```html
1  <!doctype html>
2  <html>
3  <head>
4      <meta charset="UTF-8" />
5      <title>Canvas Test</title>
6      <style>
7          #progress{
8              width:200px;
9              background-color:grey;
10         }
11         #bar{
12             width:100%;
13             height:30px;
14             background-color:green;
15         }
16
17     </style>
18     <script language="javascript">
19         var canvas= null;
20         var ctx = null;
21
22         var x = 50;
23         var y = 100;
24         var cannonx = 70;
25         var cannony = 70;
26
27         var x2 = 700;
28         var y2 = 400;
29         var cannonx2 = 720;
30         var cannony2 = 370;
31
32         var points = 0 * 1;
33
34         var cannonwidth = 10;
35         var cannonheight = 30;
36
37         var cannonwidth2 = 10;
38         var cannonheight2 = 30;
39
40         var dx = 5 * 1;
41         var dy = 5 * 1;
42
43         var onoff = 0 * 1;
44         var onoff2 = 0 * 1;
45         var bulletx = 0 * 1;
46         var bullety = 0 * 1;
47
48         var direction = 0 * 1;
49         var timercondition = 0 * 1;
50         var timeron = 0 * 1;
51
52         var i = 0 * 1;
```

```
53
54            var health = 100;
55      //window.addEventListener('keydown',doKeyDown,true);
56
57
58          function starttimer() {
59              if (onoff == 0) {
60                  timer = setInterval("firebullet()", 50);
61                  onoff = 1 * 1;
62                  timercondition = 1;
63              }
64              else if (onoff == 1) {
65                  clearInterval(timer);
66                  onoff = 0 * 1;
67                  timercondition = 0;
68              }
69          }
70
71          function starttimerenemy() {
72              if (onoff2 == 0) {
73                  timer2 = setInterval("moveenemy()", 200);
74                  onoff2 = 1 * 1;
75              }
76              else if (onoff2 == 1) {
77                  clearInterval(timer2);
78                  onoff2 = 0 * 1;
79              }
80          }
81
82          function init() {
83
84              window.addEventListener('keydown', dokeydown, true);
85
86              draw();
87              //return
88          }
89      function dokeydown(evt) {
90          console.log(evt.which);
91
92          switch (evt.which) {
93              //a key
94              case 65:
95                  cannonwidth = 30;
96                  cannonheight = 10;
97                  cannonx = x - 30;
98                  cannony = y + 20;
99                  x -= dx;
100                 cannonx -= dx;
101                 if (timercondition == 0) {
102                     direction = 65;
103                 }
104                 if (timeron == 0) {
```

```
105                    timeron = 1;
106                    starttimerenemy();
107                }
108                break;
109            //d key
110            case 68:
111                cannonwidth = 30;
112                cannonheight = 10;
113                cannonx = x + 50;
114                cannony = y + 20;
115
116                x += dx;
117                cannonx += dx;
118                if (timercondition == 0) {
119                    direction = 68;
120                }
121                if (timeron == 0) {
122                    timeron = 1;
123                    starttimerenemy();
124                }
125                break;
126            //w key
127            case 87:
128                cannonwidth = 10;
129                cannonheight = 30;
130                cannonx = x + 20;
131                cannony = y - 30;
132
133                y -= dx;
134                cannony -= dx;
135                if (timercondition == 0) {
136                    direction = 87;
137                }
138                if (timeron == 0) {
139                    timeron = 1;
140                    starttimerenemy();
141                }
142                break;
143            //s key
144            case 83:
145                cannonwidth = 10;
146                cannonheight = 30;
147                cannonx = x + 20;
148                cannony = y + 50;
149
150                y += dx;
151                cannony += dx;
152                if (timercondition == 0) {
153                    direction = 83;
154                }
155                if (timeron == 0) {
156                    timeron = 1;
```

```
157                     starttimerenemy();
158                 }
159                 break;
160             //space bar
161             case 32:
162                 if (onoff == 0) {
163                     starttimer();
164                 }
165                 break;
166         }
167         //when timer of bullet has ship's coordinates
168         if (onoff == 0) {
169             bulletx = cannonx;
170             bullety = cannony;
171
172             if (direction == 65) { //a key
173                 bulletx = cannonx;
174                 bullety = cannony + 5;
175             }
176             if (direction == 68) { //d key
177                 bulletx = cannonx + 30;
178                 bullety = cannony + 5;
179             }
180             if (direction == 87) { //w key
181                 bulletx = cannonx + 5;
182                 bullety = cannony;
183             }
184             if (direction == 83) { //s key
185                 bulletx = cannonx + 5;
186                 bullety = cannony + 30;
187             }
188         }
189         draw();
190     }
191
192
193
194     function firebullet() {
195         if (direction == 65) {
196             bulletx -= 10;
197         }
198         if (direction == 68) {
199             bulletx += 10;
200         }
201         if (direction == 87) {
202             bullety -= 10;
203         }
204         if (direction == 83) {
205             bullety += 10;
206         }
207         if (bullety < 0 || bullety > 500 || bulletx < 0 || bulletx > 800)
                { //check for bounds
```

```
208                    starttimer();
209                    timercondition = 0;
210
211                    if (direction == 65) { //a key
212                        bulletx = cannonx;
213                        bullety = cannony + 5;
214                    }
215                    if (direction == 68) { //d key
216                        bulletx = cannonx + 30;
217                        bullety = cannony + 5;
218                    }
219                    if (direction == 87) { //w key
220                        bulletx = cannonx + 5;
221                        bullety = cannony;
222                    }
223                    if (direction == 83) { //s key
224                        bulletx = cannonx + 5;
225                        bullety = cannony + 30;
226                    }
227                }
228            draw();
229        }
230
231        function moveenemy() {
232            if (x < x2) {
233                x2 -= 5;
234
235                cannonwidth2 = 30;
236                cannonheight2 = 10;
237                cannonx2 = x2 - 30;
238                cannony2 = y2 + 20;
239            }
240            else if (x > x2) {
241
242                x2 += 5;
243
244                cannonwidth2 = 30;
245                cannonheight2 = 10;
246                cannonx2 = x2 + 50;
247                cannony2 = y2 + 20;
248            }
249            if (y < y2) {
250                y2 -= 5;
251
252                cannonwidth2 = 10;
253                cannonheight2 = 30;
254                cannonx2 = x2 + 20;
255                cannony2 = y2 - 30;
256            }
257            else if (y > y2) {
258                y2 += 5;
259
```

```
260                    cannonwidth2 = 10;
261                    cannonheight2 = 30;
262                    cannonx2 = x2 + 20;
263                    cannony2 = y2 + 50;
264                }

265
266            //enemy proximity code
267            if ((x2 <= x + 50 && x2 + 50 >= x) && (y2 <= y + 50 && y2 + 50 >= y)) ⮐
                   {
268                health -= 10;
269            }
270                if (health == 0) {
271                    window.alert("You died");
272                    location.reload();
273                }

274
275            if (bulletx > x2 && bulletx < x2 + 50 && bullety > y2 && bullety < y2 ⮐
                   + 50) {
276                points += 10;
277                bulletx = cannonx;
278                bullety = cannony;
279                starttimer();
280            }
281            document.getElementById("healthtext").innerHTML = "Points " + points  ⮐
                   + "\n" + "\n" + "Health: " + health;
282            draw();
283        }

284
285        function draw() {
286            canvas = document.getElementById("canvas");
287            ctx = canvas.getContext("2d");
288            ctx.canvas.width = 800;
289            ctx.canvas.height = 500;
290            //pick background fill color
291            ctx.fillStyle = "#808080";
292            ctx.fillRect(0, 0, 800, 500);

293
294
295            //draw body
296            ctx.fillStyle = "#0000cc";
297            ctx.beginPath();
298            ctx.rect(x, y, 50, 50);
299            ctx.closePath();
300            ctx.fill();

301
302            //draw cannon
303            ctx.fillStyle = "#0000cc";
304            ctx.beginPath();
305            ctx.rect(cannonx, cannony, cannonwidth, cannonheight);
306            ctx.closePath();
307            ctx.fill();
308
```

```
309              //draw enemy
310
311              ctx.fillStyle = "#ff0000";
312              ctx.beginPath();
313              ctx.rect(x2, y2, 50, 50);
314              ctx.closePath();
315              ctx.fill();
316
317              ctx.fillStyle = "#ff0000";
318              ctx.beginPath();
319              ctx.rect(cannonx2, cannony2, cannonwidth2, cannonheight2);
320              ctx.closePath();
321              ctx.fill();
322
323              //bullet code
324              if (onoff == 1) {
325                  ctx.fillStyle = "#000000";
326                  ctx.beginPath();
327                  ctx.arc(bulletx, bullety, 5, 0, Math.PI * 2, true);
328                  ctx.closePath();
329                  ctx.fill();
330              }
331          }
332
333
334      </script>
335  </head>
336
337  <body onload="init()">
338      <center>
339          <h1>Tank</h1></br></br>
340          <canvas id="canvas" width="300" height="200">
341              This text is displayed if your browser does not support HTML5 Canvas.
342          </canvas>
343          <textarea id="healthtext" rows="10" cols="30">
344              Points: 0
345              Health: 100
346          </textarea>
347      </center>
348  </body>
349  </html>
```