ShapesModelTests

```
3 package tests;
4 import javafx.scene.shape.Shape;
5 import javafx.scene.paint.Color;
6
7 public class Test_1 {
8     private String shape;
9
10    public static void main(String[] args) {
11        ShapesModelTest t = new TriangleTest();
12    }
13
14    abstract class ShapesModelTest extends Shape {
15        private String shape;
16
17        public ShapesModelTest(String shape) {
18            this.shape = shape;
19            System.out.println(shape);
20        }
21
22        class TriangleTest extends ShapesModelTest {
23            public TriangleTest() {
24                super("Test_1");
25            }
26        }
27    }
28
29    "Test_1.java" 28L, 528B written
30
31 java tests/Test_1
32 Test_1
```

```
27 package tests;
28 import javafx.scene.shape.Shape;
29 import javafx.scene.paint.Color;
30
31 public class Test_2 {
32     private String shape;
33
34    public static void main(String[] args) {
35        ShapesModelTest t = new TriangleTest(Color.RED);
36    }
37
38    abstract class ShapesModelTest extends Shape {
39        private String shape;
40
41        public ShapesModelTest(String shape, Color color) {
42            this.shape = shape;
43            System.out.println(shape + color);
44        }
45
46        class TriangleTest extends ShapesModelTest {
47            public TriangleTest(Color color) {
48                super("Test_2", color);
49            }
50        }
51    }
52
53    "Test_2.java" 28L, 528B written
54
55 javac tests/Test_2.java
56 java tests/Test_2
57 Test_2b:ff0000ff
```

```
5 import javafx.scene.shape.Shape;
6 import javafx.scene.paint.Color;
7
8 public class Test_3 {
9     private static Color colour = Color.RED;
10
11    public static Color getColour() {
12        return colour;
13    }
14
15    public static void main(String[] args) {
16        System.out.println("Test_3 " + getColour());
17    }
18
19    "Test_3.java" 17L, 298B written
20
21 javac tests/Test_3.java
22 java tests/Test_3
23 Test_3 0xff0000ff
```

```
7 package tests;
8 import javafx.scene.shape.Shape;
9 import javafx.scene.paint.Color;
10
11 public class Test_4 {
12     private static Color colour;
13
14    public static void setColour(Color colourIn) {
15        colour = colourIn;
16    }
17
18    public static void main(String[] args) {
19        setColour(Color.RED);
20        System.out.println("Test_4 " + colour);
21    }
22
23    "Test_4.java" 14L, 266B written
24
25 javac tests/Test_4.java
26 java tests/Test_4
27 Test_4 0xff0000ff
```

```
10 package tests;
11 import javafx.scene.shape.Shape;
12 import javafx.scene.paint.Color;
13
14 public class Test_5 {
15     private static double x;
16
17    public static void main(String[] args) {
18        Test_5 t = new Test_5();
19        t.setShape();
20        System.out.println(t.x);
21    }
22
23    public static void setShape() {
24        x = 90.;
25    }
26
27    "Test_5.java" 10L, 200B written
28
29 javac tests/Test_5.java
30 java tests/Test_5
31 90.0
```

```
10 package tests;
11 import javafx.scene.shape.Shape;
12 import javafx.scene.paint.Color;
13
14 public class Test_7 {
15     private static double x;
16
17    public static void main(String[] args) {
18        Test_7 t = new Test_7();
19        t.drawColour();
20        System.out.println(t.x);
21    }
22
23    public static void drawColour() {
24        x = 90.;
25    }
26
27    "Test_7.java" 10L, 200B written
28
29 javac tests/Test_7.java
30 java tests/Test_7
31 90.0
```

```
5 package tests;
6 import javafx.scene.shape.Shape;
7 import javafx.scene.paint.Color;
8
9 public class Test_8 {
10     private static Shape shape;
11
12    public static void main(String[] args) {
13        Test_8 t = new Test_8();
14        System.out.println(t.getShape());
15    }
16
17    public static Shape getShape() {
18        return shape;
19    }
20
21    "Test_8.java" 11L, 210B written
22
23 javac tests/Test_8.java
24 java tests/Test_8
25 null
```

```
10 package tests;
11 import javafx.scene.shape.Shape;
12 import javafx.scene.paint.Color;
13
14 public class Test_6 {
15     private static double x;
16
17    public static void main(String[] args) {
18        Test_6 t = new Test_6();
19        t.applyShape();
20        System.out.println(t.x);
21    }
22
23    public static void applyShape() {
24        x = 90.;
25    }
26
27    "Test_6.java" 11L, 210B written
28
29 javac tests/Test_6.java
30 java tests/Test_6
31 90.0
```

Triangle Tests

```

10 package tests;
11 import javafx.scene.shape.Shape;
12 import javafx.scene.paint.Color;
13
14 public class Test9 {
15     public static void main(String[] args) {
16         ShapesModelTest t = new TriangleTest();
17     }
18
19     abstract class ShapesModelTest {
20         public ShapesModelTest(String test9) {
21             System.out.println(test9);
22         }
23     }
24
25 class TriangleTest extends ShapesModelTest {
26     public TriangleTest() {
27         super("Test9");
28     }
29 }

```

```

javac tests/Test9.java
java tests.Test9
Test 9

```

```

1 package tests;
2
3 import java.awt.scene.shape.Shape;
4
5 import java.awt.scene.paint.Color;
6
7 public class Test_10{
8
9     public static void main(String[] args){
10         ShapesModelTest t = new TriangleTest(Color.RED);
11     }
12
13     abstract class ShapesModelTest{
14         public ShapesModelTest(String test_10, Color color){
15             System.out.println(test_10 + color);
16         }
17     }
18
19     class TriangleTest extends ShapesModelTest{
20
21         public TriangleTest(Color color){
22             super("Test_10", color);
23         }
24     }
25 }

```

```

3 package tests;
4 import javax.swing.*;
5 import java.awt.*;
6 import java.awt.event.*;
7
8 public class Test_12 {
9     private static Polygon s;
10
11     public static void main(String[] args) {
12         Test_12 t = new Test_12();
13         t.makeTriangle();
14         System.out.println(s);
15     }
16
17     public static void makeTriangle() {
18         s = new Polygon();
19     }
20 }

```

```

17 package tests;
18 import java.awt.scene.shape.Shape;
19 import java.awt.scene.paint.Color;
20
21 public class Test11{
22
23     public static void main(String[] args){
24         TriangleTest t = new TriangleTest(Color.RED,
25                                             30, 40,
26                                             50, 30,
27                                             90, 40);
28     }
29 }
30
31 class TriangleTest{
32     private double xa, ya, xb, yb, xc, yc;
33
34     public TriangleTest(Color color, double xa, double ya,
35                         double xb, double yb,
36                         double xc, double yc){
37         this.xa = xa;
38         this.ya = ya;
39         this.xb = xb;
40         this.yb = yb;
41         this.xc = xc;
42         this.yc = yc;
43
44         System.out.println(xa + ya + xb + yb + xc + yc);
45     }
46 }
47
48
49 shapes/ tests/
50 java tests.Test11
51 =0.0

```

```

3 package tests;
4 import javafx.scene.shape.Polygon;
5 import javafx.scene.paint.Color;
6
7 public class Test_13{
8
9     private static Polygon s;
10
11     public static void main(String[] args){
12         Test_13 t = new Test_13();
13         t.makeTriangleH0Set();
14         System.out.println(s);
15     }
16
17     public static void makeTriangleH0Set(){
18         s = new Polygon();
19     }
20 }

```

```

java tests/Test_13.java
java tests.Test_13
Polygon[points=[], fill=0x000000ff]

```

Hexagon Tests

```
7 package tests;
8 import javafx.scene.shape.Shape;
9 import javafx.scene.paint.Color;
10
11 public class Test_16 {
12
13     public static void main(String[] args) {
14         ShapesModelTest t = new HexagonTest();
15     }
16 }
17
18 abstract class ShapesModelTest {
19     public ShapesModelTest(String test_16) {
20         System.out.println(test_16);
21     }
22 }
23
24 class HexagonTest extends ShapesModelTest {
25
26     public HexagonTest() {
27         super("Test_16");
28     }
29 }
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
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46
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84
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86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
```

Java tests.Test_16
Test_16
[]

```
19 package tests;
20 import javafx.scene.shape.Shape;
21 import javafx.scene.paint.Color;
22
23 public class Test_15 {
24
25     public static void main(String[] args) {
26         ShapesModelTest t = new HexagonTest(Color.RED);
27     }
28 }
29
30 abstract class ShapesModelTest {
31     public ShapesModelTest(String test_15, Color color) {
32         System.out.println(test_15 + color);
33     }
34 }
35
36 class HexagonTest extends ShapesModelTest {
37
38     public HexagonTest(Color color) {
39         super("Test_15", color);
40     }
41 }
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
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83
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88
89
90
91
92
93
94
95
96
97
98
99
100
```

javac tests/Test_15.java
java tests.Test_15
Test_15:Color.RED
[]

```
23 import javafx.scene.shape.Shape;
24 import javafx.scene.paint.Color;
25
26 public class Test_14 {
27
28     public static void main(String[] args) {
29         HexagonTest t = new HexagonTest();
30     }
31 }
32
33 class HexagonTest {
34
35     private double xa, ya, xb, yb, xc, yc, xd, yd, xe, ye, xf, yf;
36
37     public HexagonTest(double xa, double ya,
38                        double xb, double yb,
39                        double xc, double yc,
40                        double xd, double yd,
41                        double xe, double ye,
42                        double xf, double yf) {
43
44         this.xa = xa;
45         this.ya = ya;
46         this.xb = xb;
47         this.yb = yb;
48         this.xc = xc;
49         this.yc = yc;
50         this.xd = xd;
51         this.yd = yd;
52         this.xe = xe;
53         this.ye = ye;
54         this.xf = xf;
55         this.yf = yf;
56
57         System.out.println(xa+ya+xb+yb+xc+yc+xd+yd+xe+ye+xf+yf);
58     }
59 }
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
```

Java tests/Test_14
818.0

```
9 package tests;
10 import javafx.scene.shape.Polygon;
11 import javafx.scene.paint.Color;
12
13 public class Test_17 {
14
15     private static Polygon s;
16
17     public static void main(String[] args) {
18         Test_17 t = new Test_17();
19         t.makeHexagon();
20         System.out.println(s);
21     }
22
23     public static void makeHexagon() {
24         s = new Polygon();
25     }
26 }
27
28
29
30
31
32
33
34
35
36
37
38
39
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87
88
89
90
91
92
93
94
95
96
97
98
99
100
```

javac tests/Test_17.java
java tests.Test_17
Polygon[points=1, fill=0.000000ff]
[]

Rectangle Tests



```
12 package tests;
11 import javafx.scene.shape.Shape;
10 import javafx.scene.paint.Color;
9
8 public class Test_19{
7
6     public static void main(String[] args){
5         ShapesModelTest t = new RectTest();
4     }
3
2     abstract class ShapesModelTest{
1         public ShapesModelTest(String test_19){
0             System.out.println(test_19);
13         }
12     }
11
10     class RectTest extends ShapesModelTest{
9
8         public RectTest(){
7             super("Test_19");
6         }
5     }
4
3
2
1
0

Java tests/Test_19
Test_19
[]
```

```
12 package tests;
11 import javafx.scene.shape.Shape;
10 import javafx.scene.paint.Color;
9
8 public class Test_20{
7
6     public static void main(String[] args){
5         ShapesModelTest t = new RectTest(Color.GREY);
4     }
3
2     abstract class ShapesModelTest{
1         public ShapesModelTest(String test_20, Color color){
0             System.out.println(test_20 + color);
13         }
12     }
11
10     class RectTest extends ShapesModelTest{
9
8         public RectTest(Color color){
7             super("Test_20", color);
6         }
5     }
4
3
2
1
0

javac tests/Test_20.java
Java tests/Test_20
Test_20x88888888r
[]
```

```
11 package tests;
10 import javafx.scene.shape.Rectangle;
9 import javafx.scene.paint.Color;
8
7 public class Test_18{
6
5     private static Rectangle t;
4
3     public static void main(String[] args){
2         Test_18 t = new Test_18();
1         t.makeRectangle();
0             System.out.println(t);
12     }
11
10     public static void makeRectangle(){
9         t = new Rectangle();
8     }
7
6
5 }

javac tests/Test_18.java
Java tests/Test_18
tests.Test_18[1812843fce]
[]
```

States Between Transitions

```
Label message = new Label();
message.setTextFill(Color.GREY);
message.setText("true");
message.setFont(font);
message.setAlignment(Pos.BASELINE_CENTER);
message.setText("false", "press enter to continue...\n");
root.getChildren().addFill(message);

Group shapes = new Group();
shapes.setMinHeight(200);
shapes.setMinWidth(200);
ShapesModel t = new Triangle(Color.GREEN, 100, 90, 100, 200, 300, 39.);
ShapesModel r = new Rect();
ShapesModel h = new Hexagon();

RotateTransition rt = new RotateTransition(Duration.millis(4000), shapes);
rt.setByAngle(30);
rt.setCycleCount(0);
rt.setAutoReverse(true);
rt.play();
shapes.setEffect(new GaussianBlur(100));
shapes.getChildren().add(t.getShape());
```

```
@Override
public void drawColour() {
    ft = new FillTransition(Duration.millis(2000), triangle, col, super.getColour());
    ft.setCycleCount(1);
    ft.setAutoReverse(false);
    ft.play();
    col = super.getColour();
}
```

```
30 ScaleTransition st = new ScaleTransition(Duration.millis(400), shapes);
31
32 shapes.setOnMouseEntered(e -> {
33     st.setByX(0.25);
34     st.setByY(0.25);
35     st.setCycleCount(0);
36     st.setAutoReverse(true);
37     shapes.setEffect(new GaussianBlur(0));
38     st.play();
39     rt.play();
40 }
41 );
42 shapes.setOnMouseExited(e -> {
43     shapes.setEffect(new GaussianBlur(0));
44     rt.stop();
45 }
46 );
```

