PROMINEO TECH

Intro to JavaScript Week 3 Coding Assignment

Points possible: 75

URL to Your GitHub Repository:

https://github.com/TCross89/week3-codingAssignment

URL to Your Coding Assignment Video:

Instructions: In VS Code, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in this document where instructed below. Create a new repository on GitHub for this week's assignments and push this document, with your JavaScript project code, to the repository. Add the URL for this week's repository to this document where instructed and submit this document to your instructor when complete.

Coding Steps:

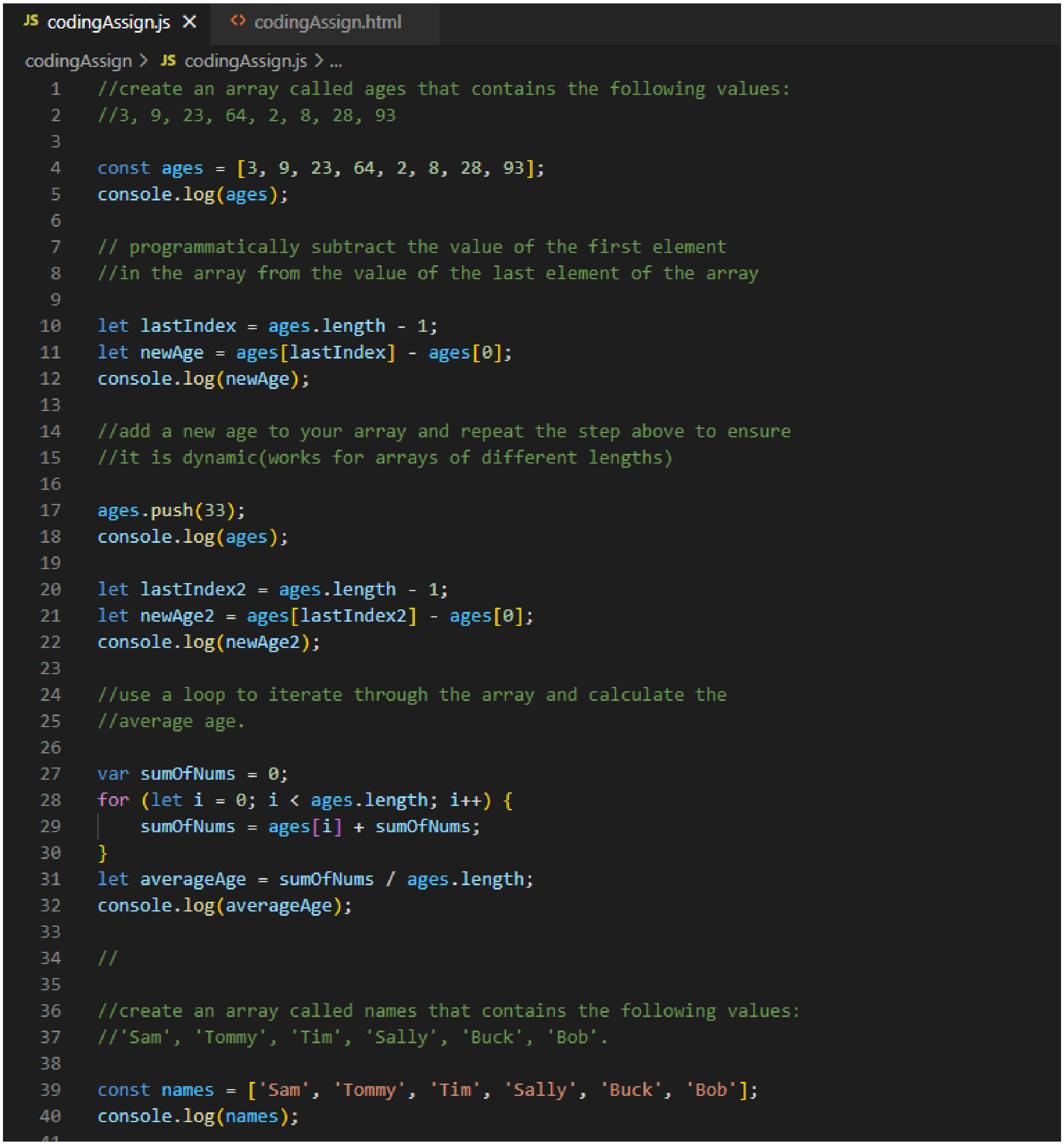
1. Create an array called ages that contains the following values: 3, 9, 23, 64, 2, 8, 28, 93.
    a. Programmatically subtract the value of the first element in the array from the value in the last element of the array (do not use numbers to reference the last element, find it programmatically, ages[7] – ages[0] is not allowed). Print the result to the console.
    b. Add a new age to your array and repeat the step above to ensure it is dynamic (works for arrays of different lengths).
    c. Use a loop to iterate through the array and calculate the average age. Print the result to the console.
2. Create an array called names that contains the following values: 'Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'.
    a. Use a loop to iterate through the array and calculate the average number of letters per name. Print the result to the console.
    b. Use a loop to iterate through the array again and concatenate all the names together, separated by spaces, and print the result to the console.
3. How do you access the last element of any array?
4. How do you access the first element of any array?

5. Create a new array called nameLengths. Write a loop to iterate over the previously created names array and add the length of each name to the nameLengths array.
   For example:

   ```
   namesArray = ["Kelly", "Sam", "Kate"] //given this array
   nameLengths = [5, 3, 4] //create this new array
   ```

6. Write a loop to iterate over the nameLengths array and calculate the sum of all the elements in the array. Print the result to the console.
7. Write a function that takes two parameters, word and n, as arguments and returns the word concatenated to itself n number of times. (i.e. if I pass in ‘Hello’ and 3, I would expect the function to return ‘HelloHelloHello’).
8. Write a function that takes two parameters, firstName and lastName, and returns a full name (the full name should be the first and the last name separated by a space).
9. Write a function that takes an array of numbers and returns true if the sum of all the numbers in the array is greater than 100.
10. Write a function that takes an array of numbers and returns the average of all the elements in the array.
11. Write a function that takes two arrays of numbers and returns true if the average of the elements in the first array is greater than the average of the elements in the second array.
12. Write a function called willBuyDrink that takes a boolean isHotOutside, and a number moneyInPocket, and returns true if it is hot outside and if moneyInPocket is greater than 10.50.
13. Create a function of your own that solves a problem. In comments, write what the function does and why you created it.

Screenshots of Code:



```
//create an array called ages that contains the following values:
//3, 9, 23, 64, 2, 8, 28, 93

const ages = [3, 9, 23, 64, 2, 8, 28, 93];
console.log(ages);

// programmatically subtract the value of the first element
//in the array from the value of the last element of the array

let lastIndex = ages.length - 1;
let newAge = ages[lastIndex] - ages[0];
console.log(newAge);

//add a new age to your array and repeat the step above to ensure
//it is dynamic(works for arrays of different lengths)

ages.push(33);
console.log(ages);

let lastIndex2 = ages.length - 1;
let newAge2 = ages[lastIndex2] - ages[0];
console.log(newAge2);

//use a loop to iterate through the array and calculate the
//average age.

var sumOfNums = 0;
for (let i = 0; i < ages.length; i++) {
    sumOfNums = ages[i] + sumOfNums;
}
let averageAge = sumOfNums / ages.length;
console.log(averageAge);

//

//create an array called names that contains the following values:
//'Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'.

const names = ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'];
console.log(names);
```

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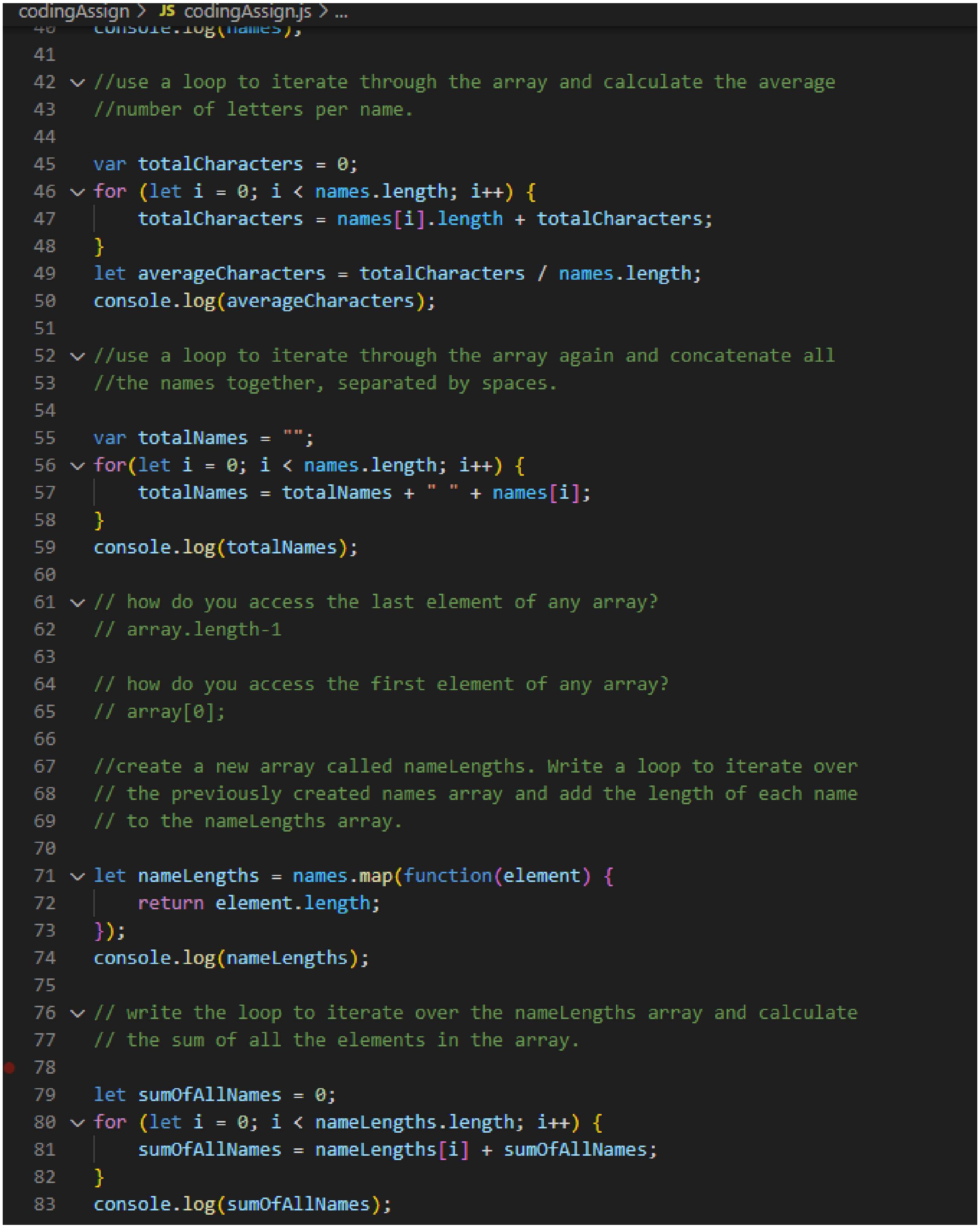
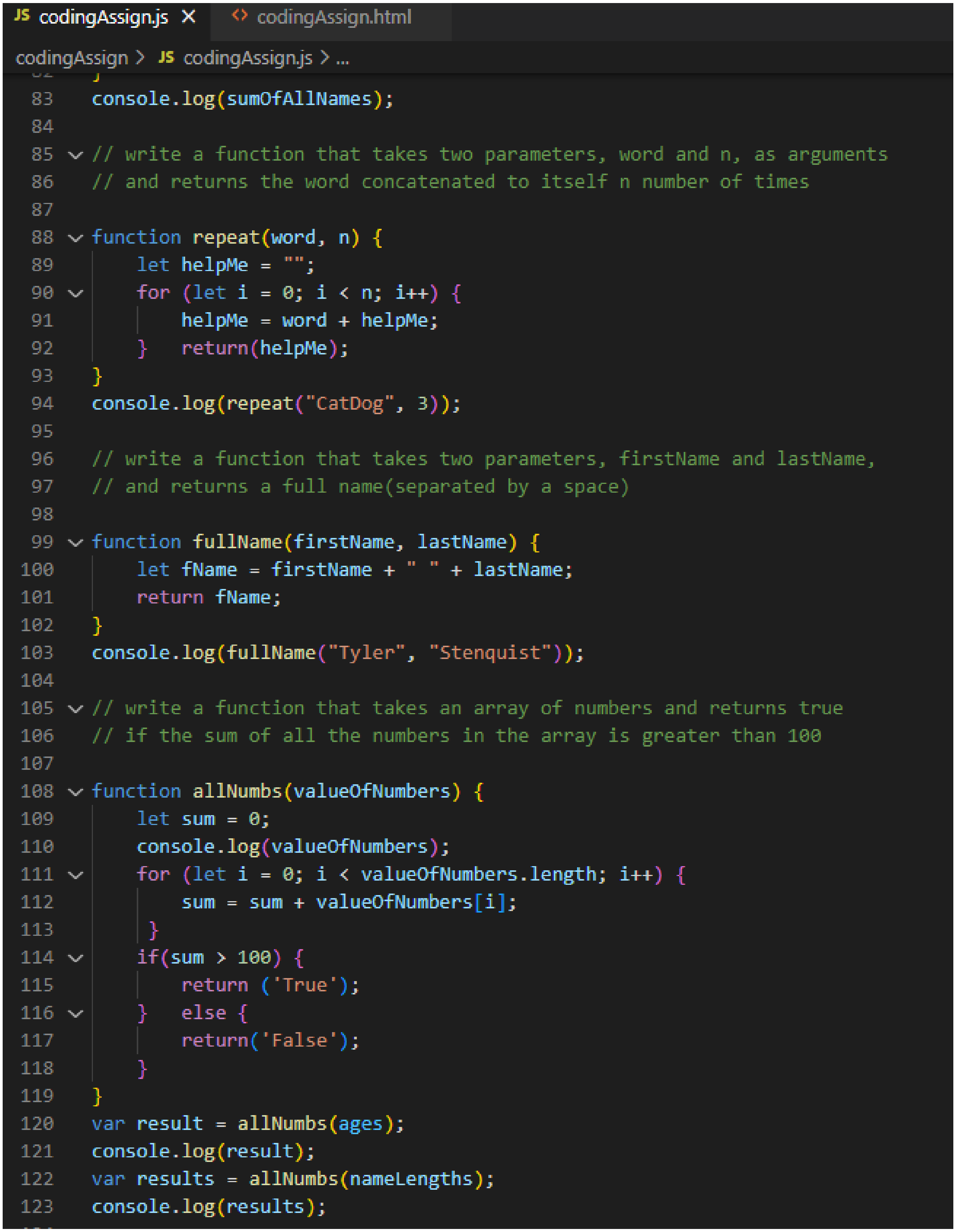
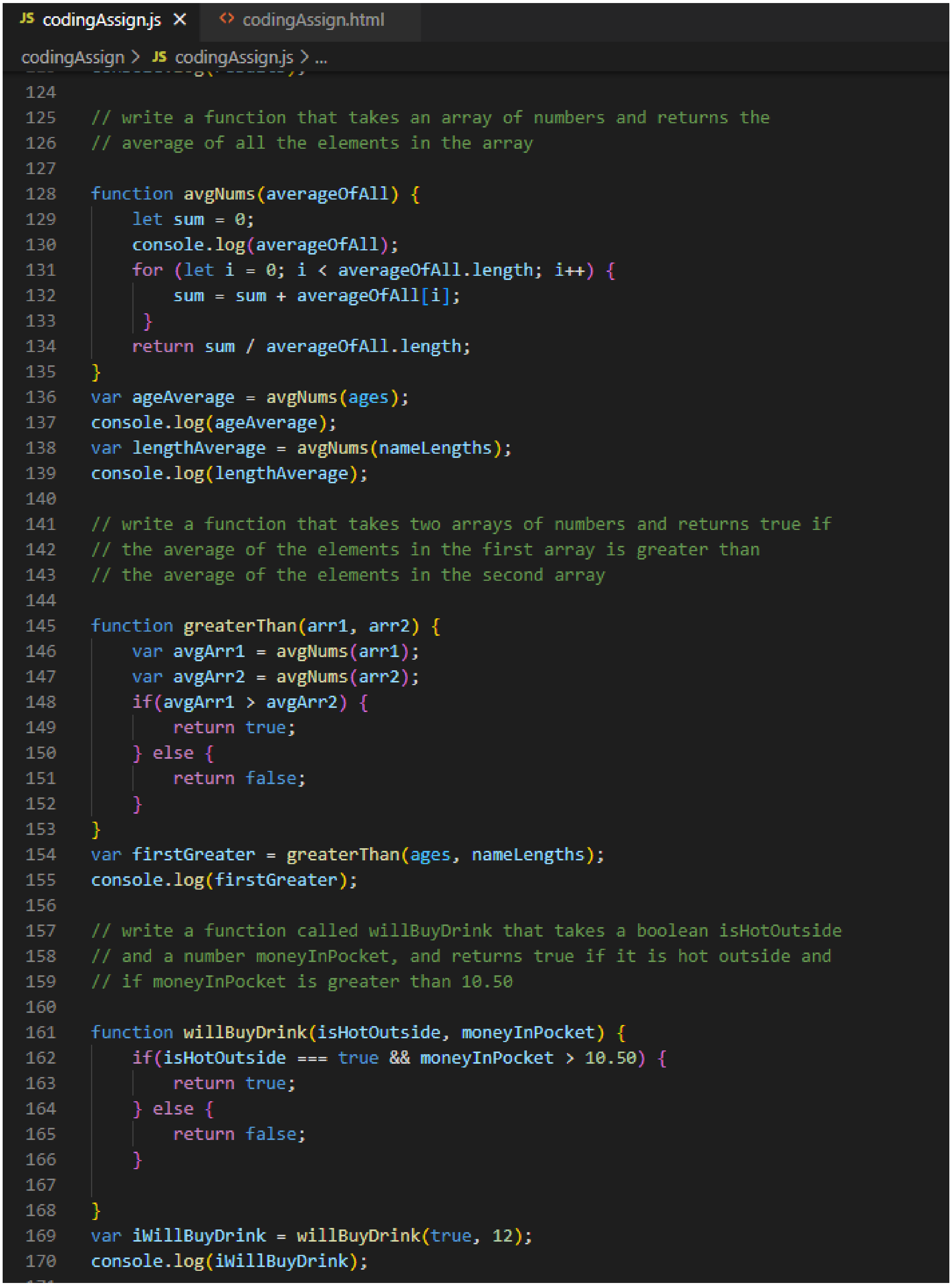


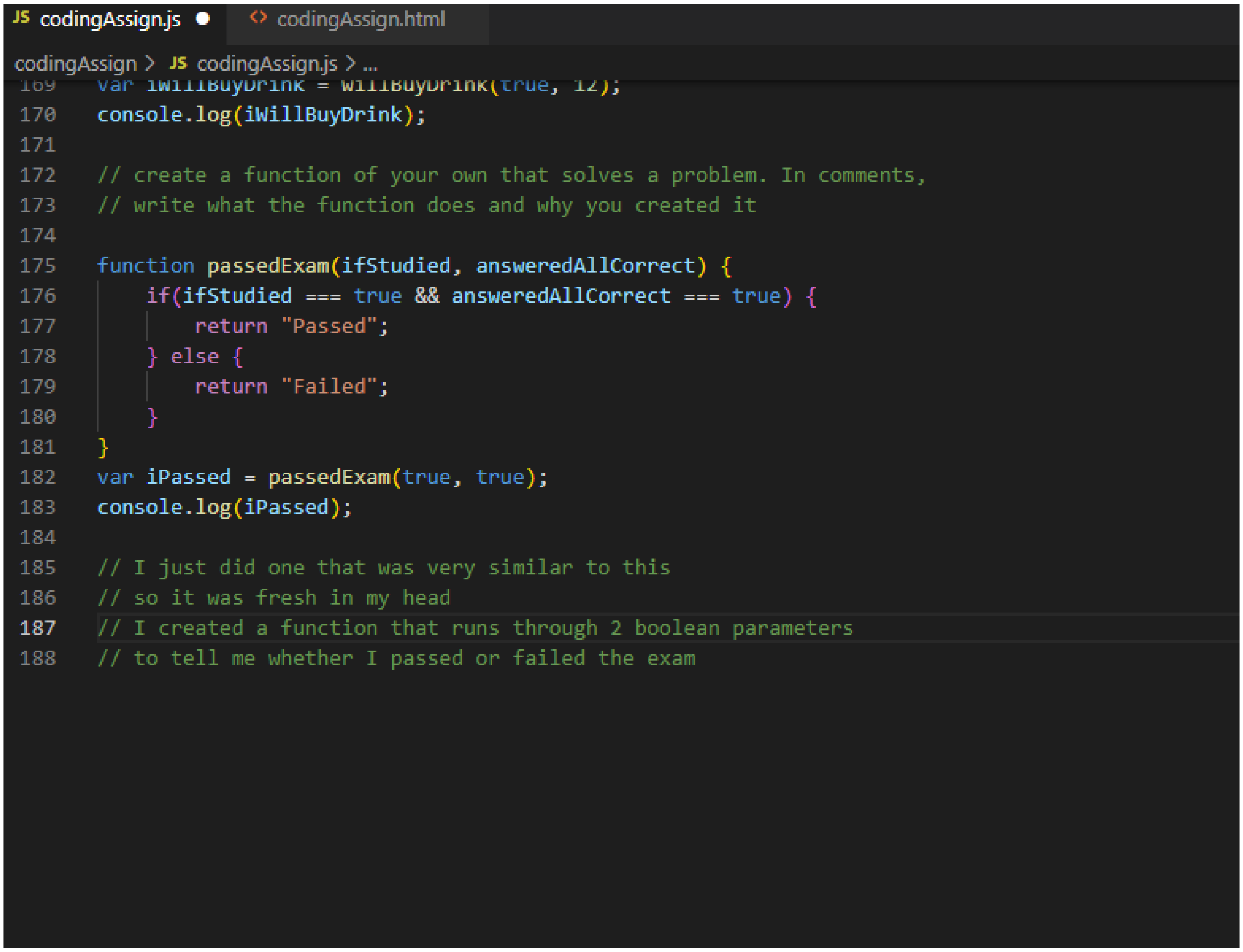
```
console.log(names);

//use a loop to iterate through the array and calculate the average
//number of letters per name.

var totalCharacters = 0;
for (let i = 0; i < names.length; i++) {
    totalCharacters = names[i].length + totalCharacters;
}
let averageCharacters = totalCharacters / names.length;
console.log(averageCharacters);

//use a loop to iterate through the array again and concatenate all
//the names together, separated by spaces.

var totalNames = "";
for(let i = 0; i < names.length; i++) {
    totalNames = totalNames + " " + names[i];
}
console.log(totalNames);

// how do you access the last element of any array?
// array.length-1

// how do you access the first element of any array?
// array[0];

//create a new array called nameLengths. Write a loop to iterate over
// the previously created names array and add the length of each name
// to the nameLengths array.

let nameLengths = names.map(function(element) {
    return element.length;
});
console.log(nameLengths);

// write the loop to iterate over the nameLengths array and calculate
// the sum of all the elements in the array.

let sumOfAllNames = 0;
for (let i = 0; i < nameLengths.length; i++) {
    sumOfAllNames = nameLengths[i] + sumOfAllNames;
}
console.log(sumOfAllNames);
```



```javascript
console.log(sumOfAllNames);

// write a function that takes two parameters, word and n, as arguments
// and returns the word concatenated to itself n number of times

function repeat(word, n) {
    let helpMe = "";
    for (let i = 0; i < n; i++) {
        helpMe = word + helpMe;
    }   return(helpMe);
}
console.log(repeat("CatDog", 3));

// write a function that takes two parameters, firstName and lastName,
// and returns a full name(separated by a space)

function fullName(firstName, lastName) {
    let fName = firstName + " " + lastName;
    return fName;
}
console.log(fullName("Tyler", "Stenquist"));

// write a function that takes an array of numbers and returns true
// if the sum of all the numbers in the array is greater than 100

function allNumbs(valueOfNumbers) {
    let sum = 0;
    console.log(valueOfNumbers);
    for (let i = 0; i < valueOfNumbers.length; i++) {
        sum = sum + valueOfNumbers[i];
     }
    if(sum > 100) {
        return ('True');
    }   else {
        return('False');
    }
}
var result = allNumbs(ages);
console.log(result);
var results = allNumbs(nameLengths);
console.log(results);
```

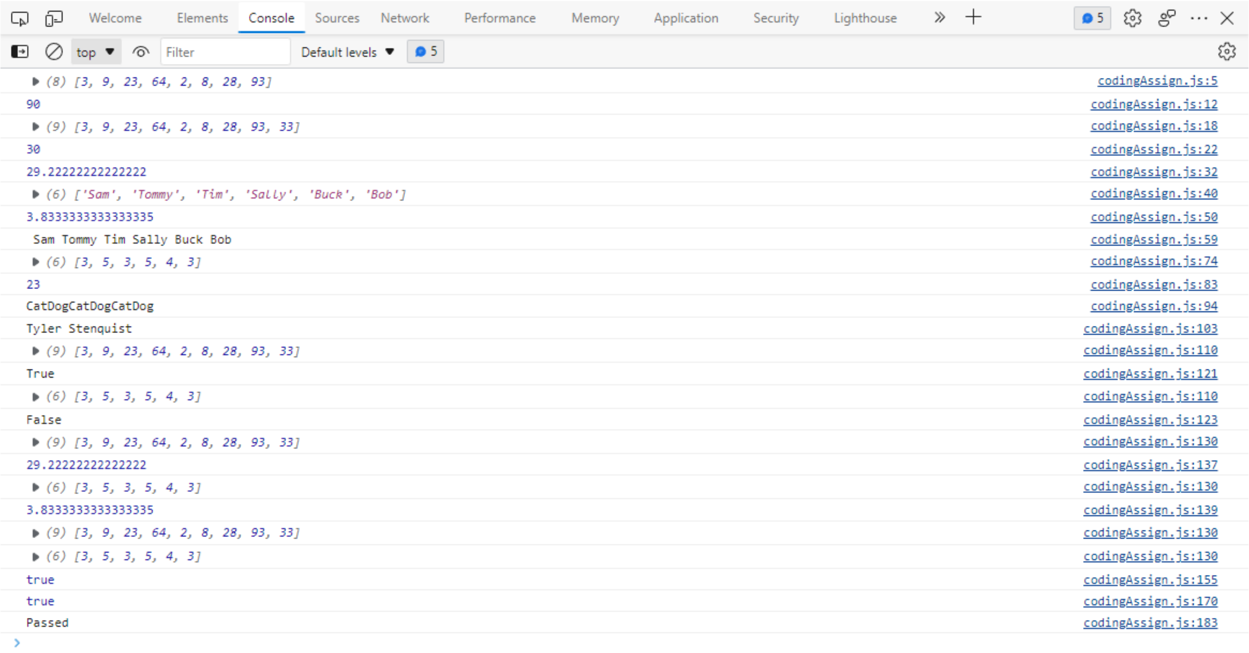


```javascript

// write a function that takes an array of numbers and returns the
// average of all the elements in the array

function avgNums(averageOfAll) {
    let sum = 0;
    console.log(averageOfAll);
    for (let i = 0; i < averageOfAll.length; i++) {
        sum = sum + averageOfAll[i];
    }
    return sum / averageOfAll.length;
}
var ageAverage = avgNums(ages);
console.log(ageAverage);
var lengthAverage = avgNums(nameLengths);
console.log(lengthAverage);

// write a function that takes two arrays of numbers and returns true if
// the average of the elements in the first array is greater than
// the average of the elements in the second array

function greaterThan(arr1, arr2) {
    var avgArr1 = avgNums(arr1);
    var avgArr2 = avgNums(arr2);
    if(avgArr1 > avgArr2) {
        return true;
    } else {
        return false;
    }
}
var firstGreater = greaterThan(ages, nameLengths);
console.log(firstGreater);

// write a function called willBuyDrink that takes a boolean isHotOutside
// and a number moneyInPocket, and returns true if it is hot outside and
// if moneyInPocket is greater than 10.50

function willBuyDrink(isHotOutside, moneyInPocket) {
    if(isHotOutside === true && moneyInPocket > 10.50) {
        return true;
    } else {
        return false;
    }

}
var iWillBuyDrink = willBuyDrink(true, 12);
console.log(iWillBuyDrink);
```



```
var iWillBuyDrink = willBuyDrink(true, 12);
console.log(iWillBuyDrink);

// create a function of your own that solves a problem. In comments,
// write what the function does and why you created it

function passedExam(ifStudied, answeredAllCorrect) {
    if(ifStudied === true && answeredAllCorrect === true) {
        return "Passed";
    } else {
        return "Failed";
    }
}
var iPassed = passedExam(true, true);
console.log(iPassed);

// I just did one that was very similar to this
// so it was fresh in my head
// I created a function that runs through 2 boolean parameters
// to tell me whether I passed or failed the exam
```

Screenshots of Running Application:



```
 ▶ (8) [3, 9, 23, 64, 2, 8, 28, 93]                          codingAssign.js:5
90                                                           codingAssign.js:12
 ▶ (9) [3, 9, 23, 64, 2, 8, 28, 93, 33]                      codingAssign.js:18
30                                                           codingAssign.js:22
29.2222222222222                                             codingAssign.js:32
 ▶ (6) ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob']       codingAssign.js:40
3.8333333333333335                                           codingAssign.js:50
 Sam Tommy Tim Sally Buck Bob                                codingAssign.js:59
 ▶ (6) [3, 5, 3, 5, 4, 3]                                    codingAssign.js:74
23                                                           codingAssign.js:83
CatDogCatDogCatDog                                           codingAssign.js:94
Tyler Stenquist                                              codingAssign.js:103
 ▶ (9) [3, 9, 23, 64, 2, 8, 28, 93, 33]                      codingAssign.js:110
True                                                         codingAssign.js:121
 ▶ (6) [3, 5, 3, 5, 4, 3]                                    codingAssign.js:110
False                                                        codingAssign.js:123
 ▶ (9) [3, 9, 23, 64, 2, 8, 28, 93, 33]                      codingAssign.js:130
29.2222222222222                                             codingAssign.js:137
 ▶ (6) [3, 5, 3, 5, 4, 3]                                    codingAssign.js:130
3.8333333333333335                                           codingAssign.js:139
 ▶ (9) [3, 9, 23, 64, 2, 8, 28, 93, 33]                      codingAssign.js:130
 ▶ (6) [3, 5, 3, 5, 4, 3]                                    codingAssign.js:130
true                                                         codingAssign.js:155
true                                                         codingAssign.js:170
Passed                                                       codingAssign.js:183
>
```