

The code for the program and the graphics display of program challenge.

// first program is bunny graphic

// second program is building

Program 1 - Bunny by Vincent Nguyen

```
1 import java.awt.Font;
2 import java.awt.Color;
3 /**
4  * Description
5  * -----
6  * The first program is a bunny and since my name starts with N,
7  * The bunny is in the top right most quadrant
8  *
9  * The second program is a building made out of rectangles
10 * -----
11 * @author Vincent Nguyen
12 * @version 9/29/24
13 */
14 //Template we will start with
15 public class programChallengeLoops1
16 {
17     public static void main(String[] args)
18     {
19     }
20
21     public static void bunnyByVincent()
22     {
23         // Setup Graphics screen
24         Draw scr = new Draw();
25         Color gween = new Color(0, 102, 0);
26         scr.clear(gween); // background
27         scr.setTitle("Bunny by Vincent Nguyen");
28         Font fntName = new Font("Serif",Font.BOLD, 40);
29         scr.setXscale(0, 400);
30         scr.setYscale(400, 0);
31
32         // Name in the middle
33         scr.setFont(fntName);
34         scr.setPenColor(Draw.RED);
```

I imported the color class so I can get a more accurate to the picture.

```
Import java.awt.Color;
```

```
35 scr.text(200, 200, "Bunny by Vincent Nguyen", 90);
36
37 // Bunny
38 // Ears (looks like two ellipses)
39 int xPos = 270, yPos = 60;
40 Color lightPink = new Color(255, 209, 220);
41 scr.setPenColor(lightPink); // Ear color
42 scr.filledEllipse(xPos, yPos, 15, 50); // Left Ear
43 scr.filledEllipse(xPos + 60, yPos, 15, 50); // Right Ear
44 scr.setPenColor(Draw.YELLOW);
45 scr.filledEllipse(xPos, yPos + 5, 10, 45); // Left inner ear
46 scr.filledEllipse(xPos + 60, yPos + 5, 10, 45); // Right inner ear
```

I started with ears as I saw that they got overlapped by the face.

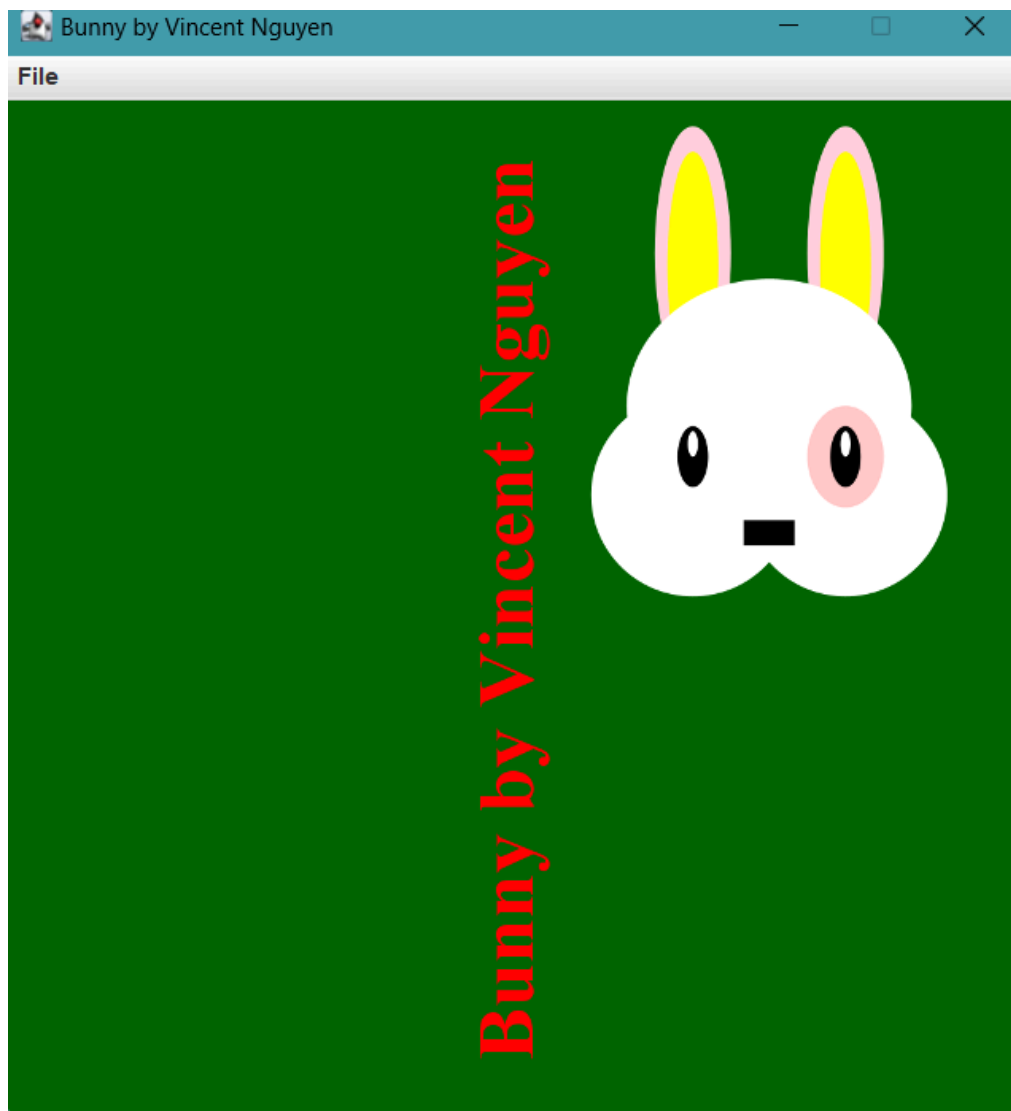
The hardest part for me was finding how big to make each of the shapes, but after trial and error and using the graph given I was able to make it as accurate as possible.

```
47
48 // Head and Cheeks
49 xPos = 300;
50 yPos = 120;
51 scr.setPenColor(Draw.WHITE);
52 scr.filledEllipse(xPos, yPos, 56, 50); // forehead
53 scr.filledCircle(xPos - 30, yPos + 35, 40); // Left Cheek
54 scr.filledCircle(xPos + 30, yPos + 35, 40); // Right Cheek
55
56 // Eyes, pink eye spot, and pupils
57 xPos = 270;
58 yPos = 140;
59 Color pinkEye = new Color(255, 200, 200);
60 scr.setPenColor(pinkEye);
61 scr.filledEllipse(xPos + 60, yPos, 15, 20); // Right Eye shadow
62 scr.setPenColor(Draw.BLACK);
63 scr.filledEllipse(xPos, yPos, 6, 12); // Left Eye
64 scr.filledEllipse(xPos + 60, yPos, 6, 12); // Right Eye
```

After doing the face I realized I could do the rest of the face. So I started with the more complicated portion and that was the eyes, pupils, and the eye shadow.

```
65 // pupils
66 scr.setPenColor(Draw.WHITE);
67 scr.filledEllipse(xPos      , yPos - 5, 2, 5); // left pupil
68 scr.filledEllipse(xPos + 60, yPos - 5, 2, 5); // right pupil
69
70 // Mouth
71 xPos = 300;
72 yPos = 170;
73 scr.setPenColor(Draw.BLACK);
74 scr.filledRectangle(xPos, yPos, 10,5); // mouth
```

Graphics display of Bunny by Vincent Nguyen



Program 2 - Building with different colors

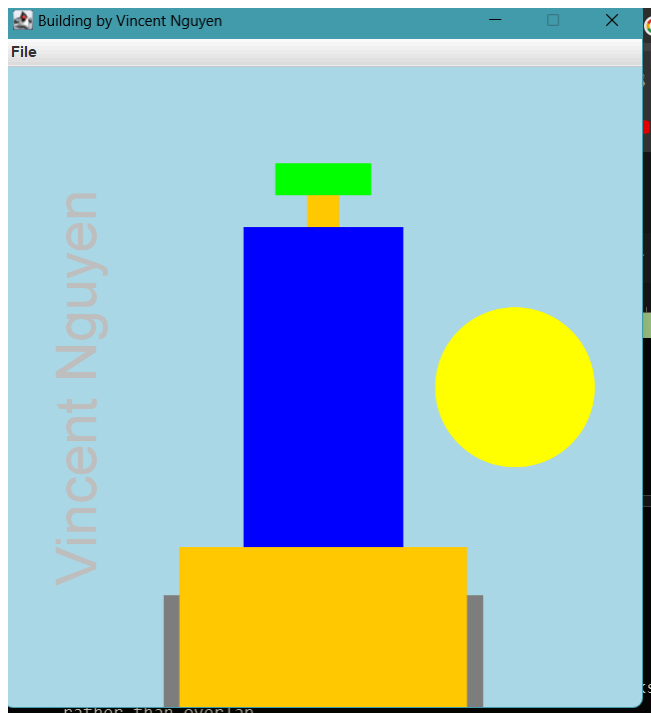
```
78 public static void building()
79 {
80     // Graphics screen setup
81     Draw scr = new Draw();
82     Color lightBlue = new Color(51, 204, 255);
83     scr.clear(lightBlue);
84     scr.setXscale(0,400);
85     scr.setYscale(400,0);
86     scr.setTitle("Building by Vincent Nguyen");
87
88     // Large name for graphics screen
89     Font bigName = new Font("Helvetica", Font.PLAIN, 45);
90     scr.setFont(bigName);
91     Color faveColor = new Color(0, 255, 51);
92     scr.setPenColor(faveColor);
93     scr.text(50, 200, "Vincent Nguyen", 90);
94
95     // Sun
96     int xPos = 320, yPos = 200;
97     scr.setPenColor(Draw.YELLOW);
98     scr.filledCircle(xPos, yPos, 50);
99
100    // The building - I started from the bottom to the top
101    // width part of base
102    // + goes up - goes down
103    xPos = 200; yPos = 360;
104    Color turd = new Color(102, 51, 0);
105    scr.setPenColor(turd);
106    scr.filledRectangle(xPos, yPos + 5, 100, 35);
107
108    // big foundation of building
109    //scr.setPenColor(Draw.ORANGE);
110    scr.filledRectangle(xPos, yPos - 10, 90, 50);
111
```

```

112 // Middle block of building
113 xPos = 200; yPos = 180;
114 //scr.setPenColor(Draw.BLUE);
115 scr.filledRectangle(xPos, yPos + 20, 50, 100);
116
117 // 2nd block from top
118 xPos = 200; yPos = 90;
119 //scr.setPenColor(Draw.GREEN);
120 scr.filledRectangle(xPos, yPos, 30, 10);
121
122 // top block
123 xPos = 200; yPos = 70;
124 //scr.setPenColor(Draw.ORANGE);
125 scr.filledSquare(xPos, yPos, 10);
126 }

```

I commented out the test colors because I wanted the blocks to fit perfectly rather than overlap, but this is what it looked like with different colors



I fixed the top and made it one color to fit the original scheme of example

