The increment and Decrement Operator

```
int age = 10;
age++
    10   (int)
age
    11   (int)
System.out.print(++age);
age
    12   (int)
```

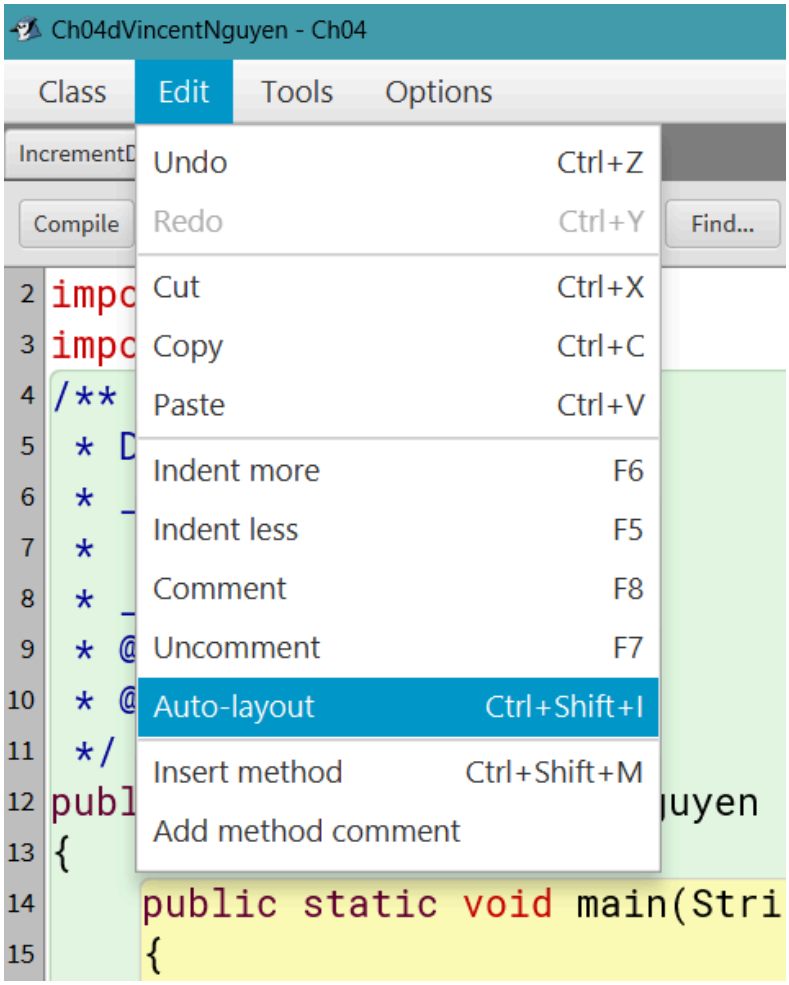
```
// age is initially ten

// age is incremented after but when we print we can see that it is still ten, but if we wanted to increment age and display eleven we should use ++age

// age here we can see that age is printed with 11

// this is how we want to show age incremented before and display the result, same with decrement
```

```
9       int number = 4;  // number starts out with 4
10
11      // Display the value in number.
12      System.out.println("number is " + number);
13      System.out.println("I will increment number.");
14
15      // Increment number.
16      number++;
```

This will print 4 first and then the increment was applied

```
18      // Display the value in number again.
19      System.out.println("Now, number is " + number);
20      System.out.println("I will decrement number.");
21
22      // Decrement number.
23      number--;
24
25      // Display the value in number once more.
26      System.out.println("Now, number is " + number);
27  }
```

So now when in line 19 where age is displayed, the number has been incremented.

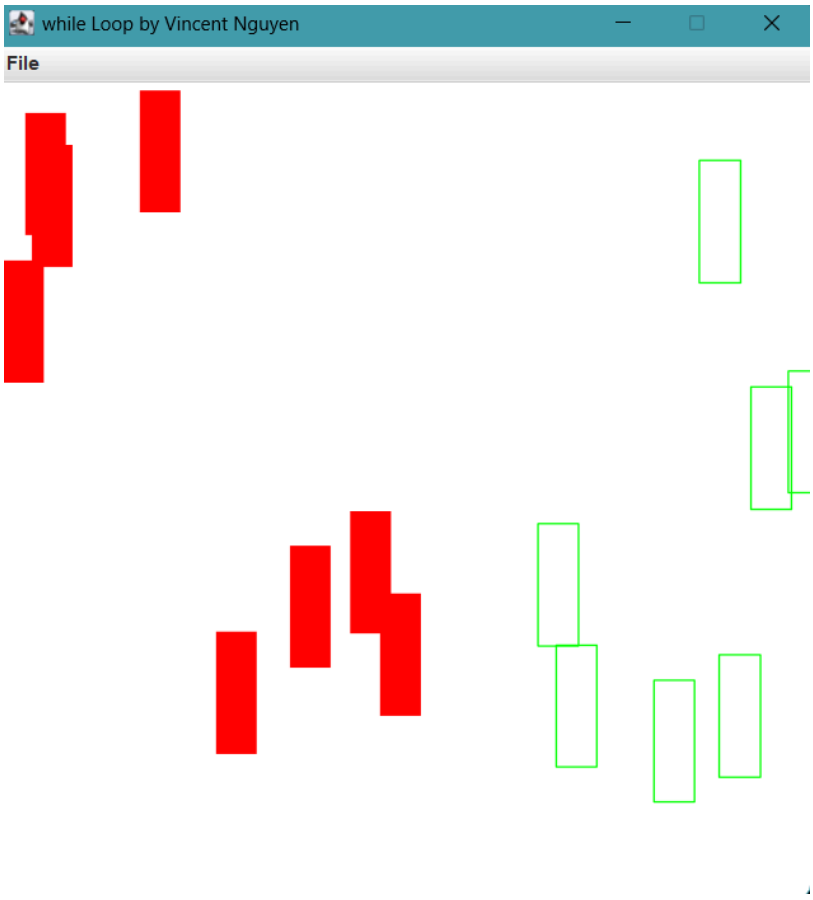


This is how you indent the code so it is easier to read and look for bugs.

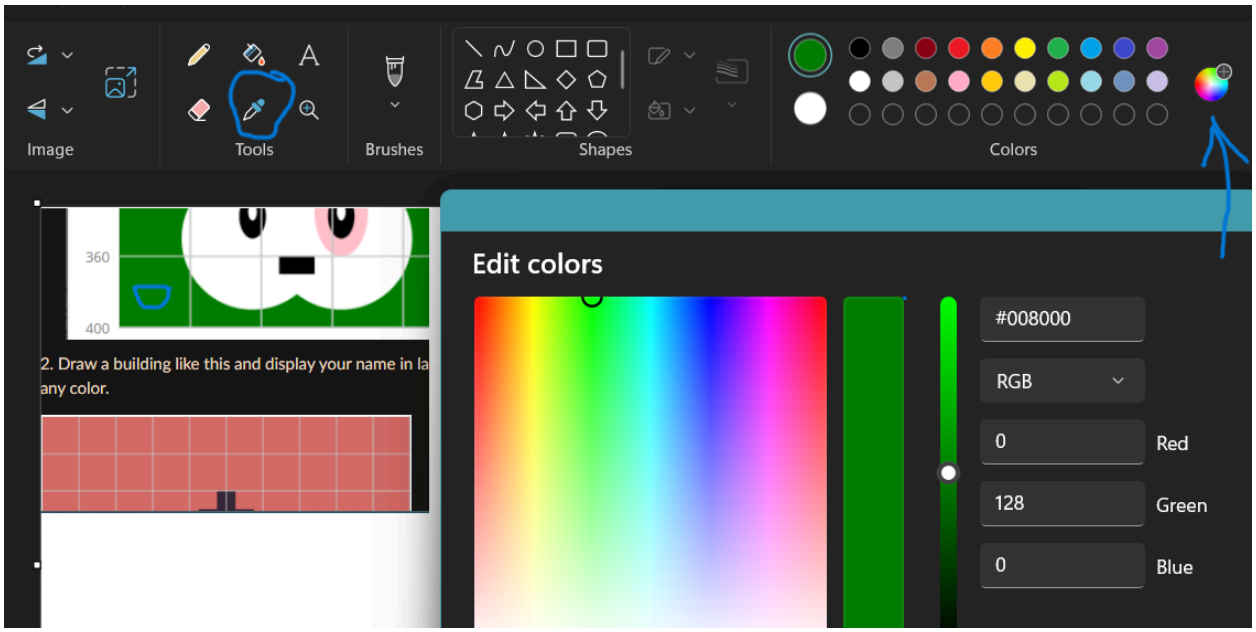
We worked on Ch04dYName from Chapter 4 while loops

We corrected the code in there importing the methods at the top and then worked on the while loop.

```
42          while (number <=15 )
43          {
44          x = rnd.nextDouble( ) * 400; // range 0 to 400
45          y = rnd.nextDouble( ) * 400;
46          //y = rnd.nextDouble ( ) * 410 + 10; // 10 - 410
47          width  = 10;
48          height = 30;
49          //QQQ draw solid Red rectangles
50          //on left half of the screen and
51          //Green not solid rectangles on right half
52          if(x <= 200) // Left Side
53          {
54              scr.setPenColor(Draw.RED);
55              scr.filledRectangle(x,y,width,height);
56          }
57          else         // Right side
58          {
59              scr.setPenColor(Draw.GREEN);
60              scr.rectangle(x,y,width,height);
61          }
```



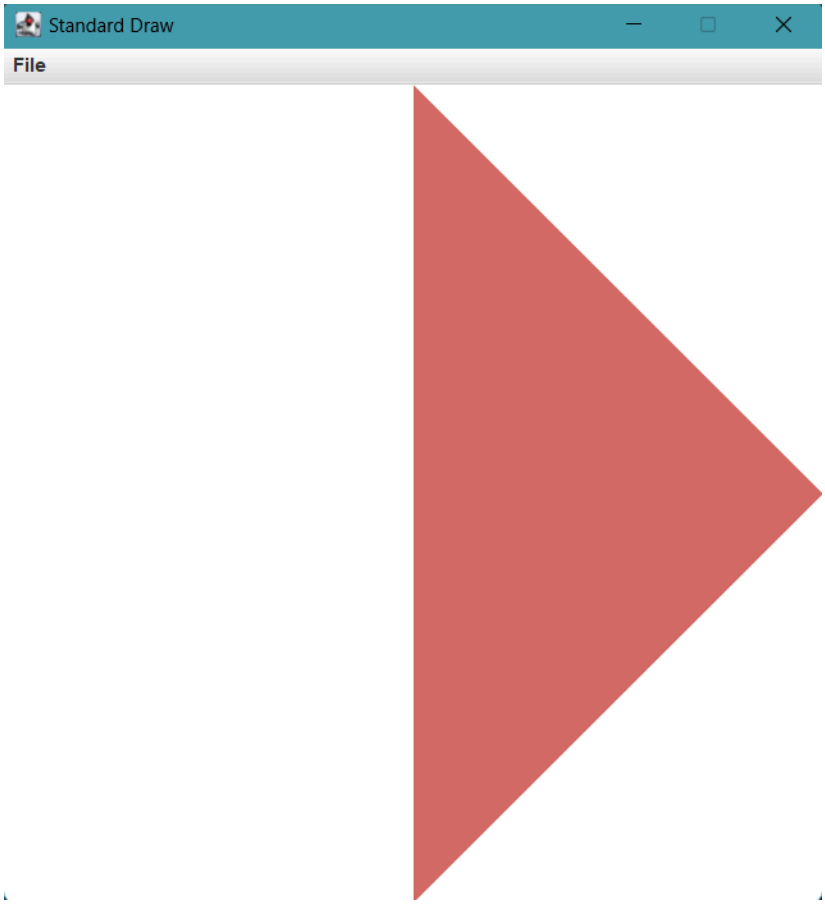
We looked at RGB and how to find the color of certain backgrounds



This is how we found the color for the rgb in paint.

Then we worked on polygons

```
153     public static void polygon()
154     {
155         Draw poly = new Draw();
156         poly.setXscale(0,400);
157         poly.setYscale(400,0);
158         poly.setPenColor(210,106, 100);
159         //new material
160         double[] x = {200, 400, 200}; // this is an array
161         double[] y = {  0, 200, 400};
162         poly.filledPolygon(x,y);
163     }
```



We went to work on as Czech Republic

```
165     public static void czechFlag()
166     {
167         Draw flag = new Draw();
168         flag.setXscale(0,400);
169         flag.setYscale(400,0);
170         flag.setTitle("Czech Republic by Vincent Nguyen");
171         flag.clear(Draw.LIGHT_GRAY);
172
173         // Purple portion
174         flag.setPenColor(160, 32, 240);
175         double[] x = {0, 125, 0};
176         double[] y = {200, 300, 400};
177         flag.filledPolygon(x,y);
178
179         // bottom portion of flag
180         flag.setPenColor(Draw.RED);
181         double[] xBot = {125, 250, 250, 125, 0  , 125};
182         double[] yBot = {300, 300, 400, 400, 400, 300};
183         flag.filledPolygon(xBot,yBot);
184
```

```
185         // top portion of flag
186         flag.setPenColor(Draw.WHITE);
187         double[] xTop = {250, 0  , 125, 250, 250};
188         double[] yTop = {200, 200, 300, 300, 200};
189         flag.filledPolygon(xTop, yTop);
190
191         Font name = new Font("Arial", Font.BOLD, 25);
192         flag.setFont(name);
193         flag.text(200, 100, "Czech Republic Flag by Vincent");
194
```

Graphics output