

Buatlah proyek baru:

A. Buatlah class Poligon sbb:

```
15 public class Poligon {
16     int[] x,y;
17     int N;
18     Color w ;
19
20     public Poligon(int[] x, int[] y, int N, Color w) {
21         this.x = x;
22         this.y = y;
23         this.N = N;
24         this.w = w;
25     }
26     public void Gambar(Graphics g){
27         Color c = g.getColor();
28         g.setColor(w);
29         g.fillPolygon(x, y, N);
30         g.setColor(c);
31     }
32     public void hapus(Graphics g){
33         Color c = g.getColor();
34         g.setColor(Color.black);
35         g.fillPolygon(x, y, N);
36         g.setColor(c);
37     }
38 }
```

B. Buatlah class Segitiga sbb:

```
15 public class Segitiga {
16     private Poligon pol;
17     public Segitiga(int x0, int y0, int R, int d1, int dt, Color w) {
18         double rad = Math.PI / 180;
19         int R1 = (int) (R * Math.cos(dt/2 * rad) + R * Math.sin(dt/2 * rad));
20         double der1, der2, der3;
21         int[] x = new int[3]; int[] y = new int[3];
22         der1 = d1 * rad; der2 = (d1 + dt) * rad;
23         der3 = (d1 + dt/2) * rad;
24         x[0] = (int) (x0 + R * Math.cos(der1));
25         y[0] = (int) (y0 + R * Math.sin(der1));
26         x[1] = (int) (x0 + R * Math.cos(der2));
27         y[1] = (int) (y0 + R * Math.sin(der2));
28         x[2] = (int) (x0 + R1 * Math.cos(der3));
29         y[2] = (int) (y0 + R1 * Math.sin(der3));
30         pol = new Poligon(x, y, 3, w);
31     }
32     public void Gambar(Graphics g){
33         pol.Gambar(g);
34     }
35     public void hapus(Graphics g){
36         pol.hapus(g);
37     }
38 }
```

C. Buatlah class Gear sbb:

```
15 public class Gear {
16     int x0; int y0; int R; Color w;
17     Segitiga[] s3;
18     public Gear(int x0, int y0, int R, Color w) {
19         this.x0 = x0;
20         this.y0 = y0;
21         this.R = R;
22         this.w = w;
23         int d1=0; int dt = 360/8;
24         s3 = new Segitiga[8];
25         for (int i = 0; i < 8; i++) {
26             s3[i] = new Segitiga(x0, y0, R, d1, dt, w);
27             d1 += dt;
28         }
29     }
30
31     public void Gambar(Graphics g) {
32         for (int i = 0; i < 8; i++) {
33             s3[i].Gambar(g);
34         }
35     }
36
37     public void hapus(Graphics g) {
38         for (int i = 0; i < 8; i++) {
39             s3[i].hapus(g);
40         }
41     }
42     public void muter(int der) {
43         int d1=der; int dt = 360/8;
44         s3 = new Segitiga[8];
45         for (int i = 0; i < 8; i++) {
46             s3[i] = new Segitiga(x0, y0, R, d1, dt, w);
47             d1 += dt;
48         }
49     }
50
51 }
```

D. Rancangan Form terdiri dari JPanel dengan color hitam, dan button, sebagai berikut:



E. Kode Program

```
19 public class FrameGear extends javax.swing.JFrame {
20
21     Graphics g;
22     Gear gr;
23     javax.swing.Timer t;
24     int dd = 0;
25     public FrameGear() {
26         initComponents();
27         g = jPanel1.getGraphics();
28         t = new Timer(20, new muter());
29     }
30
31     private void jPanel1MouseClicked(java.awt.event.MouseEvent evt) {
32         // TODO add your handling code here:
33         Color[] warnas = {Color.white, Color.blue, Color.cyan,
34             Color.green, Color.orange, Color.yellow};
35         Random r = new Random();
36         Color warna = warnas[r.nextInt(6)];
37         int R = 50 + r.nextInt(30);
38         int x0 = evt.getX();
39         int y0 = evt.getY();
40         gr = new Gear(x0, y0, R, warna);
41         gr.Gambar(g); t.start();
42     }
43
44     private void jButton1ActionPerformed(java.awt.event.ActionEvent evt) {
45         // TODO add your handling code here:
46         Color c = g.getColor();
47         g.setColor(Color.black);
48         g.fillRect(0, 0, jPanel1.getWidth(), jPanel1.getHeight());
49         g.setColor(c);
50     }
51 }
```

```
155     private javax.swing.JButton jButton1;
156     private javax.swing.JPanel jPanel1;
157     // End of variables declaration
158
159     private class muter implements ActionListener {
160
161         public muter() {
162         }
163
164         @Override
165         public void actionPerformed(ActionEvent e) {
166             gr.hapus(g); dd += 3;
167             gr.muter(dd);
168             gr.Gambar(g);
169         }
170     }
171 }
```

F.