```html
1  <!DOCTYPE html>
2
3  <html lang="en" xmlns="http://www.w3.org/1999/xhtml">
4  <head>
5      <meta charset="utf-8" />
6      <title>Circle Chase</title>
7      <script language="javascript">
8          var movex = 10 * 1;
9          var movey = 2 * 1;
10          var movex2 = -10 * 1;
11          var movey2 = -2 * 1;
12          var xcoord = Math.floor(Math.random() * 450) * 1;
13          var ycoord = Math.floor(Math.random() * 150) * 1;
14          var xcoord2 = Math.floor(Math.random() * 450) * 1;
15          var ycoord2 = Math.floor(Math.random() * 150) * 1;
16
17          var onoff = 0 * 1;
18
19          function drawcircle() {
20              //paints to the canvas
21              var c = document.getElementById("mycanvas");
22              var ctx = c.getContext("2d");
23
24              ctx.canvas.width = 500;
25              ctx.canvas.height = 150;
26
27              ctx.fillStyle = "#000000";
28              ctx.fillRect(0,0,window.innerWidth,window.innerHeight);
29              //draw circle
30              ctx.fillStyle = "#990000";
31              ctx.beginPath();
32              ctx.arc(xcoord, ycoord, 15, 0, Math.PI * 2, true);
33              ctx.arc(xcoord2, ycoord2, 30, 0, Math.PI * 2, true);
34              ctx.closePath();
35              ctx.fill();
36
37
38          }
39          //create a function that moves the circle
40          function move(){
41
42              xcoord += movex;
43              ycoord += movey;
44
45              xcoord2 += movex2;
46              ycoord2 += movey2;
47
48              if (xcoord >= 485){
49                  movex *= -1;
50              }
51              else if (xcoord <= 0){
52                  movex *= -1;
```

```
53                  }
54
55              if (ycoord >= 150) {
56                  movey *= -1;
57              }
58              else if (ycoord <= 0) {
59                  movey *= -1;
60              }
61
62
63              if (xcoord2 >= 485) {
64                  movex2 *= -1;
65              }
66              else if (xcoord2 <= 0) {
67                  movex2 *= -1;
68              }
69
70              if (ycoord2 >= 150) {
71                  movey2 *= -1;
72              }
73              else if (ycoord2 <= 0) {
74                  movey2 *= -1;
75              }
76              drawcircle();
77
78              var r1 = 15;
79              var r2 = 30;
80              var distance = (xcoord - xcoord2) * (xcoord - xcoord2) + (ycoord - ⮑
                  ycoord2) * (ycoord - ycoord2);
81              var radsumsq = (r1 + r2) * (r1 + r2);
82
83
84              if (distance < radsumsq) {
85                  xcoord = xcoord2;
86                  ycoord = ycoord2;
87                  movex = movex2;
88                  movey = movey2;
89
90              }
91              else if (distance == radsumsq) {
92                  xcoord = xcoord2;
93                  ycoord = ycoord2;
94                  movex = movex2;
95                  movey = movey2;
96
97              }
98          }
99
100      function starttimer() {
101
102          if (onoff == 0) {
103              //creates timer variable
```

```
104                    timer = setInterval("move()", 100);
105                    onoff = 1 * 1;
106                }
107                else if (onoff == 1) {
108                    clearInterval(timer);
109                    onoff = 0 * 1;
110                }
111            }
112
113
114
115        </script>
116  </head>
117  <body onload="drawcircle();" style="background-color:tan;">
118      <center>
119          </br>
120          </br>
121          <h1 style="font-size:50px; font-family:Montserrat;">Circle Chase</h1>
122          </br>
123          </br>
124          <canvas id="mycanvas" width="500" height="150" style="border:1px solid
             rgb(195,195,195);">
125              Your browser does not support canvas element
126          </canvas>
127          </br>
128          </br>
129          <input type="button" name="play" value="Move" onclick="move();"
             style="font-family:Impact; font-size:30px;" />
130          </br>
131          </br>
132          <input type="button" name="auto" value="Animate" onclick="starttimer();"
             style="font-family:Impact; font-size:30px;" />
133      </center>
134  </body>
135  </html>
```