

Looked that the Soccer teams program provided in Section 4.3  
Using the while loop for Input Variation

This can be found on page 215.

```
29 // Validate the number entered.
30 while (teamSize < MIN_PLAYERS || teamSize > MAX_PLAYERS)
31 {
32     System.out.print("The number must be at least " + MIN_PLAYERS
33                     " and no more than " + MAX_PLAYERS +
34                     ".\nEnter the number of players: ");
35     teamSize = keyboard.nextInt();
36 }
```

Checks if the parameter on 29 is met, if not it runs the code again telling the user line 31

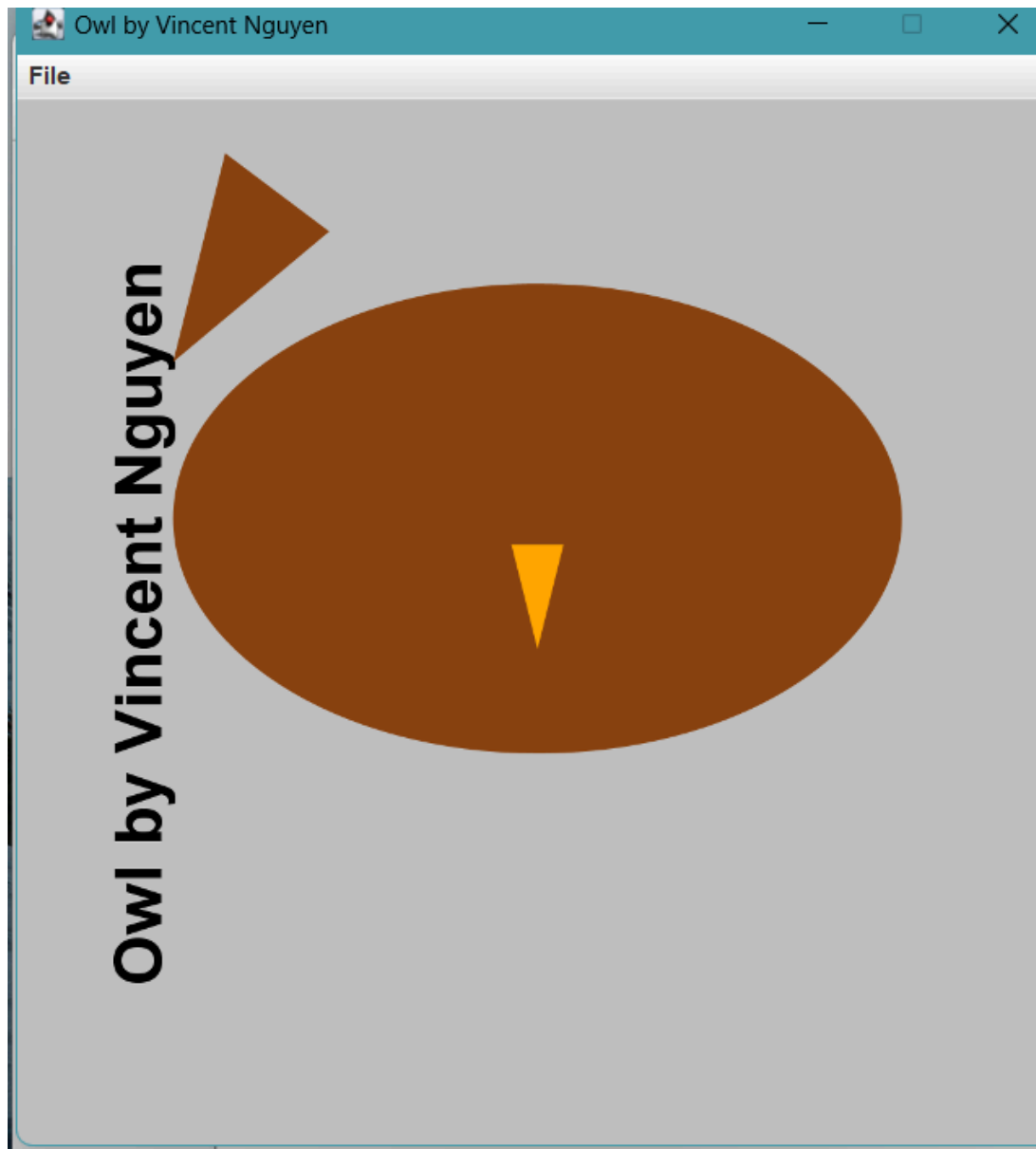
```
51 // Calculate the number of leftover players.
52 leftOver = players % teamSize;
```

This is the modulus % operator and calculates the remainder of a variable or number. So  $9 \% 4$  is 1 because  $9/4$  is 2 with a remainder of 1 so it gives back 1.

```
// Modify testaverage so that it prints one decimal place
System.out.printf("%.1f", average);
```

```
// Draw the ears, nose, eyes and your name. You can draw the
rest at home.
```

```
21 scr.setTitle("Owl by Vincent Nguyen");
22 Font fnt = new Font("Arial", Font.BOLD, 32);
23 scr.setFont(fnt);
24 scr.text(50, 200, "Owl by Vincent Nguyen", 90);
25
26 scr.setPenColor(139, 69, 19);
27 scr.filledEllipse(200, 160, 140, 90);
28
29 double[] x = {60, 80, 120, 60};
30 double[] y = {100, 20, 50, 100};
31 scr.filledPolygon(x,y);
32
33 scr.setPenColor(255, 165, 0);
34 double[] x2 = {190, 210, 200, 190};
35 double[] y2 = {170, 170, 210, 170};
36 scr.filledPolygon(x2,y2);
```



We looked at the owl again and saw that the eyes moved. So there is a way to track x, and y through the mouse.

We proceeded to loop at Ch4eYourName on section do while loop

```
196 public static void simpleForLoop()
197 {
198     Random rand = new Random( );
199     Scanner keyboard = new Scanner(System.in);
200     int myDice, yourDice;
201     int wins=0, loss=0, ties=0;
202     System.out.print("How many plays, ex 100: ");
203     int count = keyboard.nextInt( );
204     for(int i = 1; i <= count; i++)
205     {
206         myDice = rand.nextInt((6) + 1); // only one to 6
207         yourDice = rand.nextInt((6) + 1);
208         if(myDice > yourDice) //count number of wins, loss, ties
209         {
210             wins++;
211         }
212         else if (yourDice > myDice)
213         {
214             loss++;
215         }
216         else
217         {
218             ties++;
219         }
220     }
```

Result

How many plays, ex 100: 880

Wins: 403

Losses: 355

Ties: 122

Modified for loop into while loop

```

232 System.out.print("How many plays, ex 100: ");
233 int count = keyboard.nextInt( );
234 int i=1;
235 while( i<=count )
236 {
237     myDice = rand.nextInt((6) + 1);
238     yourDice = rand.nextInt((6) + 1);
239     if(myDice < yourDice) //count number of wins, loss, ties
240     {
241         loss++;
242     }
243     else if(yourDice < myDice)
244     {
245         wins++;
246     }
247     else
248     {
249         ties++;
250     }
251     i++;
252 }
253 System.out.print("Wins: " + wins + "\n");
254 System.out.print("Losses: " + loss + "\n");
255 System.out.print("Ties: " + ties + "\n");

```

Result:

How many plays, ex 100: 40

Wins: 13

Losses: 19

Ties: 8

Looked at readFileName