



## Week 4: Coding Assignment

**URL to GitHub Repository:** <https://github.com/jakeolds/week-4-assignment>

**URL to Your Coding Assignment Video:** <https://youtu.be/QhJOY6V3VTo>

### Instructions (these are **required**):

- In Visual Studio Code, **write the code** that accomplishes the objectives listed below and ensure that the code you have written compiles and runs as directed.
- **Comment your code**, to prove that you have understand of what you have written.
- **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 a document** containing the two URL links as a .PDF file **in the LMS**.

### Coding Steps:

The answer to all questions must be printed to your Browser's console -- using console.log():

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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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 per name.
  - 2b. Use a loop to iterate through the array again and concatenate all the names together, separated by spaces.
3. How do you access the last element of any array?  
`[array.length - 1]` will access the last element
4. How do you access the first element of any array?  
`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:

```
let names = ["Kelly", "Sam", "Kate"];           //starting with this array
let 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.
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').



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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.*

### 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.