

```

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

421 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[i]}`);
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     //let totalNoBoxes = parseInt(document.getElementById("totalBoxes").innerText);
210
211     setTimeout(function () {
212         let idOff = "";
213
214         if ((boxId === "sqrOffWithButtonOrange") || (boxId === "sqrOffWithButtonGreen")) {
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
226             if (debug_global === true)
227                 console.log(`clear box: ${idOff}`);
228         }
229
230         if (boxId === "sqrOffWithButtonOrange") {
231             document.getElementById("button").style.borderColor = "orange";
232             // Allow box entry
233             playerLockOut_global = false;
234         } else {
235             document.getElementById("button").style.borderColor = "grey";
236         }
237     } else {
238
239     }
240 }

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244
245         if (debug_global === true)
246             console.log("Turn Squares On");
247
248         document.getElementById(boxId).style.backgroundColor = "red"; // Turn on game
249     }
250 }, 1000 * timeIndex);
251 }
252
253
254
255 function getPlayerSequence(latestboxClicked) {
256
257     // Credit CodeInstitute JS Essentials Project
258     let level = parseInt(document.getElementById("level").innerText);
259     let countBeforeUpdate = playerSequence_global.length;
260     let testBox = playerSequence_global[0]; // for debug only
261
262     if (debug_global === true) {
263         console.log("");
264         console.log(`Game Level: ${level}`);
265         console.log(`Player array size before click was: ${countBeforeUpdate}`);
266         console.log(`First array element: ${testBox}`);
267         console.log(`Latest Box Clicked: ${latestboxClicked}`);
268     }
269
270     let doubleClick = false; // double clicks one after the other only.
271     let extraClicks = false; // Extra after the array is full
272
273     // Prevent the recording of two clicks of the same box one after the other
274     if (latestboxClicked === playerSequence_global[countBeforeUpdate - 1]) {
275
276         if (debug_global === true)
277             console.log(`Box ${latestboxClicked} is being clicked again`);
278
279         doubleClick = true;
280     }
281
282
283     // Will allow the player to make the mistake of pressing the same box as they may have
284
285
286     // Prevent the recording of clicks when the array size is greater than the game level
287     if (countBeforeUpdate < (level + 1)) {
288         // Update array but not if it is a double click
289         if (doubleClick === false) {
290
291             if (debug_global === true)
292                 console.log(`Pushing ${latestboxClicked} to array`);

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

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One undefined variable

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342 for (let index = 0; index < level; index++) {
343
344     if (debug_global === true) {
345         console.log(`    Game    Sequence Number: ${gameSequence_global[index]}`);
346         console.log(`    Player  Sequence Number: ${playerSequence_global[index + 1]}`);
347     }
348
349     if (gameSequence_global[index] === playerSequence_global[index + 1]) {
350         // Sequence match
351     } else {
352         // Sequence mismatch
353         isPlayerCorrect = false;
354     }
355
356 }
357
358 if (debug_global === true) {
359     if (isPlayerCorrect === true) {
360         console.log("Correct player sequence !!!!");
361     } else {
362         console.log("Incorrect player sequence XXXX");
363     }
364 }
365
366 // Update scores
367 let correctScore = parseInt(document.getElementById("correct").innerText);
368 let incorrectScore = parseInt(document.getElementById("incorrect").innerText);
369
370 if (debug_global === true) {
371     console.log("");
372     console.log("Update Scores");
373     console.log(`Previous Correct Score: ${correctScore}`);
374     console.log(`Previous Incorrect Score: ${incorrectScore}`);
375 }
376
377 if (isPlayerCorrect === true) {
378     document.getElementById("correct").innerText = ++correctScore;
379 } else {
380     document.getElementById("incorrect").innerText = ++incorrectScore;
381 }
382
383 if (debug_global === true) {
384     correctScore = parseInt(document.getElementById("correct").innerText);
385     incorrectScore = parseInt(document.getElementById("incorrect").innerText);
386
387     if (debug_global === true) {
388         console.log(`Latest Correct Score: ${correctScore}`);
389         console.log(`Latest Incorrect Score: ${incorrectScore}`);
390     }

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391     }
392
393     // Call either way, i.e. outside (isPlayerCorrect === true)
394     updateLevel(correctScore);
395 }
396
397
398
399
400 function updateLevel(correctScore) {
401
402     //let totalNoBoxes = parseInt(document.getElementById("totalBoxes").innerText);
403     let level = parseInt(document.getElementById("level").innerText);
404     let scoreAtLevel = 2; // 3 for debug
405     let nextLevel = 1;
406
407     nextLevel = correctScore / scoreAtLevel;
408
409     if (debug_global === true) {
410         console.log("");
411         console.log("Update Level function");
412         console.log(`Next Level is integer of: ${nextLevel} for ${correctScore} score at 1`);
413     }
414
415     if (nextLevel >= level) {
416         document.getElementById("level").innerText = ++level;
417     }
418
419     if (level > totalNoBoxes_global) {
420
421         Swal.fire(
422             'Game Over',
423             'Congratulations on finishing the game!'
424         );
425     }
426
427 }

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