Intro to JavaScript Week 3 Coding Assignment

Points possible: 70

Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete.	25

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:


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Week3 Array Quiz.html U
script.js U
script.js > ...
/*hi graders, here's a coding joke for you
roses are red
violets are blue
unexpected } on line 32 */
//Question 1 - create array, last value - first value, add new age to arr, repeat, log average age of array
let ages = [3, 9, 23, 64, 2, 8, 28, 93]
console.log(ages[ages.length -1] - ages[0])
ages.push(40)
console.log(ages[ages.length -1] - ages[0])
//loop through and get total of all numbers in ages array
let total = 0
for (let i = 0; i < ages.length; i++) {
total += ages[i]
}
//average age of the ages array
console.log(total / ages.length)
//Question 2 - create array with names, iterate and calculate avg num of letters per name - print result. Use a loop, concatenate all names together (separated by spaces)
let arrOfNames = ["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"]
let totalNumOfChars = 0
for (let i = 0; i < arrOfNames.length; i++) {
totalNumOfChars += arrOfNames[i].length
}
let avgNumOfChars = totalNumOfChars / arrOfNames.length
console.log(avgNumOfChars)
//Use a loop, concatenate all names together (separated by spaces)
for (let i = 0; i < arrOfNames.length; i++) {
console.log(arrOfNames.join(' '))
}
//Question 3
/*- How do you access the last element of any array?
arr[arr.length -1]*/
//Question 4
/*How do you access the first element of any array?
arr[0]*/

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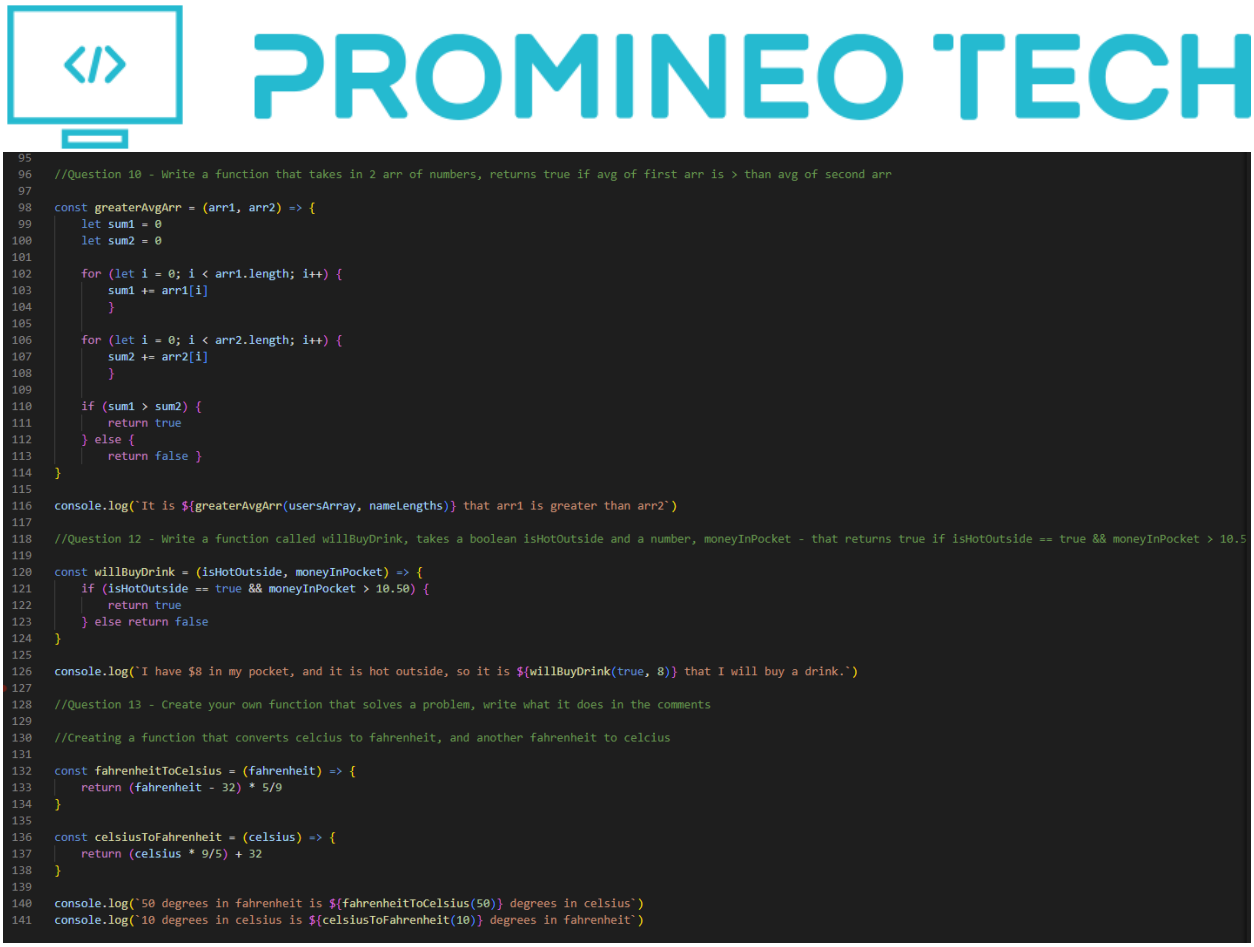
```
//Question 5 - (using previous arrOfNames array)push the length of each name into new arr "nameLengths"

    let nameLengths = []
    for (let i = 0; i < arrOfNames.length; i++) {
        let pushNewThing = arrOfNames[i].length

        nameLengths.push(pushNewThing)
    }
    console.log(nameLengths)

//Question 6 - Calculate the sum of all elements in nameLengths arr, print the result
    let sum = 0
    for (let i = 0; i < nameLengths.length; i++) {
        sum += nameLengths[i]
    }
    console.log(sum)

//Question 7 - Write a function that duplicates a word concatendated to itself x number of times
    const repeatString = (str, n) => {
        console.log(str.repeat(n))
    }

    repeatString("hello", 3)

//Question 8 - Write a function that takes in firstName & lastName then returns a full name (separated by space)
    const fullNameCombiner = (firstName, lastName) => {
       return firstName + " " + lastName
    }

   console.log(`My full name is ${fullNameCombiner("Chris", "Conway")}`)

//Question 9 make a function that returns true if sum of array of numbers > 100

let usersArray = [1,7,9,14,3,75,34]

const sumOfArr = (arr) => {

    let sum = 0
    for (let i = 0; i < arr.length; i++) {
        sum += arr[i]
            }

    if (sum > 100) {
        return true
    } else {
        return false
    }
}

console.log(`The sum of all the arrays being greater than 100 is ${sumOfArr(usersArray)}`)
```



```
//Question 10 - Write a function that takes in 2 arr of numbers, returns true if avg of first arr is > than avg of second arr

const greaterAvgArr = (arr1, arr2) => {
    let sum1 = 0
    let sum2 = 0

    for (let i = 0; i < arr1.length; i++) {
        sum1 += arr1[i]
        }

    for (let i = 0; i < arr2.length; i++) {
        sum2 += arr2[i]
        }

    if (sum1 > sum2) {
        return true
    } else {
        return false }
}

console.log(`It is ${greaterAvgArr(usersArray, nameLengths)} that arr1 is greater than arr2`)

//Question 12 - Write a function called willBuyDrink, takes a boolean isHotOutside and a number, moneyInPocket - that returns true if isHotOutside == true && moneyInPocket > 10.5

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

console.log(`I have $8 in my pocket, and it is hot outside, so it is ${willBuyDrink(true, 8)} that I will buy a drink.`)

//Question 13 - Create your own function that solves a problem, write what it does in the comments

//Creating a function that converts celcius to fahrenheit, and another fahrenheit to celcius

const fahrenheitToCelsius = (fahrenheit) => {
    return (fahrenheit - 32) * 5/9
}

const celsiusToFahrenheit = (celsius) => {
    return (celsius * 9/5) + 32
}

console.log(`50 degrees in fahrenheit is ${fahrenheitToCelsius(50)} degrees in celsius`)
console.log(`10 degrees in celsius is ${celsiusToFahrenheit(10)} degrees in fahrenheit`)
```

Screenshots of Running Application:

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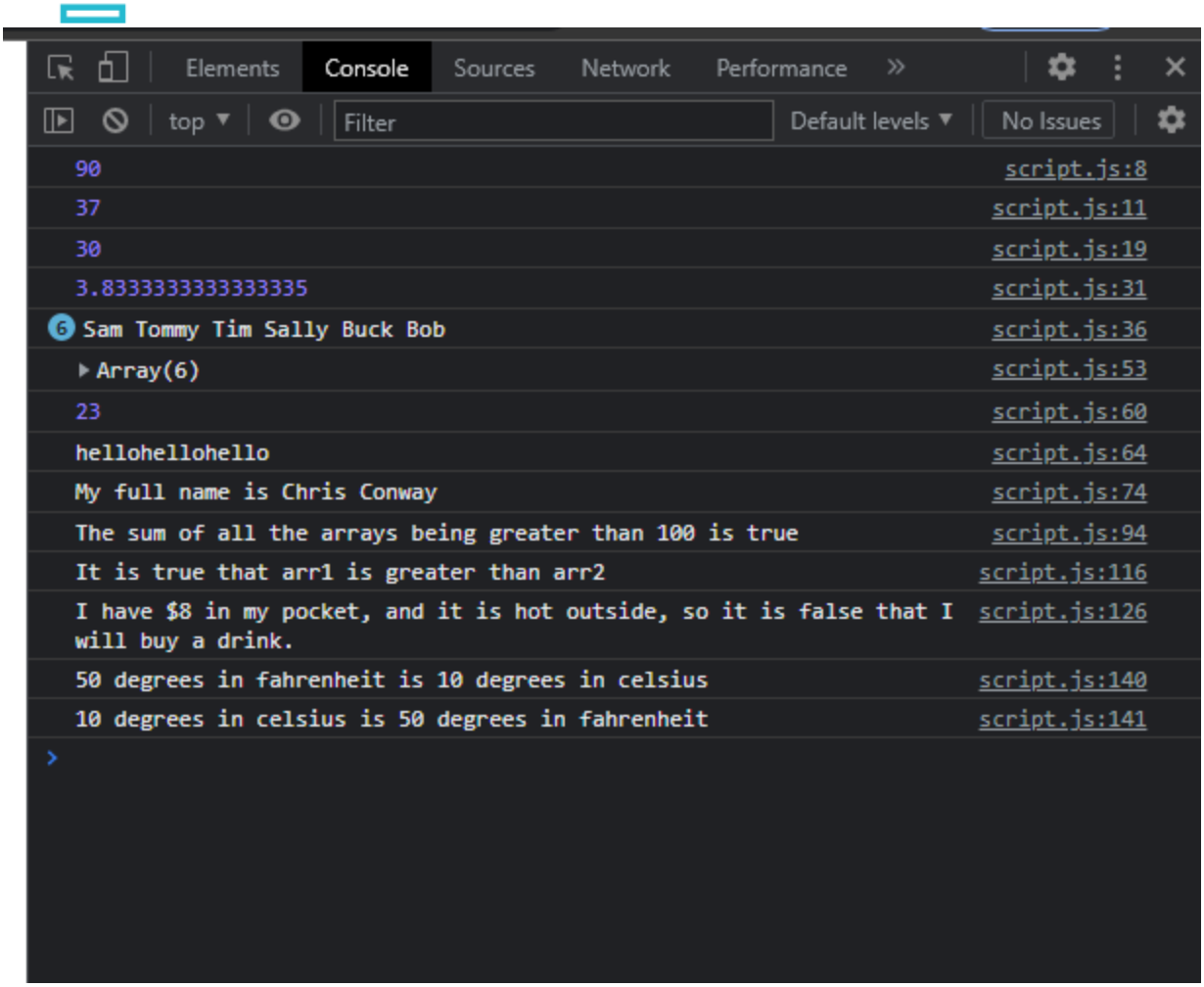

URL to GitHub Repository:

https://github.com/ConwayCJ/PromineoWeek3.git