

```

1  // jshint esversion: 6
2  // globals $:false
3
4
5  // Globals
6  var playerSequence_global = [];
7  var gameSequence_global = [];
8  var totalNoBoxes_global = 9;
9
10 // A player can click buttons as they flash on screen, i.e. cheat, so need to lock this out
11 var playerLockOut_global = true; // true - player cannot change color before the game starts
12 var debug_global = false;
13
14 // This script has 2 significant function calls
15 // runGameSequence() which is called when the Start button is pressed/clicked.
16 // getPlayerSequence() which is called every time a box is pressed/clicked.
17 // When the getPlayerSequence() function is called ${level} times the scores get updated a
18
19
20 var runButtonClick = function () {
21
22     var startButton = document.getElementById("button");
23     startButton.addEventListener("click", function () {
24
25         playerLockOut_global = true;
26         runGameSequence();
27         this.style.borderColor = "red"; // run button
28     });
29 };
30
31
32 var boxesClick = function () {
33
34     var boxesContainer = document.getElementById("boxes_section");
35     boxesContainer.addEventListener("click", function (event) {
36
37
38         if (event.target.getAttribute("data-type") === "box") {
39
40             if (playerLockOut_global === false) {
41
42                 if (debug_global === true) {
43                     console.log("");
44                     console.log("Box Click Registered");
45                 }
46
47                 getPlayerSequence(event.target.getAttribute("id"));

```

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Metrics

There are 13 functions in this file.

Function with the largest signature take 2 arguments, while the median is 0.

Largest function has 36 statements in it, while the median is 8.

The most complex function has a cyclomatic complexity value of 14 while the median is 4.

One undefined variable

419 Swal



version 2.12.0

(<https://github.com/jshint/jshint/>)

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48
49         event.target.style.backgroundColor = "orange";
50
51     } else {
52         if (debug_global === true)
53             console.log("Locked out");
54     }
55
56 }
57
58 });
59 };
60
61
62
63
64 // Credit: JS Essentials project
65 // Get the elements and add event listeners to them
66 document.addEventListener("DOMContentLoaded", function () {
67
68     runButtonClick();
69     boxesClick();
70 });
71
72
73
74
75 function runGameSequence() {
76
77     // Clear arrays at the start of each game
78     gameSequence_global = [];
79     playerSequence_global = [];
80
81
82     playerSequence_global.push("test"); // add any text to prevent reading undefined later
83
84     if (debug_global === true) {
85         console.log("*****");
86         console.log(`Player Array at Start: ${playerSequence_global}`);
87         console.log("*****");
88     }
89
90     gameSequence_global = genSqrSequence();
91
92     outputSqrSequence(gameSequence_global);
93 }
94
95
96

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97 // Generate Square Sequence
98 function genSqrSequence() {
99
100 // The runGameSequence is like a master while the getPlayerSequence is like a slave.
101 // The boxes cannot be clicked while the runGameSequence is running.
102 // However the player can hit multiple game starts. This could be prevented with another
103 // lockOut but the code may no longer be robust. Easy solution is to let the user run it
104 // get an incorrect answer. The code below will change the squares back to red however
105 // Repeating the last button sequence to flash will give a correct score.
106
107 let idOff = [""];
108
109 // Turn all boxes green.
110 for (let i = 0; i < totalNoBoxes_global; i++) {
111     idOff = "sqr" + i;
112     document.getElementById(idOff).style.backgroundColor = "green"; // Clear colours b
113
114     if (debug_global === true)
115         console.log(`clear box ${idOff} at start`);
116 }
117
118
119
120 // Credit CodeInstitute JS Essentials Project
121 let level = parseInt(document.getElementById("level").innerText);
122
123 // Randon Square Sequence
124 let randomSeq = [level]; // The integer
125 let randomSqrSeq = [level]; // The string sqr + string 1, 2, 3 etc.
126
127 // The first number cannot be a duplicate.
128 randomSeq[0] = Math.floor(Math.random() * totalNoBoxes_global);
129 randomSqrSeq[0] = "sqr" + randomSeq[0];
130
131 if (debug_global === true) {
132     console.log("");
133     console.log(`Generating random numbers for Level: ${level}`);
134     console.log(`First Random Number: ${randomSeq[0]}`);
135     console.log(`First random string: ${randomSqrSeq[0]}`);
136 }
137
138 let boxIndex = 1;
139
140 while (boxIndex < level) {
141
142     let uniqueBoxNumber = true;
143     let number = Math.floor(Math.random() * totalNoBoxes_global);
144
145     if (debug_global === true) {

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146     console.log(`Box Index: ${boxIndex}`);
147     console.log(`Next Random Number: ${number}`);
148 }
149
150 for (let i = 0; i < boxIndex; i++) {
151
152     if (debug_global === true)
153         console.log(`Is Random Number ${number} = previous array number ${randomSeq[boxIndex-1]}`);
154
155     if (number === randomSeq[i]) {
156         uniqueBoxNumber = false;
157
158         if (debug_global === true)
159             console.log("Yes, but not Unique, try again");
160     } else {
161
162         if (debug_global === true)
163             console.log("No, it's Unique!!!!");
164     }
165 }
166
167 if (uniqueBoxNumber === true) {
168
169     randomSeq[boxIndex] = number;
170     randomSqrSeq[boxIndex] = "sqr" + number;
171
172     if (debug_global === true)
173         console.log(`Add ${randomSqrSeq[boxIndex]} to Game array`);
174
175     // Index to the next box number when the random number is unique
176     boxIndex++;
177 } else {
178     // Loop again for the same array element
179 }
180 }
181
182 if (debug_global === true)
183     console.log(`Game sequence is: ${randomSqrSeq}`);
184
185 return randomSqrSeq;
186 }
187
188 // Output Square Sequence
189 function outputSqrSequence(boxes) {
190
191     if (debug_global === true)
192         console.log("");
193
194     let timeMultiplier = 0;

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195     for (const box of boxes) {
196         if (debug_global === true)
197             console.log(`Turn on box: ${box}`);
198
199         sqrOutDelay(timeMultiplier, box);
200         timeMultiplier++;
201     }
202
203     sqrOutDelay(timeMultiplier, "sqrOffWithButtonOrange");
204 }
205
206 // Output squares and then turn them "all" off
207 function sqrOutDelay(timeIndex, boxId) {
208     // Credit CodeInstitute JS Essentials Project
209
210     setTimeout(function () {
211         let idOff = "";
212
213         if ((boxId === "sqrOffWithButtonOrange") || (boxId === "sqrOffWithButtonGreen")) {
214
215             if (debug_global === true) {
216                 console.log("");
217                 console.log("Turn Squares Off");
218             }
219
220             // Easy solution, just turn all boxes green.
221             for (let i = 0; i < totalNoBoxes_global; i++) {
222                 idOff = "sqr" + i;
223                 document.getElementById(idOff).style.backgroundColor = "green"; // Clear c
224
225                 if (debug_global === true)
226                     console.log(`clear box: ${idOff}`);
227             }
228
229             if (boxId === "sqrOffWithButtonOrange") {
230                 document.getElementById("button").style.borderColor = "orange";
231                 // Allow box entry
232                 playerLockOut_global = false;
233             } else {
234                 document.getElementById("button").style.borderColor = "grey";
235             }
236         } else {
237
238
239
240
241
242         } else {
243

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244         if (debug_global === true)
245             console.log("Turn Squares On");
246
247         document.getElementById(boxId).style.backgroundColor = "red"; // Turn on game
248     }
249     }, 1000 * timeIndex);
250 }
251
252
253
254 function getPlayerSequence(latestboxClicked) {
255     // Credit CodeInstitute JS Essentials Project
256     let level = parseInt(document.getElementById("level").innerText);
257     let countBeforeUpdate = playerSequence_global.length;
258     let testBox = playerSequence_global[0]; // for debug only
259
260     if (debug_global === true) {
261         console.log("");
262         console.log(`Game Level: ${level}`);
263         console.log(`Player array size before click was: ${countBeforeUpdate}`);
264         console.log(`First array element: ${testBox}`);
265         console.log(`Latest Box Clicked: ${latestboxClicked}`);
266     }
267
268     let doubleClick = false; // double clicks one after the other only.
269     let extraClicks = false; // Extra after the array is full
270
271     // Prevent the recording of two clicks of the same box one after the other
272     if (latestboxClicked === playerSequence_global[countBeforeUpdate - 1]) {
273         if (debug_global === true)
274             console.log(`Box ${latestboxClicked} is being clicked again`);
275
276         doubleClick = true;
277     }
278
279     // Will allow the player to make the mistake of pressing the same box as they may have
280
281     // Prevent the recording of clicks when the array size is greater than the game level
282     if (countBeforeUpdate < (level + 1)) {
283         // Update array but not if it is a double click
284         if (doubleClick === false) {
285             if (debug_global === true)
286                 console.log(`Pushing ${latestboxClicked} to array`);
287         }
288     }
289 }

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293     playerSequence_global.push(latestboxClicked);
294 }
295
296 } else if (countBeforeUpdate === (level + 1)) {
297
298     if (debug_global === true)
299         console.log("Array size exceeded");
300
301     extraClicks = true; // array size exceeded
302 } else {
303     if (debug_global === true)
304         console.log("Error");
305 }
306
307 // Now check to see if the updated array is the correct size
308 let countAfterUpdate = playerSequence_global.length;
309
310 if (countAfterUpdate === level + 1) {
311     if (extraClicks === false) {
312         // Prevent player from changing the colour of additional squares
313         playerLockOut_global = true;
314
315         if (debug_global === true)
316             console.log("Button lockout");
317
318         // Turn off squares
319         sqrOutDelay(1, "sqrOffWithButtonGreen");
320         // check player sequence
321         isPlayerSequenceCorrect();
322     }
323 }
324 }
325
326
327 function isPlayerSequenceCorrect() {
328
329     let level = parseInt(document.getElementById("level").innerText);
330     let isPlayerCorrect = true;
331
332     if (debug_global === true) {
333         console.log("");
334         console.log(`Level: ${level}`);
335         console.log("Is the player sequence correct?");
336         console.log(`Game Sequence Array: ${gameSequence_global}`);
337         console.log(`Player Sequence Array: ${playerSequence_global}`);
338         console.log("Run matching check loop");
339     }
340
341     for (let index = 0; index < level; index++) {

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342
343     if (debug_global === true) {
344         console.log(`    Game    Sequence Number: ${gameSequence_global[index]}`);
345         console.log(`    Player  Sequence Number: ${playerSequence_global[index + 1]}`);
346     }
347
348     if (gameSequence_global[index] === playerSequence_global[index + 1]) {
349         // Sequence match
350     } else {
351         // Sequence mismatch
352         isPlayerCorrect = false;
353     }
354 }
355
356
357 if (debug_global === true) {
358     if (isPlayerCorrect === true) {
359         console.log("Correct player sequence !!!!");
360     } else {
361         console.log("Incorrect player sequence XXXX");
362     }
363 }
364
365 // Update scores
366 let correctScore = parseInt(document.getElementById("correct").innerText);
367 let incorrectScore = parseInt(document.getElementById("incorrect").innerText);
368
369 if (debug_global === true) {
370     console.log("");
371     console.log("Update Scores");
372     console.log(`Previous Correct Score: ${correctScore}`);
373     console.log(`Previous Incorrect Score: ${incorrectScore}`);
374 }
375
376 if (isPlayerCorrect === true) {
377     document.getElementById("correct").innerText = ++correctScore;
378 } else {
379     document.getElementById("incorrect").innerText = ++incorrectScore;
380 }
381
382 if (debug_global === true) {
383     correctScore = parseInt(document.getElementById("correct").innerText);
384     incorrectScore = parseInt(document.getElementById("incorrect").innerText);
385
386     if (debug_global === true) {
387         console.log(`Latest Correct Score: ${correctScore}`);
388         console.log(`Latest Incorrect Score: ${incorrectScore}`);
389     }
390 }

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391
392 // Call either way, i.e. outside (isPlayerCorrect === true)
393 updateLevel(correctScore);
394 }
395
396
397
398
399 function updateLevel(correctScore) {
400
401     let level = parseInt(document.getElementById("level").innerText);
402     let scoreAtLevel = 2; // 3 for debug
403     let nextLevel = 1;
404
405     nextLevel = correctScore / scoreAtLevel;
406
407     if (debug_global === true) {
408         console.log("");
409         console.log("Update Level function");
410         console.log(`Next Level is integer of: ${nextLevel} for ${correctScore} score at 1`);
411     }
412
413     if (nextLevel >= level) {
414         document.getElementById("level").innerText = ++level;
415     }
416
417     if (level > totalNoBoxes_global) {
418
419         Swal.fire(
420             'Game Over',
421             'Congratulations on finishing the game!'
422         );
423     }
424
425 }

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