Intro to JavaScript Week 3 Coding Assignment

Points possible: 75

URL to Your GitHub Repository:

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?

    array.length -1

4. How do you access the first element of any array?

   arrayname[0] will access the first element of an 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:

#1

Week 3 Coding Assign > #1 > JS index.js > ...

```
let ages = [3,9,23,64,2,8,28,93];

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

ages.push(45);

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


let sum = 0;
for (let i = 0; i < ages.length; i++) {
    sum += ages[i]; //adds each number in array to the sum
}

console.log(sum/ages.length); //

```

#2

Week 3 Coding Assign > #2.0 > JS index.js > ...

```
let names = ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'];

let totalLetters = 0;

for (let i = 0; i < names.length; i++) { //totalLetters variable will add up the length of each name
  totalLetters+= names[i].length;
}

console.log(totalLetters / names.length);

let newName = '';
for (let i = 0; i <names.length; i++) { //newName variable will add a space in between each element in array
    newName+= names[i] + ' ';
}
console.log(newName);

```

#5

```
let nameLengths = new Array (); //create new array nameLengths

for (let i = 0; i < names.length; i++) { //loop to iterate over names array
    nameLengths.push(names[i].length); //add length of each name to nameLengths array
}

console.log(nameLengths);

sum = 0
for (let i = 0; i < nameLengths.length; i++) { //for loop to iterate over nameLengths array
    sum += nameLengths[i].length;
}
```

#6

```
sum = 0;
for (let i = 0; i < nameLengths.length; i++) { //for loop to iterate over nameLengths array
    sum += nameLengths[i]; //add all elements of nameLengths array to the sum
}

console.log(sum);
```

#7

```
function firstFunction(word, n) { //function takes word and n as parameters
    return word.repeat(n); //return word n number of times
}
console.log(firstFunction('Hello', 3));
```

#8

```
function fullName (firstName, lastName) { //function takes firstName and lastName as parameters
    return firstName + ' ' + lastName //return a first name + last name, separated by a space
}
console.log(fullName('Tom', 'Sawyer'));
```

PROMINEO TECH

#9

```
function myNumbers(n) { //function containing an array of numbers (n)
    for (let i = 0; i < array.length; i++) { //for loop to iterate all elements in array
        if ((sum += array[i]) > 100) { //calculate the sum of all elements in array and return true if > 100
            return true;
        }
    }
};
console.log(myNumbers);
```

#10

```
function myNumbers (n) { //function takes an array of numbers (n)
    for (let i = 0; i < array.length; i++) { //for loop to iterate through all elements in array
        sum += array[i]; //calculate sum
        let avg = sum / array.length; //use sum to calculate average of array
        return avg
    }
}
```

#11

```
function myNumbers(array1, array2) {  //function takes two arrays
    for (let i = 0; i < array1.length; i++) { //for loop to iterate through array1
        sum += array1[i];
        let avg1 = sum / array.length; //calculate average of array1
    }
    for (let i = 0; i < array2.length; i++) { //for loop to iterate through array2
        sum+= array2[i];
        let avg2 = sum /array.length //calculate average of array2
    }
            if(avg1 > avg2) { //if average of array1 > average of array2, return true
                return true;
    }
}
```

#12

```
function willBuyDrink(isHotOutside, moneyInPocket) { //function willBuyDrink takes isHotOutside & moneyInPocket as parameters
    if (isHotoutside == true)  //if isHotoutside is true & moneyInPocket is > 10.50, return true
        if (moneyInPocket > 10.50) {
            return true
        }
};
```

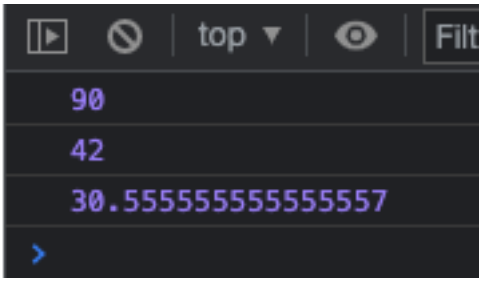
#13

```
76
77    function toCelsius(fahrenheit) { //plug in any degree in fahrenheit and it will convert to celsius
78        return (5/9) * (fahrenheit-32);
79    }
80    console.log(toCelsius(70));
```

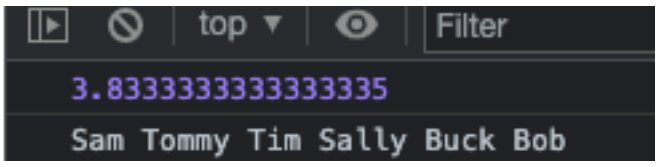
This function takes any temperature in Fahrenheit and will convert it to Celsius. I created this function to be able to easily convert temperatures between Fahrenheit and Celsius.

Screenshots of Running Application:

#1



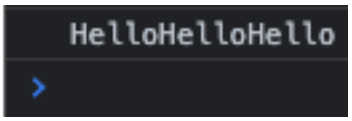
#2



#5

#6

#7



#8