



## Intro to JavaScript Week 3 Coding Assignment

**Points possible:** 75

**URL to Your GitHub Repository:**

<https://github.com/Eelise0/Week-3-Coding-Assignment>

**URL to Your Coding Assignment Video:**

<https://youtu.be/YQTE6ddNRIM>

**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.



# PROMINEO TECH

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.

I decided to put my questions and answers together on the same screenshots. I have 5 screenshots below and each contains the question, the code, and the Live Server off to the right of the screenshot. I have inserted a red arrow from the code answer to the console log output. I hope this makes it a little easier for you to read and grade. Thank you!



## Screenshots of Code:

The image displays two screenshots of a VS Code editor window showing a JavaScript file named `Week3CodingAssign.js`. The code is a coding assignment for Week 3, titled "WEEK 3 CODING ASSIGNMENT - ELISE SCHMIDT".

**Top Screenshot:**

- Line 1: `JS Week3CodingAssign.js > ...`
- Line 2: `1`
- Line 3: `2`
- Line 4: `3`
- Line 5: `4`
- Line 6: `5`
- Line 7: `6`
- Line 8: `7`
- Line 9: `8`
- Line 10: `9`
- Line 11: `10`
- Line 12: `11`
- Line 13: `12`
- Line 14: `13`
- Line 15: `14`
- Line 16: `15`
- Line 17: `16`
- Line 18: `17`
- Line 19: `18`
- Line 20: `19`
- Line 21: `20`
- Line 22: `21`
- Line 23: `22`
- Line 24: `23`
- Line 25: `24`
- Line 26: `25`
- Line 27: `26`
- Line 28: `27`
- Line 29: `28`
- Line 30: `29`
- Line 31: `30`
- Line 32: `31`
- Line 33: `32`
- Line 34: `33`
- Line 35: `34`

**Bottom Screenshot:**

- Line 36: `35`
- Line 37: `36`
- Line 38: `37`
- Line 39: `38`
- Line 40: `39`
- Line 41: `40`
- Line 42: `41`
- Line 43: `42`
- Line 44: `43`
- Line 45: `44`
- Line 46: `45`
- Line 47: `46`
- Line 48: `47`
- Line 49: `48`
- Line 50: `49`
- Line 51: `50`
- Line 52: `51`
- Line 53: `52`
- Line 54: `53`
- Line 55: `54`
- Line 56: `55`
- Line 57: `56`
- Line 58: `57`
- Line 59: `58`
- Line 60: `59`
- Line 61: `60`
- Line 62: `61`
- Line 63: `62`
- Line 64: `63`
- Line 65: `64`
- Line 66: `65`
- Line 67: `66`
- Line 68: `67`
- Line 69: `68`
- Line 70: `69`
- Line 71: `70`
- Line 72: `71`
- Line 73: `72`
- Line 74: `73`
- Line 75: `74`

Red arrows indicate the flow of data from the code to the browser's console:

- Line 7: `console.log(ages);` points to the console output: `[3, 9, 23, 64, 2, 8, 28, 93]`
- Line 14: `console.log(ages[ages.length-1] - ages[0]);` points to the console output: `26`
- Line 19: `console.log(ages[ages.length-1] - ages[0]);` points to the console output: `26`
- Line 28: `console.log('Average age in ages array = ' + (total / ages.length));` points to the console output: `Average age in ages array = 28.77777777777778`
- Line 33: `console.log(names);` points to the console output: `["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"]`
- Line 44: `console.log('Average # of letters in each name for names array = ' + (x / names.length));` points to the console output: `Average # of letters in each name for names array = 3.8333333333333335`
- Line 57: `console.log(last);` points to the console output: `Bob`
- Line 61: `console.log(names[0]);` points to the console output: `Sam`
- Line 74: `console.log(nameLengths);` points to the console output: `[5, 3, 4, 5, 3, 4]`



# PROMINEO TECH

```
JS Week3CodingAssign.js M X < index.html
JS Week3CodingAssign.js > ...
77 /* 6. Write a loop to iterate over the nameLengths array and calculate the sum of all
78 the elements in the array. Print the result to the console.*/
79
80 let b = 0;
81 for (i = 0; i < nameLengths.length; i++) {
82   b = b + nameLengths[i];
83 }
84 console.log(b);
85
86 // 7. Write a function that takes two parameters, word and n, as arguments and returns //
87 //the word concatenated to itself n number of times. (i.e. if I pass in 'Hello' and 3, //
88 //I would expect the function to return 'HelloHelloHello').//
89
90 function hello(word, n) {
91   let c = '';
92   for (let i = 0; i < n; i++) {
93     c = c + word;
94   }
95   return c;
96 }
97 console.log(hello('Hello', 3));
98
99 // 8. Write a function that takes two parameters, firstName and lastName, and returns a //
100 //full name (the full name should be the first and the last name separated by a space).//
101
102 function fullName(firstName, lastName) {
103   return firstName + ' ' + lastName;
104 }
105 console.log(fullName('Elise', 'Schmidt'));
106
107 // 9. Write a function that takes an array of numbers and returns true if the sum of all the //
108 //numbers in the array is greater than 100.//
109
110 function greaterThan(theArray) {
111   let y = 0;
112   for (i = 0; i < theArray.length; i++) {
113     y = y + theArray[i];
114   }
115   if (y > 100) {
116     return true;
117   }
118 }
119 console.log(greaterThan(ages));
120
121 // 10. Write a function that takes an array of numbers and returns the average of all the elements in the array.//
122
123 function averageElement(a) {
124   let sum3 = 0;
125   for (let i = 0; i < a.length; i++) {
126     sum3 = sum3 + a[i];
127   }
128   return sum3 / (a.length);
129 }
130 console.log(averageElement(ages));
131
132 // 11. Write a function that takes two arrays of numbers and returns true if the average//
133 //of the elements in the first array is greater than the average of the elements in the second array.//
134
135 function isOneBiggerThanTwo2(array1, array2) {
136   return averageElement(array1) > averageElement(array2);
137 }
138 console.log(isOneBiggerThanTwo2([1, 2, 4, 99], [1, 5, 4, 12, 11]));
139
140 // 12. Write a function called willBuyDrink that takes a boolean isHotOutside, //
141 //and a number moneyInPocket, and returns true if it is hot outside and if moneyInPocket is greater than 10.50.//
142
143 function willBuyDrink(isHotOutside, moneyInPocket) {
144   if (isHotOutside === true && moneyInPocket > 10.50) {
145     return true;
146   }
147   return false;
148 }
149 console.log(willBuyDrink(true, 55, moneyInPocket > 10.50));
```

```
JS Week3CodingAssign.js M X < index.html
JS Week3CodingAssign.js > ...
107 // 9. Write a function that takes an array of numbers and returns true if the sum of all the //
108 //numbers in the array is greater than 100.//
109
110 function greaterThan(theArray) {
111   let y = 0;
112   for (i = 0; i < theArray.length; i++) {
113     y = y + theArray[i];
114   }
115   if (y > 100) {
116     return true;
117   }
118 }
119 console.log(greaterThan(ages));
120
121 // 10. Write a function that takes an array of numbers and returns the average of all the elements in the array.//
122
123 function averageElement(a) {
124   let sum3 = 0;
125   for (let i = 0; i < a.length; i++) {
126     sum3 = sum3 + a[i];
127   }
128   return sum3 / (a.length);
129 }
130 console.log(averageElement(ages));
131
132 // 11. Write a function that takes two arrays of numbers and returns true if the average//
133 //of the elements in the first array is greater than the average of the elements in the second array.//
134
135 function isOneBiggerThanTwo2(array1, array2) {
136   return averageElement(array1) > averageElement(array2);
137 }
138 console.log(isOneBiggerThanTwo2([1, 2, 4, 99], [1, 5, 4, 12, 11]));
139
140 // 12. Write a function called willBuyDrink that takes a boolean isHotOutside, //
141 //and a number moneyInPocket, and returns true if it is hot outside and if moneyInPocket is greater than 10.50.//
142
143 function willBuyDrink(isHotOutside, moneyInPocket) {
144   if (isHotOutside === true && moneyInPocket > 10.50) {
145     return true;
146   }
147   return false;
148 }
149 console.log(willBuyDrink(true, 55, moneyInPocket > 10.50));
```



# PROMINEO TECH

The screenshot shows a web browser window with a URL bar displaying '127.0.0.1'. The main content area shows a JavaScript file named 'Week3CodingAssign.js' with the following code:

```
JS Week3CodingAssign.js > ...
141 // 12. Write a function called willBuyDrink that takes a boolean isHotOutside, //
142 //and a number moneyInPocket, and returns true if it is hot outside and if moneyInPocket is greater than 10.50.//
143
144 function willBuyDrink (isHotOutside, moneyInPocket) {
145   if (isHotOutside === true && moneyInPocket > 10.50) {
146     return true
147   } else {
148     return false
149   }
150 }
151 console.log(willBuyDrink(false, 11));
152
153 // 13. Create a function of your own that solves a problem. In comments, write what the function does and why you created it.//
154
155 // My function below is a calculator to help me determine if I should take the time to study or not on any given day
156 // based on the number of hours slept the night prior and how many hours I worked that day. This is useful because
157 //if you try to study when you are very tired, there is a chance you will not retain the information. In these cases
158 //I should wait till a day where I get more sleep and work less hours.
159
160 function tooTiredToStudy (hoursOfSleep, hoursOfWork) {
161   if (hoursOfSleep <= 5.5 && hoursOfWork >= 10) {
162     return "There's a good chance you will not retain new information because you are tired. Don't study today.";
163   } else {
164     return "You should have enough energy to study. Don't be lazy!";
165   }
166 }
167 console.log(tooTiredToStudy(12, 0));
168
```

The console output shows the following results:

```

[3, 9, 23, 64, 2, 8, 28, 93] (8)
90
24
Average age in ages array = 28.77777777777778
["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"] (6)
Average # of letters in each name for names array = 3.8333333333333335
Sam Tommy Tim Sally Buck Bob
Bob
Sam
[5, 3, 4, 5, 3, 4] (6)
24
HelloHelloHello
Elise Schmidt
true
28.77777777777778
true
false
You should have enough energy to study. Don't be lazy!

```

The console output is divided into two sections: 'Global Code' and 'Wee'. The 'Global Code' section contains the first 10 lines of output, and the 'Wee' section contains the remaining 10 lines. A red arrow points from the console output to the code in the editor, indicating the source of the output.