JavaScript – Lab 7: Student Submissions

Assigned: 10/24/22

Due: 10/31/22

Completed: 10/31/22

<https://lms.grandcircus.co/mod/assign/view.php?id=22731>

<https://docs.google.com/document/d/1ocAGhU56VwV-GZTRLD4WZZCjlhS3qE9VSVChj9CvskU/preview>

<https://github.com/clintmsmith/GrandCircusLabs/tree/main/Student%2BSubmissions>

**Task:** Create an array of objects representing student submissions. Define a variety of functions for working with such an array. Also call each of the functions at least once to test it.

**Build Specifications:**

1. Declare a **variable** named **submissions** that is initialized to an **array** with the following **objects**:

|  |  |  |  |
| --- | --- | --- | --- |
| **name** | **score** | **date** | **passed** |
| Jane | 95 | 2020-01-24 | true |
| Joe | 77 | 2018-05-14 | true |
| Jack | 59 | 2019-07-05 | false |
| Jill | 88 | 2020-04-22 | true |

1. Declare a function named **addSubmission**
   * Parameter(s): **array**, **newName**, **newScore**, **newDate**
   * Functionality: construct an object and push it into the array. The object must have the same properties as the objects already in the array. Use conditional statements to set the value for the passed property to true if the score is greater than or equal to 60 and false otherwise.

1. Declare a function named **deleteSubmissionByIndex**

* Parameter(s): array, index
* Functionality: remove an object from the array at the specified **index** using the **splice** method.

1. Declare a function named **deleteSubmissionByName**

* Parameter(s): **array**, **name**
* Functionality: remove the object from the **array** that has the provided **name**.  Incorporate the **findIndex** method and the **splice** method.

1. Declare a function named **editSubmission**

* Parameter(s): **array**, **index**, **score**
* Functionality: update an object’s score in the array at the specified index. Use conditional statements to set the value for the passed property to true if the score is greater than or equal to 60 and false otherwise.

1. Declare a function named **findSubmissionByName**

* Parameter(s): **array**, **name**
* Functionality: return the object in the array that has the provided name. Use the find method.

1. Declare a function named **findLowestScore**

* Parameter(s): **array**
* Functionality: return the object in the array that has the lowest score. Use the forEach method to loop through the whole array

1. Declare a function named **findAverageScore**

* Parameter(s): **array**
* Functionality: return the average quiz score.  Use a for...of loop.

1. Declare a function named **filterPassing**

* Parameter(s): **array**
* Functionality: return a new array using the filter method. The filter method should find objects in the array that have passing scores.

1. Declare a function named **filter90AndAbove**

* Parameter(s): **array**
* Functionality: return a new array using the filter method. The filter method should find objects in the array that have scores greater than or equal to 90.

**Extended Challenges:**

1. Create a function named createRange

* Parameter(s): start, end
* Functionality: construct and return an array of integers starting with the start parameter and ending at the end parameter (e.g., createRange(2, 5) returns [2, 3, 4, 5]).

1. Create a function named countElements
   * Parameter(s): array (an array of strings)
   * Functionality: construct and return an object with the array values as keys and the number of times that key appears in the array as values (e.g., countElements(['a', 'b', 'a', 'c', 'a', 'b']) returns { a: 3, b: 2, c: 1 }).

// Item 1 - variable "submission" initialized to an array of objects

let submissions = [

    {name: 'Jane', score: 90, date: "2020-01-24", passed: true},

    {name: 'Joe', score: 91, date: "2018-05-14", passed: true},

    {name: 'Jack', score: 89, date: "2019-07-05", passed: false},

    {name: 'Jill', score: 88, date: "2020-04-01", passed: true}

]

console.log(submissions);

// Item 2 - addSubmission with function to determine pass/fail based on score

function addSubmission (array, newName, newScore, newDate) {

    let newSubmission = {

        name: newName,

        score: newScore,

        date: newDate,

    }

    newSubmission.score >= 60 ? newSubmission.passed = true : newSubmission.passed = false;

    array.push(newSubmission);

    console.log(array);

}

addSubmission (submissions, "Mark", 59, "2020-02-28");

// Item 3 - deleteSubmissionByIndex

function deleteSubmissionByIndex (array, index) {

    array.splice(index, 2);

    console.log(array);

}

deleteSubmissionByIndex(submissions, 0);

// Item 4 - deleteSubmissionByName

function deleteSubmissionByName (array, name) {

    let nameIndex = (element) => element.name === name;

    array.splice(array.findIndex(nameIndex), 1);

    console.log(submissions);

}

deleteSubmissionByName(submissions, "Jack");

// Item 5 - editSubmission

function editSubmission (array, index, score) {

    array[index].score = score;

    score >= 60 ? array[index].passed = true : array[index].passed = false;

    console.log(array);

}

editSubmission (submissions, 0, 85);

// Item 6 - findSubmissionByName

function findSubmissionByName (array, name) {

    const foundName = array.find(element => element.name === name);

    console.log(foundName);

}

findSubmissionByName (submissions, 'Joe');

// Item 7 - findLowestScore

function findLowestScore (array) {

    let lowestScore = array.reduce((score1, score2) => {

        return score1.score <= score2.score ? score1 : score2;

    });

    console.log(lowestScore);

}

findLowestScore(submissions);

// Item 8 - findAverageScore

function findAverageScore (array) {

    let average = 0;

    for (let i = 0; i < array.length; i++){

        let currentNum = array[i].score;

        average += currentNum;

    }

    average = average / array.length;

    console.log(average);

}

findAverageScore (submissions);

// Item 9 - filterPassing

function filterPassing (array) {

    let passed = array.filter(a => a.passed === true);

    console.log(passed);

    return;

}

filterPassing (submissions);

// Item 10 - filter90AndAbove

function filter90AndAbove (array) {

    let highScore = array.filter(a => a.score >= 90);

    console.log(highScore);

}

filter90AndAbove (submissions);