

## personal-website\projects\prog06\prog06.js

```
1  /*
2      Name: Kevin Blinn
3      Class: CPSC 3750
4      Date Due: June 8th, 2024
5      Assignment: Prog06 - Move Buttons
6  */
7
8  // Get the HTML elements
9  var selectColor = document.getElementById("selectColor");
10 var make = document.getElementById("make");
11 var move = document.getElementById("move");
12 var sum = document.getElementById("sum");
13 var area = document.getElementById("area");
14
15 // Variables needed for the events
16 let total = 0;
17 let isMoving = false;
18 let buttons = [];
19
20 /* Event listener for the make button
21
22 This event listener creates a new button with the color selected from the
23 selectColor dropdown and assign it with a random number. It also adds an
24 event listener to the new button that will increment the total by the value
25 of the button when clicked.
26 */
27 make.addEventListener("click", function() {
28     // Get the color value of the button
29     let color = selectColor.value;
30     let button = document.createElement("button");
31
32     // Generate a random value of the button
33     let randomValue = Math.floor(Math.random() * 100) + 1;
34     button.textContent = randomValue;
35
36     // Set the background color of the button
37     button.style.backgroundColor = color;
38
39     // Set the width and height of the button
40     button.style.width = "50px";
41     button.style.height = "25px";
42
43     // Get the max width and height of the viewing area for the buttons
44     let maxWidth = area.clientWidth - button.clientWidth;
45     let maxHeight = area.clientHeight - button.clientHeight;
46
47     // Add button to a random location on the viewing area
48     button.style.position = "absolute";
49     let randomX = Math.floor(Math.random() * maxWidth);
50     let randomY = Math.floor(Math.random() * maxHeight);
51     button.style.left = randomX + "px";
52     button.style.top = randomY + "px";
53
54     // Chnage background color and update total when button is clicked
```

```
55     button.addEventListener("click", function() {
56         button.style.backgroundColor = selectColor.value;
57         let buttonValue = parseInt(button.textContent);
58         total += buttonValue;
59         sum.textContent = "Running Sum: " + total;
60     });
61
62     // Add button to the viewing area and the buttons array
63     area.appendChild(button);
64     buttons.push(button);
65 });
66
67
68 /* Event listener for the move button
69
70     This event listener will PAUSE or MOVE the buttons. If the buttons are
71     moving it will stop them, if they are stopped it will call the moveButtons.
72 */
73 move.addEventListener("click", function() {
74     isMoving = !isMoving;
75     if (isMoving) {
76         move.textContent = "PAUSE";
77         moveButtons();
78     } else {
79         move.textContent = "MOVE";
80     }
81 });
82
83
84 /* moveButtons
85
86     This function will move the buttons on the screen. It will move them in a
87     random direction and speed. The buttons will move until they hit the side
88     edges of the area. When a button hits the edge it will change
89     direction and continue moving.
90 */
91 function moveButtons() {
92     if (!isMoving){
93         return;
94     }
95
96     // Get the max width and height of the viewing area for the buttons
97     let maxWidth = area.clientWidth;
98     let maxHeight = area.clientHeight;
99
100    // Get a random direction and then continue moving the button
101    for (let i = 0; i < buttons.length; i++) {
102        let button = buttons[i];
103        let x = parseInt(button.style.left);
104        let y = parseInt(button.style.top);
105
106        // Get a random direction for the button
107        let directionX = Math.floor(Math.random() * 3) - 1;
108        let directionY = Math.floor(Math.random() * 3) - 1;
```

```
111 // Set the speed for each button to 2 pixels per frame
112 let speed = 2;
113
114 // Move the button in the random direction and speed
115 x += directionX * speed;
116 y += directionY * speed;
117
118 // If the button hits the side of the viewing area change direction
119 if (x < 0 || x > maxWidth - button.clientWidth) {
120     directionX *= -1;
121     x += directionX * speed;
122 }
123 if (y < 0 || y > maxHeight - button.clientHeight) {
124     directionY *= -1;
125     y += directionY * speed;
126 }
127
128 // Update the button location
129 button.style.left = x + "px";
130 button.style.top = y + "px";
131 }
132
133 // Call moveButtons again
134 requestAnimationFrame(moveButtons);
135 }
136
137
138
```