



```

1  /*
2
3  The Game Project
4
5  2b - using variables
6
7  */
8
9  var floorPos_y;
10
11  var gameChar_x;
12  var gameChar_y;
13
14  var treePos_x;
15  var treePos_y;
16
17  var canyon;
18  var collectable;
19
20  var mountain;
21  var cloud;
22
23
24  function setup() {
25      createCanvas(1024, 576);
26      floorPos_y = 432; //NB. we are now using a variable for the floor position
27
28      //NB. We are now using the built in variables height and width
29      gameChar_x = width / 2;
30      gameChar_y = floorPos_y;
31
32      treePos_x = width / 4;
33      treePos_y = floorPos_y - 250;
34
35      canyon = {
36          x_pos: 50,
37          width: 100,
38      };
39
40      collectable = {
41          x_pos: 200,
42          y_pos: 100,
43          size: 50,
44      };
45
46      mountain = {
47          x_pos: 75,
48          size: 100,
49      };
50
51      cloud = {
52          x_pos: 200,
53          y_pos: 350,
54          size: 50,
55      };
56  }
57
58  function draw() {
59      background(100, 155, 255); //fill the sky blue
60
61      noStroke();
62      fill(0, 155, 0);
63      rect(0, floorPos_y, height, width - floorPos_y); //draw some green ground
64
65      //begin canyon drawing
66
67      fill(33, 10, 6);
68      rect(canyon.x_pos, floorPos_y, canyon.width, height);
69      fill(240, 36, 0);

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70     triangle(canyon.x_pos, floorPos_y, canyon.x_pos + canyon.width, floorPos_y,
71             canyon.x_pos + canyon.width / 2, height);
72
73
74     //begin mountain drawing
75
76     fill(205, 186, 217);
77     triangle(mountain.x_pos + mountain.size, floorPos_y - mountain.size * 1.76,
78             mountain.x_pos + mountain.size * 2, floorPos_y, mountain.x_pos, floorPos_y);
79     fill(255);
80     triangle(mountain.x_pos + mountain.size, floorPos_y - mountain.size * 1.76,
81             mountain.x_pos + mountain.size * 1.5, floorPos_y - mountain.size * 0.87,
82             mountain.x_pos + mountain.size * 0.5, floorPos_y - mountain.size * 0.87);
83
84     fill(205, 186, 217);
85     triangle(mountain.x_pos + mountain.size * 1.75, floorPos_y - mountain.size * 1.32,
86             mountain.x_pos + mountain.size * 3, floorPos_y, mountain.x_pos + mountain.size *
87             0.75, floorPos_y);
88     fill(255);
89     triangle(mountain.x_pos + mountain.size * 1.75, floorPos_y - mountain.size * 1.32,
90             mountain.x_pos + mountain.size * 2.17, floorPos_y - mountain.size * 0.87,
91             mountain.x_pos + mountain.size * 1.4, floorPos_y - mountain.size * 0.87);
92
93     //end mountain drawing
94
95     //begin tree drawing
96
97     //trunk
98     fill(43, 23, 15);
99     rect(treePos_x, treePos_y, 50, 250);
100
101     //head
102     fill(10, 43, 19);
103     ellipse(treePos_x + 25, treePos_y, 200);
104
105     //fruit
106     fill(186, 17, 11);
107     ellipse(treePos_x, treePos_y, 20);
108     ellipse(treePos_x + 60, treePos_y + 50, 20);
109
110     //end tree drawing
111
112     //begin cloud drawing
113
114     fill(255);
115     ellipse(cloud.x_pos + cloud.size * 0.5, cloud.y_pos, cloud.size * 1.2);
116     ellipse(cloud.x_pos + cloud.size, cloud.y_pos, cloud.size);
117     ellipse(cloud.x_pos, cloud.y_pos, cloud.size);
118
119     //end cloud drawing
120
121     //begin collectable drawing
122
123     fill(255, 247, 0);
124     ellipse(collectable.x_pos, floorPos_y - collectable.y_pos, collectable.size * 0.5);
125     fill(217, 166, 28);
126     rect(collectable.x_pos - collectable.size * 0.05, floorPos_y - collectable.y_pos -
127             collectable.size * 0.15, collectable.size * 0.1, collectable.size * 0.3);
128
129     //end collectable drawing
130
131     //begin character drawing
132
133     //body
134     stroke(0);
135     fill(153, 51, 47);
136     triangle(gameChar_x - 13, gameChar_y - 7, gameChar_x + 13, gameChar_y - 7,
137             gameChar_x, gameChar_y - 64);

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```
129
130     //feet
131     fill(71, 43, 12);
132     ellipse(gameChar_x - 13, gameChar_y - 7, 20); //left
133     ellipse(gameChar_x + 13, gameChar_y - 7, 20); //right
134
135     //head
136     fill(235, 152, 181);
137     ellipse(gameChar_x, gameChar_y - 52, 30);
138
139     //mouth
140     fill(0);
141     ellipse(gameChar_x, gameChar_y - 44, 5);
142
143     //left eye
144     line(gameChar_x - 10, gameChar_y - 52, gameChar_x - 7, gameChar_y - 55);
145     line(gameChar_x - 4, gameChar_y - 52, gameChar_x - 7, gameChar_y - 55);
146
147     //right eye
148     line(gameChar_x + 10, gameChar_y - 52, gameChar_x + 7, gameChar_y - 55);
149     line(gameChar_x + 4, gameChar_y - 52, gameChar_x + 7, gameChar_y - 55);
150
151     //end character drawing
152 }
153
154 function mousePressed() {
155     //move character when mouse is pressed
156     gameChar_x = mouseX;
157     gameChar_y = mouseY;
158
159 }
160
```