Week 3: Coding Assignment

URL to GitHub Repository:

https://github.com/AymariusB/Week-03-Arrays_and_Functions

URL to Your Coding Assignment Video:

https://youtu.be/5yuzYH2C5OI

Instructions:

- In Visual Studio Code, write the code that accomplishes the objectives listed below and ensures that the code compiles and runs as directed.
- Create a new repository on GitHub for this week's assignments and push this document, with your project code, to the repository.
- Include the URLs for this week's repository and video where instructed.
- Submit this document as a .PDF file in the LMS.

Coding Steps:

All questions must be printed to your Browser's console:

1. Create an array called ages that contains the following values: 3, 9, 23, 64, 2, 8, 28, 93.
    1a. 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!

    1b. Add a new age to your array and repeat the step above to ensure it is dynamic. (works for arrays of different lengths).
    1c. Use a loop to iterate through the array and calculate the average age.

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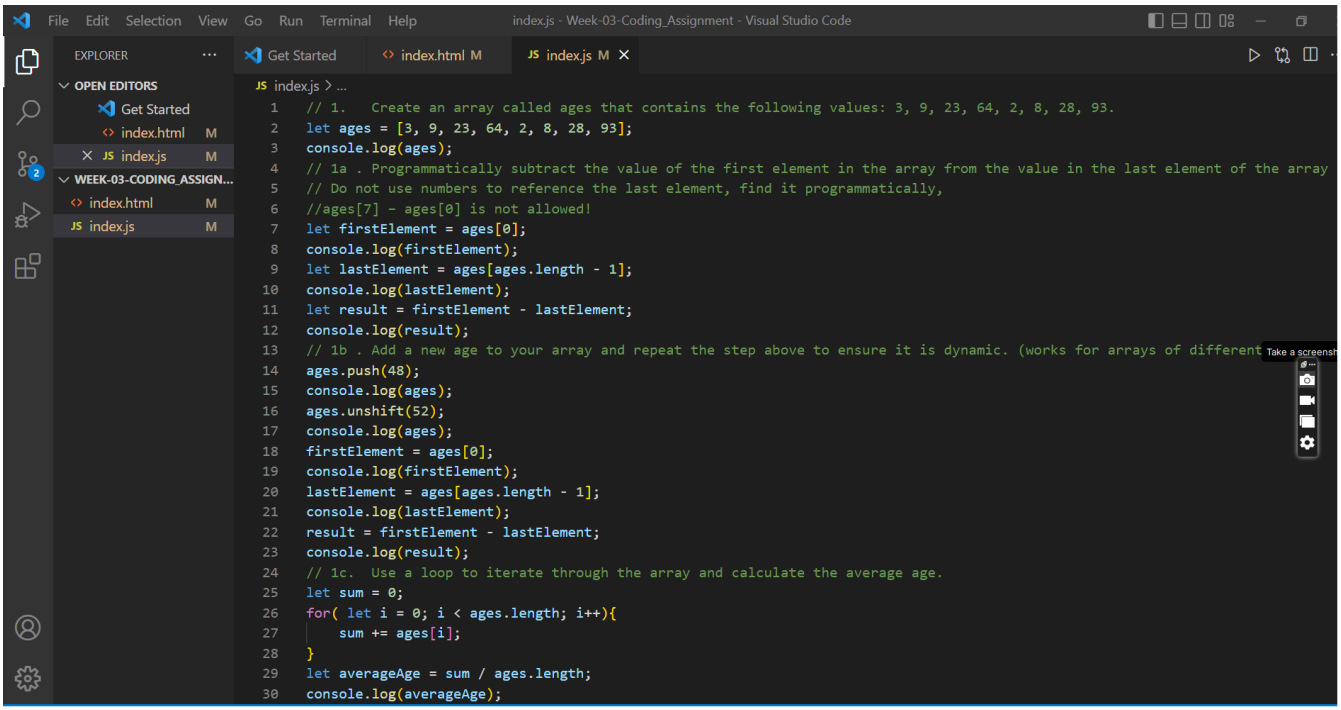
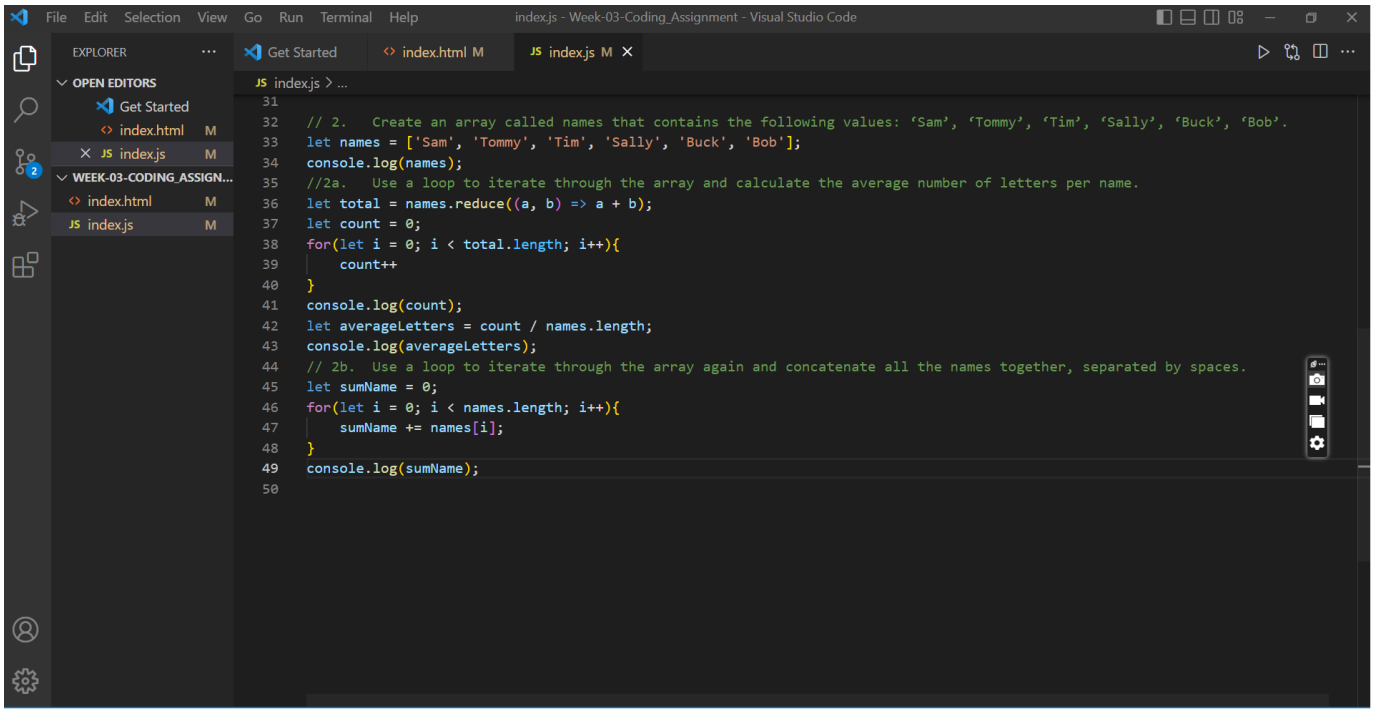


```
// 1.   Create an array called ages that contains the following values: 3, 9, 23, 64, 2, 8, 28, 93.
let ages = [3, 9, 23, 64, 2, 8, 28, 93];
console.log(ages);
// 1a . Programmatically subtract the value of the first element in the array from the value in the last element of the array
// Do not use numbers to reference the last element, find it programmatically,
//ages[7] - ages[0] is not allowed!
let firstElement = ages[0];
console.log(firstElement);
let lastElement = ages[ages.length - 1];
console.log(lastElement);
let result = firstElement - lastElement;
console.log(result);
// 1b . Add a new age to your array and repeat the step above to ensure it is dynamic. (works for arrays of different
ages.push(48);
console.log(ages);
ages.unshift(52);
console.log(ages);
firstElement = ages[0];
console.log(firstElement);
lastElement = ages[ages.length - 1];
console.log(lastElement);
result = firstElement - lastElement;
console.log(result);
// 1c.  Use a loop to iterate through the array and calculate the average age.
let sum = 0;
for( let i = 0; i < ages.length; i++){
    sum += ages[i];
}
let averageAge = sum / ages.length;
console.log(averageAge);
```

2. Create an array called names that contains the following values: ‘Sam’, ‘Tommy’, ‘Tim’, ‘Sally’, ‘Buck’, ‘Bob’.

    2a. Use a loop to iterate through the array and calculate the average number of letters



```
// 2.   Create an array called names that contains the following values: ‘Sam’, ‘Tommy’, ‘Tim’, ‘Sally’, ‘Buck’, ‘Bob’.
let names = ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'];
console.log(names);
//2a.   Use a loop to iterate through the array and calculate the average number of letters per name.
let total = names.reduce((a, b) => a + b);
let count = 0;
for(let i = 0; i < total.length; i++){
    count++
}
console.log(count);
let averageLetters = count / names.length;
console.log(averageLetters);
// 2b.  Use a loop to iterate through the array again and concatenate all the names together, separated by spaces.
let sumName = 0;
for(let i = 0; i < names.length; i++){
    sumName += names[i];
}
console.log(sumName);
```

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3. How do you access the last element of any array?

   // To access the last element of any array, you must subtract 1 from the length of the array. For example:
   let array = [a,b,c,d];
   Even though (d) is in forth or last position to access (d), we write:
   let lastItem = array[3];

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

   // To access the first element of any array, you must start the count from zero. For example:
   let array = [a,b,c,d];
   Even though (a) is in first position, to access (a), we write:
   let firstItem = array[0];

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

```
let namelenghts = [3, 5, 3, 5, 4, 3];
//6.    Write a loop to iterate over the nameLengths array and calculate the sum of all the elements in the array.
let sumLenght = 0;
for( let i = 0; i < namelenghts.length; i++){
    sumLenght += namelenghts[i];
}
console.log(sumLenght);
```

6. Write a loop to iterate over the nameLengths array and calculate the sum of all the elements in the array.

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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’).

```
function myFunction(word, n){
 let repeater = "";
 for(let i = 0; i < n; i++){
    repeater += word;
 }
 console.log(repeater);
}
myFunction("Hello", 4);
```

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.

```
// 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.

function creatFullName(firstName, lastName){
    console.log(firstName + ' ' + lastName);
}
creatFullName("Aymar","Dossou");
```

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.

```
// 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.

function array1(sum){
if(sum > 100){
    console.log(true);
}else{
    console.log(false);
}
}
array1(20);
```

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10. Write a function that takes an array of numbers and returns the average of all the elements in the array.

```
// 10.  Write a function that takes an array of numbers and returns the average of all the elements in the array.

function myAverage(sumOfElements, lenghtOfArray){
    let totalCount = 0;
    for(let i = 0; i < sumOfElements.lenght; i++){
        totalCount += sumOfElements[i];

    }
    console.log(sumOfElements / lenghtOfArray);
}
myAverage(60, 20);
```

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.

```
// 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.
function greaterAverage(arrayOne, arrayTwo){
    console.log('This is my parameters:',arrayOne,arrayTwo);
    let avrOne = 0;
    let avrTwo = 0;
    let sumOne = 0;
    let sumTwo = 0;
    for(let i = 0; i < arrayOne.length; i++){
     sumOne += arrayOne[i]; // sum's up all numbers in arrayOne
     console.log(i,'This is sumOne is for loop:', sumOne);// always log each step to help debug my code at this point in time
    }
    avrOne = sumOne / arrayOne.length;
    for(let i = 0; i < arrayTwo.length; i++){
        sumTwo += arrayTwo[i];
        console.log(i,'This is sumTwo is for loop:', sumTwo);
    }
    avrTwo = sumTwo / arrayTwo.length;
        if(avrOne > avrTwo){
            console.log('average one is greater than average two:', avrOne, 'vs', avrTwo);
            console.log(true);

        }else{
            console.log(false);
        }
}
let myArrayOne = [2, 7, 52];
let myArrayThree = [41, 6, 88, 81];
greaterAverage(myArrayThree,myArrayOne);
```

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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.

```
151  // 12.  Write a function called willBuyDrink that takes a boolean isHotOutside, and a number moneyInPocket,
152  // and returns true if it is hot outside and if moneyInPocket is greater than 10.50.
153
154  function willBuyDrink(isHotOutside, moneyInPocket){
155    console.log(isHotOutside && moneyInPocket > 10.50);
156  }
157  willBuyDrink(true, 20);
```

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

```
159  // My function will hold three parameters Street address, zip cod and phone number to create a full address.
160
161  function fullAddress( streetAddress, zipCode, phoneNum){
162      console.log(streetAddress + ' ' + zipCode + ' ' + phoneNum);
163  }
164  fullAddress('3244 Highway Blvd','68533','402-845-5232');
```

The function above was created to practice what I have studied this week. Below are the screenshots of all the logs of the exercises listed above. A portion of these logs was changed during the last minutes of finalization of this assignment. The said changes were joined to the screenshots of codes changed as showed above.

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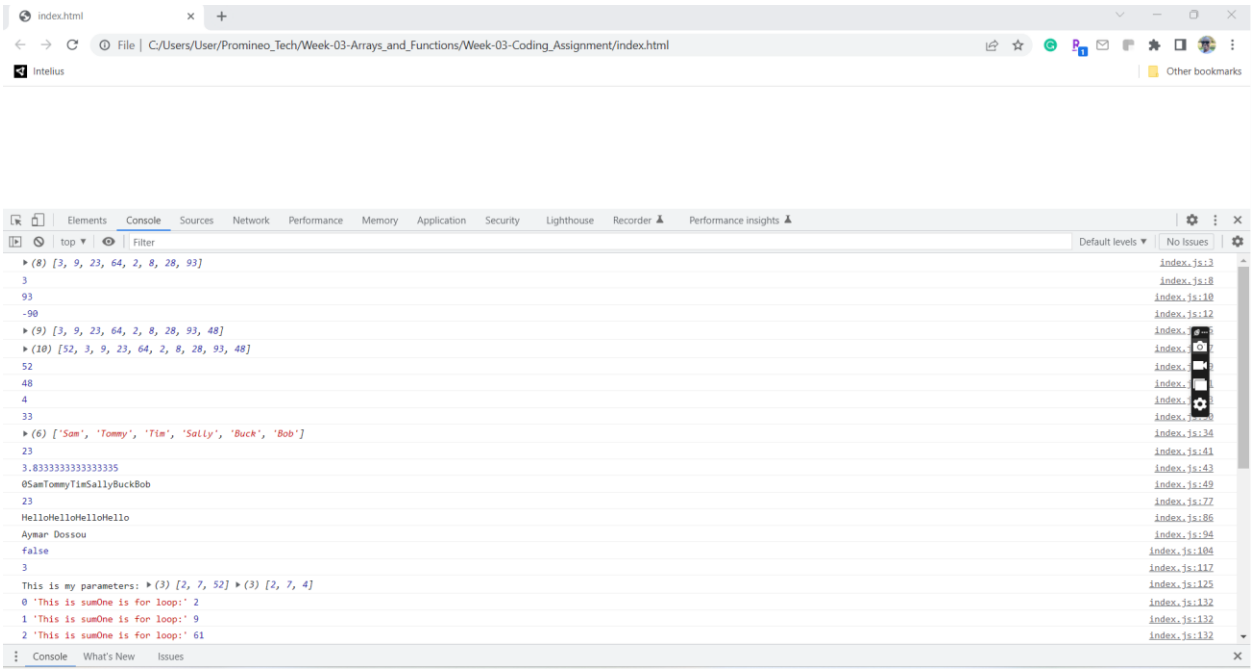

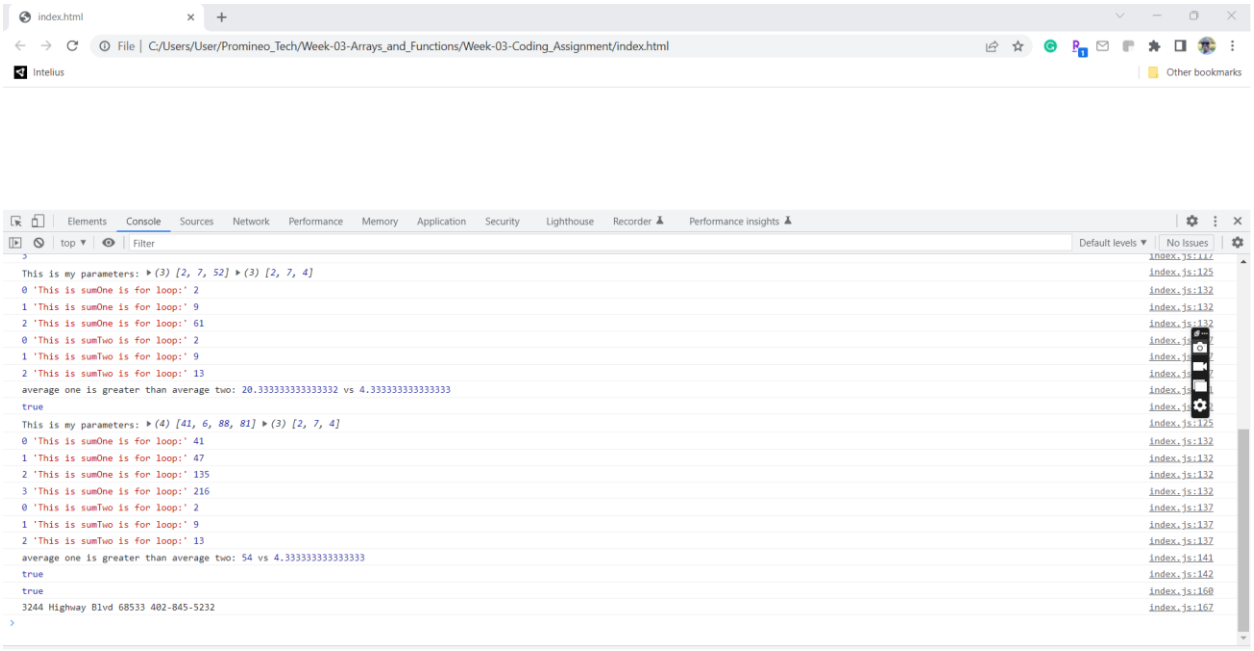

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Video Steps:

- Create a video, up to five minutes max, showing and explaining how your project works with an emphasis on the portions you contributed.
- This video should be done using screen share and voice over.
- This can easily be done using Zoom, although you don't have to use Zoom, it's just what we recommend.
    - You can create a new meeting, start screen sharing, and start recording.
    - This will create a video recording on your computer.
- This should then be uploaded to a publicly accessible site, such as YouTube.
    - Ensure the link you share is **PUBLIC** or **UNLISTED**!
    - If it is not accessible by your grader, your project will be graded based on what they can access.