

```

1  package Assignment_6;
2
3  import BasicIO.*;
4  import Media.*;
5  import java.awt.*;
6  import static java.awt.Color.*;
7  import static java.lang.Math.*;
8
9  //Shane Thomas
10 //5901368
11
12 public class Pixelation
13 {
14     PictureDisplayer display;
15     Picture pic;
16
17     public Pixelation()
18     {
19         display = new PictureDisplayer();
20         pic = new Picture();
21         display.placePicture(pic);
22         display.waitForUser();
23         pic = pixelate(pic, 4);
24         display.close();
25     };
26
27     public Picture pixelate(Picture picture, int blockSize)
28     {
29         Color color;
30         Picture x = picture;
31         Pixel p = picture.getPixel(0, 0);
32         int c = 0;
33         int r = 0;
34
35         int R = 0;
36         int G = 0;
37         int B = 0;
38
39         while (picture.hasNext())
40         {
41             color = avg(x, c, r, blockSize);
42             paint(x, c, r, blockSize, color);
43             for (int i = 0; i < blockSize; i++)
44                 p = x.next();
45             c = c + blockSize;
46             if (c == picture.getWidth())
47             {
48                 c = 0;
49                 r = r + blockSize;
50             }
51         }
52         return x;
53     }
54
55     public Color avg(Picture picture, int c, int r, int blockSize)
56     {
57         Pixel p;
58         try
59         {
60             p = picture.getPixel(c, r);
61         } catch (PixelOutOfBoundsExcepion bob)
62         {
63             return new Color(0, 0, 0);
64         }
65
66         int oc = c;
67         int or = r;

```

/Users/StormFlake/Desktop/Assignment_6/Pixelation.java

```

77
78     int R = 0;
79     int G = 0;
80     int B = 0;
81
82     for (int i = 0; i < blockSize; i++)
83     {
84         r = or + i;
85         for (int j = 0; j < blockSize; j++)
86         {
87             c = oc + j;
88             try
89             {
90                 p = picture.getPixel(c, r);
91             } catch (PixelOutOfBoundsException bob)
92             {
93                 break;
94             }
95             G = G + p.getGreen();
96             B = B + p.getBlue();
97             R = R + p.getRed();
98         }
99     }
100
101     R = R/(blockSize * blockSize);
102     B = B/(blockSize * blockSize);
103     G = G/(blockSize * blockSize);
104
105     Color average = new Color(R, G, B);
106     return average;
107 }
108
109 public void paint(Picture picture, int c, int r, int blockSize, Color color)
110 {
111     Pixel p;
112
113     try
114     {
115         p = picture.getPixel(c, r);
116     } catch (PixelOutOfBoundsException bob)
117     {
118     }
119
120
121     int oc = c;
122     int or = r;
123
124     int R = color.getRed();
125     int G = color.getGreen();
126     int B = color.getBlue();
127
128     for (int i = 0; i < blockSize; i++)
129     {
130         r = or + i;
131         for (int j = 0; j < blockSize; j++)
132         {
133             c = oc + j;
134             try
135             {
136                 p = picture.getPixel(c, r);
137             } catch (PixelOutOfBoundsException bob)
138             {
139                 break;
140             }
141             p.setRed(R);
142             p.setBlue(B);
143             p.setGreen(G);
144         }
145     }
146 }
147
148
149 public static void main ( String[] args ) { Pixelation f = new Pixelation(); };
150 }
151

```