



## 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:

### Question 1:

```
You, seconds ago | 1 author (You)
1 | let ages = [3, 9, 23, 64, 2, 8, 28, 93, 87];
2 |
3 | function subtractAges(array) {
4 |   let firstNum = array.shift();
5 |   let secondNum = array.pop();
6 |
7 |   return secondNum - firstNum;
8 | }
9 |
10 | console.log(subtractAges(ages));
11 |
```

TERMINAL    DEBUG CONSOLE    PROBLEMS    OUTPUT

```
[Running] node "/Users/daniellebyrne/Promineo/week3/promineo.js"
90
[Done] exited with code=0 in 0.045 seconds
[Running] node "/Users/daniellebyrne/Promineo/week3/promineo.js"
84
```

```
You, seconds ago | 1 author (You)
1 | let ages = [3, 9, 23, 64, 2, 8, 28, 93];
2 |
3 | function subtractAges(array) {
4 |   let firstNum = array.shift();
5 |   let secondNum = array.pop();
6 |
7 |   return secondNum - firstNum;
8 | }
9 |
10 | function averageNumbers(array) {
11 |   let sum = 0;
12 |   for (let i = 0; i < array.length; i++) {
13 |     sum += array[i];
14 |   }
15 |
16 |   let average = sum / array.length;
17 |   console.log(average);
18 |
19 |   return sum;
20 | }
21 |
22 | averageNumbers(ages) You, seconds ago +
```

TERMINAL    DEBUG CONSOLE    PROBLEMS    OUTPUT

```
230
28.75
[Done] exited with code=0 in 0.045 seconds
[Running] node "/Users/daniellebyrne/Promineo/week3/promineo.js"
28.75
```

### Question 2:



```
25
26 // QUESTION 2
27 let names = ["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"];
28
29 let nameTotal = 0;
30 for (let i = 0; i < names.length; i++) {
31   nameTotal = nameTotal += names[i].length;
32 }
33
34 console.log(nameTotal / names.length);
35
36
37 // QUESTION 3
38 //
39
```

TERMINAL    DEBUG CONSOLE    PROBLEMS    OUTPUT

```
[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-hw/script.js"
3.8333333333333335

[Done] exited with code=0 in 0.047 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-hw/script.js"
3.8333333333333335

[Done] exited with code=0 in 0.045 seconds
```

## Question 3:



```
26 // QUESTION 2
27 let names = ["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"];
28
29 // let nameTotal = 0;
30 // for (let i = 0; i < names.length; i++) {
31 //   nameTotal = nameTotal + names[i].length;
32 // }
33
34 // console.log(nameTotal / names.length);
35
36
37 // QUESTION 3
38 // to access the last element in an array you could use array.pop()
39 // element of the array without removing the value you could use
40
41 let lastElement = names[names.length-1]
42 console.log(lastElement)
43
44 console.log(names.pop())
```

TERMINAL    DEBUG CONSOLE    PROBLEMS    OUTPUT

[Running] node /Users/daniellebyrne/Promineo/week3/promineo-week3-hw/le  
[Done] exited with code=0 in 0.042 seconds

[Running] node /Users/daniellebyrne/Promineo/week3/promineo-week3-hw/sc  
Bob  
Bob

## Question 4:

```
43 // console.log(names.pop())
44 let names = ["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"];
45
46
47 //QUESTION 4
48 // to access the first element of the array you could use array.shift()
49 // or you could use array[0]
50
51 console.log(names[0])
52
53 console.log(names.shift())
```

TERMINAL    DEBUG CONSOLE    PROBLEMS    OUTPUT

Sam

[Done] exited with code=0 in 0.046 seconds

[Running] node /Users/daniellebyrne/Promineo/week3/promineo-week3-hw/sc  
Sam  
Sam



## Question 5:

```
41
42 // console.log(names.pop())
43 let names = ["Sam", "Tommy", "Tim", "Sally", "Buck", "Bob"];
44
45 //QUESTION 4
46 // to access the first element of the array you could use array.shift()
47 // or you could use array[0]
48
49 // console.log(names[0])
50
51 // console.log(names.shift())
52
53 // QUESTION 5
54 let namesLength = names.map(function (element) {
55     return element.length
56 });
57 console.log(namesLength) You, seconds ago • Uncommitted changes
```

TERMINAL    DEBUG CONSOLE    PROBLEMS    OUTPUT

Sam  
Sam

[Done] exited with code=0 in 0.047 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-hw/script.js"  
[ 3, 5, 3, 5, 4, 3 ]

## Question 6:

```
59 // QUESTION 6
60
61 console.log(namesLength.reduce(function(accumulator, currentValue){
62     return accumulator + currentValue
63 }));
64
65 // QUESTION 7
66
67
```

TERMINAL    DEBUG CONSOLE    PROBLEMS    OUTPUT

23

[Done] exited with code=0 in 0.044 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-hw/script.js"  
[ 3, 5, 3, 5, 4, 3 ]

23



## Question 7:

```
65 // QUESTION 7
66
67 function repeatWords(word, n){
68   return word.repeat(n)
69 }
70
71 console.log([repeatWords("Hello", 2)])
```

TERMINAL   DEBUG CONSOLE   PROBLEMS   OUTPUT

[Running] node ~/Users/daniellebyrne/Promineo/HelloHelloHelloHelloHelloHelloHello

[Done] exited with code=0 in 0.044 seconds

[Running] node "/Users/daniellebyrne/Promineo/HelloHello

## Question 8:

```
75 function fullName(firstName, lastName){
76   return firstName + " " + lastName
77 }
78
79 console.log(fullName("Danielle", "Byrne"))
```

TERMINAL   DEBUG CONSOLE   PROBLEMS 1   OUTPUT

[Running] node ~/Users/daniellebyrne/Promineo/week3/danielle byrne

[Done] exited with code=0 in 0.046 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/Danielle Byrne



## Question9:

```
80
81 // QUESTION 9
82
83 let ages = [3, 9, 23, 64, 2, 8, 28, 93];
84
85 function greaterThan100(array) {
86   let arraySum = 0;
87
88   for (let i = 0; i < array.length; i++) {
89     arraySum += array[i];
90   }
91   console.log(arraySum);
92
93   if (arraySum > 100) {
94     console.log(true);
95     return true;
96   } else {
97     return false;
98   }
99 }
100
101 greaterThan100(ages);
102
```

TERMINAL DEBUG CONSOLE PROBLEMS 1 OUTPUT

230

[Done] exited with code=0 in 0.046 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3

230

true





## Question 10:

```
105 function sumArray(array) {
106   let arraySum = 0;
107
108   for (let i = 0; i < array.length; i++) {
109     arraySum += array[i];
110   }
111   You, seconds ago • Uncommitted changes
112   return arraySum / array.length;
113 }
114
115 console.log(sumArray(ages));
116
```

TERMINAL    DEBUG CONSOLE    PROBLEMS 1    OUTPUT

```
true

[Done] exited with code=0 in 0.048 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/prom
230
28.75
```

## Question11:



# PROMINEO TECH

```
120 function compareArrays(arrayOne, arrayTwo) {
121   let arrayOneSum = 0;
122   let arrayTwoSum = 0;
123   // getting average for first array
124   for (let i = 0; i < arrayOne.length; i++) {
125     arrayOneSum += arrayOne[i];
126   }
127
128   let arrayOneAverage = arrayOneSum / arrayOne.length;
129
130   //getting average for second array
131   for (let i = 0; i < arrayTwo.length; i++) {
132     arrayTwoSum += arrayTwo[i];
133   }
134
135   let arrayTwoAverage = arrayTwoSum / arrayTwo.length;
136
137   console.log(arrayOneAverage, arrayTwoAverage);
138
139   if (arrayOneAverage > arrayTwoAverage) {
140     console.log(true);
141     return true;
142   } else {
143     console.log(false);
144     return false;
145   }
146 }
147
148 compareArrays(ages, moreAges);
149
```

TERMINAL    DEBUG CONSOLE    PROBLEMS 1    OUTPUT

false

[Done] exited with code=0 in 0.158 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-hw/sc  
28.75 7.8  
true



## Question 12:

```
150
151 //QUESTION 12
152
153 function willBuyDrink(isHotOutside, moneyInPocket){
154     if(isHotOutside == true && moneyInPocket > 10.50){
155         return true
156     } else return false
157 }
158
159
160 console.log(willBuyDrink(true, 15))
```

OUTPUT

```
[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-h
false

[Done] exited with code=0 in 0.046 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-h
false

[Done] exited with code=0 in 0.046 seconds
```



## Question 13:

```
165
166 // QUESTION 13
167
168 // the problem is to create a function that tells you if you should water your plants or not based on
169 // a boolean to tell you if the soil is dry
170
171 let soilIsDry = true
172
173 function waterPlants(isDry){
174   if( isDry == true ){
175     console.log("Time to water the plants!")
176   } else {
177     console.log("The plants don't need water today")
178   }
179 }
180
181
182
183 waterPlants(true) You, seconds ago • Uncommitted changes
```

TERMINAL   DEBUG CONSOLE   PROBLEMS 1   OUTPUT

```
[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-hw/tempCodeRunnerFile.js"

[Done] exited with code=0 in 0.04 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-hw/tempCodeRunnerFile.js"

[Done] exited with code=0 in 0.044 seconds

[Running] node "/Users/daniellebyrne/Promineo/week3/promineo-week3-hw/script.js"
Time to water the plants!
```

## Screenshots of Running Application:

All of my screenshots have the code and the output on the bottom

## URL to GitHub Repository:

<https://github.com/DanielleByrne/promineo-week3-hw>