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:

PROMINEO TECH

```
// Create an array called ages that contains the following values: 3, 9, 23, 64, 2, 8, 28, 93.
let ages = [3, 9, 23, 64, 2, 8, 28, 93];

//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.
console.log(ages[ages.length - 1] - ages[0]);

//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[ages.length - 1] - ages[0])

//Use a loop to iterate through the array and calculate the average age. Print the result to the console.
function getAverage(ages) {
    let avg = 0;
    for (i = 0; i < ages.length; i++) {
        avg += ages[i];
    }
    return avg/ages.length;
}
console.log(getAverage(ages));

//Create an array called names that contains the following values: 'Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'.
let names = ["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"]
```

```
//Create an array called names that contains the following values: 'Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'.
let names = ["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"]

//Use a loop to iterate through the array and calculate the average number of letters per name.
//Print the result to the console.
function getNameAverage(names) {
    let avg = 0;
    for (i = 0; i < names.length; i++) {
        avg += names[i].length;
    }
    return avg/names.length;
}
console.log(getNameAverage(names))

// 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.
function namesTogether(names) {
    for (i = 0; i <= names.length; i++) {
        return names.join(", ");
    }
}
console.log(namesTogether(names));

//How do you access the last element of any array?
console.log(names[names.length - 1]) //Do this by entering into array first, and request it's lenth minus 1 to produce "bob" or whatever is at the end of the array.

//How do you access the first element of any array?
console.log(names[i]) //Do this by entering array name and index as i for 0 element
```

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```
//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

function createNumericArray(namesArray) {
    let arrayLength = [];
    for (i = 0; i < namesArray.length; i++) {
        arrayLength.push(namesArray[i].length);
    }
    return arrayLength;
}

nameLengths = createNumericArray(namesArray)
console.log(nameLengths);

//let lengths = namesArray.map(function (element) {
    //return element.length;
//})
//console.log(lengths)
```

```
//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.
function nameLengthsSum(nameLengths) {
    let sum = 0;
    for (i = 0; i < nameLengths.length; i++) {
        sum += nameLengths[i]
    }
    return sum;
}
console.log(nameLengthsSum(nameLengths))

//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').

function repeatWord (word, n) {
    let z = "";
    for (i = 0; i < n; i++) {
        z += word;
    }
   console.log(word.repeat(n));
}
repeatWord("Hello", 3);


//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).
function createFullName(firstName, lastName) {
    console.log(firstName + " " + lastName)
}
createFullName("Sally", "Blume")
```

PROMINEO TECH

```
//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.
let newArray = [1, 25, 25, 60];
console.log("here is a string", newArray);
function arraySum(newArray) {
    let arraySum = 0;
    for (let i = 0; i < newArray.length; i++) {
        arraySum += newArray[i];
        console.log(arraySum, "don't place log within for loop here - will each index to the next index");
    }
    console.log(arraySum, "proper console.log placement to only get the total of array in log")
        if (arraySum > 100){
            console.log("true")
            return true;
        } else {
            console.log("false");
            return false;
        }
}
console.log("this returns my function", arraySum(newArray));
```

```
//Write a (a step) function that takes an array of numbers and (a step) returns the (a step to take) average of all the elements in the array.
array1 = [25, 16, 33, 216, 135, 17]; //create an array
function arrayAverage(array1) { //create function, you can add array1 or don't have to.
    arraySum = 0;
    for (i = 0; i < array1.length; i++){
        //below gives me the sum of an array
        arraySum += array1[i]; //DON'T add console.log (note in line 134) & don't add /array1.length for avg to this line because it still produces sum of array1 ONL
        //console.log(arraySum / array1.length) //AGAIN, if you place console within loop, it will produce average and of each index after it sums previous iteration
    }
    console.log(arraySum / array1.length);//proper placement of for console.log

}
arrayAverage(array1);//you have to call on the function for it work/run/console.log line 136. W/O it, it won't log ANYTHING.
```

```
//Write a (a step) function that (at step) takes two arrays of numbers and (a step) returns true (a step) if the average of the elements in the first
//array is greater than the average of the elements in the second array.
let arrayFirst = [318, 22, 18, 100, 78]//step completed
let arraySecond = [25, 26, 113, 15, 316]//step completed

function doubleAverage(arrayFirst, arraySecond){//step completed
    let array1stSum = 0;
    let arraySecondSum = 0;
    for (let i = 0; i < arrayFirst.length; i++){
        array1stSum += arrayFirst[i];//gives me the sum of an array
    }
    console.log("this is the arrayFirst sum", array1stSum)
    console.log("this is the arrayFirst avg", array1stSum/arrayFirst.length)//gives me the avg of arrayFirst
        for (let j = 0; j < arraySecond.length; j++) {
            arraySecondSum += arraySecond[j];//gives me the sum of an array
        }
        console.log("this is the arraySecond sum", arraySecondSum)
        console.log("this is the arraySecond avg", arraySecondSum/arraySecond.length)//gives me the avg of arraySecond
    if ((array1stSum/arrayFirst.length) > (arraySecondSum/arraySecond.length)){
        console.log("True");
        return true;//step completed
    }
    else {
        console.log("False");
        return false;//step completed
    }


}
doubleAverage(arrayFirst, arraySecond);
```

```
//Write a (a step) function called willBuyDrink that (a step) takes a boolean isHotOutside, and (a step) a number moneyInPocket, and (a step) returns true (a step) i
//is hot outside and (a step) if moneyInPocket is greater than 10.50.
let isHotOutside = false;
let moneyInPocket = 11.00;


function willBuyDrink(isHotOutside, moneyInPocket){
    if (!isHotOutside && moneyInPocket > 10.50){ //Don't make isHotOutside equal to false/true - everything in if is true - if true, then. !isHotOutside makes it opp
        console.log("I can afford it, let's buy a drink");
        return true;
    }
    else {
        console.log("I cannot afford it today, sorry.")
        return false;
    }
}
willBuyDrink(isHotOutside, moneyInPocket);
```

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

//problem to solve - first get the average height of team based on an array
//called playerHeights (in inches) and return true if they are taller than 66 - then they can play ball.

let playerHeights = [60, 58, 66, 72, 84]//creating my array of play heights
let playerOne = 66;//your player's height

function canPlayBall(playerHeights){//creating my action of players that can ball / wanted to create a height requirement to be on the team.
    playerHeightsSum = 0
    for (i = 0; i < playerHeights.length; i++){
        playerHeightsSum += playerHeights[i];//provides sum of player heights in total based on inches
    }
    console.log(playerHeightsSum/playerHeights.length)//this gives me the avg height of my team of 5
        if (playerOne >= 66){//if the player is 66 inches or taller, then they can play ball.
            console.log("Welcome to the team!");
            return true;
        }
        else {//if they are shorter than 66 than, they aren't tall enough.
            console.log("I'm sorry, maybe next year.");
        }
}
canPlayBall(playerHeights)//call on a function
```

Screenshots of Running Application:

```
90                                                                                                  week3CodingAssignment.js:8:9
30                                                                                                  week3CodingAssignment.js:12:9
29.22222222222222                                                                                   week3CodingAssignment.js:22:9
3.8333333333333335                                                                                  week3CodingAssignment.js:36:9
Sam, Tommy, Tim, Sally, Buck, Bob                                                                   week3CodingAssignment.js:45:9
Bob                                                                                                 week3CodingAssignment.js:48:9
Sam                                                                                                 week3CodingAssignment.js:51:9
▸ Array(3) [ 5, 3, 4 ]                                                                              week3CodingAssignment.js:69:9
12                                                                                                  week3CodingAssignment.js:85:9
HelloHelloHello                                                                                     week3CodingAssignment.js:95:12
Sally Blume                                                                                         week3CodingAssignment.js:103:13
here is a string ▸ Array(4) [ 1, 25, 25, 60 ]                                                       week3CodingAssignment.js:110:9
1 don't place log within for loop here - will each index to the next index                          week3CodingAssignment.js:115:17
26 don't place log within for loop here - will each index to the next index                         week3CodingAssignment.js:115:17
51 don't place log within for loop here - will each index to the next index                         week3CodingAssignment.js:115:17
111 don't place log within for loop here - will each index to the next index                        week3CodingAssignment.js:115:17
111 proper console.log placement to only get the total of array in log                              week3CodingAssignment.js:117:13
true                                                                                                week3CodingAssignment.js:119:21
this returns my function true                                                                       week3CodingAssignment.js:126:9
73.66666666666667                                                                                   week3CodingAssignment.js:137:13
this is the arrayFirst sum 536                                                                      week3CodingAssignment.js:154:13
this is the arrayFirst avg 107.2                                                                    week3CodingAssignment.js:155:13
this is the arraySecond sum 495                                                                     week3CodingAssignment.js:159:17
this is the arraySecond avg 99                                                                      week3CodingAssignment.js:160:17
True                                                                                                week3CodingAssignment.js:162:17
I can afford it, let's buy a drink                                                                  week3CodingAssignment.js:182:17
68                                                                                                  week3CodingAssignment.js:206:13
Welcome to the team!                                                                                week3CodingAssignment.js:208:21
```

PROMINEO TECH

URL to GitHub Repository:

https://github.com/Denaag/week-3.git