

```

1  public class Main {
2      public static void main(String[] args) {
3          Frame frame = new Frame();
4          frame.setSize(300, 300);
5          Platno p;
6          p = new Platno();
7
8          GeomUtvar shape = new Stvorec(50, new Suradnica(100,100));
9          p.addUtvar(shape);
10         GeomUtvar shape2 = new Stvorec(50, new Suradnica(20,60));
11         p.addUtvar(shape2);
12         GeomUtvar shape3 = new Kruznic(30, new Suradnica(150,60));
13         p.addUtvar(shape3);
14         shape3.setFarba(Color.BLUE);
15
16         frame.add("Center",p);
17         frame.setVisible(true);
18         p.repaint();
19     }
20 }
21
22 abstract public class GeomUtvar implements Vykreslitelny {
23     protected Suradnica hlavna_suradnica;
24     protected Color farba;
25     abstract public double obvod();
26     abstract public double obsah();
27
28     public void setHlavna_suradnica(Suradnica hlavna_suradnica) {
29         this.hlavna_suradnica = hlavna_suradnica;
30     }
31
32     public Suradnica getHlavna_suradnica() {
33         return hlavna_suradnica;
34     }
35
36     public Color getFarba() {
37         return farba;
38     }
39
40     public void setFarba(Color farba) {
41         this.farba = farba;
42     }
43 }
44
45 public interface Vykreslitelny {
46     public abstract void draw(Graphics2D g);
47 }
48
49 public class Suradnica {
50     private int x;
51     private int y;
52
53     public Suradnica() {
54     }
55
56     public Suradnica(int x, int y) {
57         this.x = x;
58         this.y = y;
59     }
60
61     public int getX() {
62         return x;
63     }
64
65     public void setX(int x) {
66         this.x = x;
67     }
68
69     public int getY() {
70         return y;
71     }
72
73     public void setY(int y) {

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74         this.y = y;
75     }
76 }
77
78 public class Kruznicia extends GeomUtvar{
79     private int polomer;
80
81     public Kruznicia(int polomer, Suradnica suradnica) {
82         super.hlavna_suradnica = suradnica;
83         super.farba = Color.BLACK;
84         this.polomer = polomer;
85     }
86     public Kruznicia(int polomer, Suradnica suradnica, Color farba) {
87         super.hlavna_suradnica = suradnica;
88         super.farba = farba;
89         this.polomer = polomer;
90     }
91
92     @Override
93     public double obvod() {
94         return 2*Math.PI*polomer;
95     }
96
97     @Override
98     public double obsah() {
99         return Math.PI*Math.pow(polomer,2.0);
100    }
101
102    @Override
103    public void draw(Graphics2D g) {
104        g.setColor(this.farba);
105        g.fillOval(hlavna_suradnica.getX(), hlavna_suradnica.getY(), polomer, polomer
106        );
107    }
108 }
109
110 public class Stvorec extends GeomUtvar{
111     private int dlzka;
112
113     public Stvorec(int dlzka, Suradnica suradnica) {
114         super.farba = Color.BLACK;
115         this.dlzka = dlzka;
116         this.hlavna_suradnica = suradnica;
117     }
118
119     public Stvorec(int dlzka, Suradnica suradnica, Color farba) {
120         super.farba = farba;
121         this.dlzka = dlzka;
122         this.hlavna_suradnica = suradnica;
123     }
124     @Override
125     public double obvod() {
126         return 2*(dlzka+dlzka);
127     }
128
129     @Override
130     public double obsah() {
131         return dlzka*dlzka;
132     }
133
134     @Override
135     public void draw(Graphics2D g) {
136         g.setColor(farba);
137         g.fillRect(hlavna_suradnica.getX(), hlavna_suradnica.getY(), dlzka, dlzka);
138     }
139 }
140
141 public class Platno extends Panel{
142     private ArrayList<GeomUtvar> shapes = new ArrayList<GeomUtvar>();
143
144     public void addUtvar(GeomUtvar utvar){
145         shapes.add(utvar);

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146     }
147     public void removeUtvar(GeomUtvar utvar){
148         shapes.remove(utvar);
149     }
150
151     @Override
152     public void paint(Graphics g) {
153         super.paint(g);
154         Graphics2D g2 = (Graphics2D) g;
155         for (GeomUtvar geomUtvar : shapes){
156             geomUtvar.draw(g2);
157         }
158     }
159 }
160
```