



Intro to JavaScript Week 3 Coding Assignment

Points possible: 75

URL to Your GitHub Repository:

<https://github.com/nmgolz/week3.git>

URL to Your Coding Assignment Video:

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'.



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- 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:

```
1 // problem 1:
2
3 let ages = [3, 9, 23, 64, 2, 8, 28, 93];
4
5 console.log(ages[ages.length - 1] - ages[0]);
6 // originally tried to make this a function which isn't needed it makes the code too complicated
7 ages.push(30);
8 console.log(ages[ages.length - 1] - ages[0]);
9 ages.push(53);
10 console.log(ages[ages.length - 1] - ages[0]);
11
12 let sum = 0;
13
14 for (i = 0; i < ages.length; i++){
15   sum += ages[i];
16 } console.log(sum / ages.length);
17
18 // problem 2:
19
20 let names = ['Sam', 'Tony', 'Tim', 'Sally', 'Buck', 'Bob'];
21
22 let totalCharacters = 0;
23
24 for (i = 0; i < names.length; i++){
25   totalCharacters += names[i].length;
26 }
27 console.log(totalCharacters / names.length);
28
29 let newName = '';
30 for (i = 0; i < names.length; i++){
31   newName += names[i] + ' ';
32 }
33 console.log(newName.trim());
34
35 //problem 3:
36
37 // this code allows you to access the last element in an array. (array.length - 1)
38
39 //problem 4:
40 // using array[0] you can access the first element in an array.
41
42 //problem 5:
43
44 let nameLengths = [];
45
46 for (i = 0; i < names.length; i++){
47   nameLengths.push(names[i].length);
48 }
49
50 console.log(nameLengths);
51
52 // problem 6:
53 let newTotal = 0;
54
55 for (i = 0; i < nameLengths.length; i++){
56   newTotal += nameLengths[i];
57 } console.log(newTotal);
58
59 // problem 7:
60
61 function multiplyWords(word, n){
62   let multipleWords = word.repeat(n);
63   return multipleWords;
64 } console.log(multiplyWords('Hello', 3));
65
66 // Problem 8:
67
68 function createFullName(firstName, lastName){
69   let fullName = firstName + ' ' + lastName;
70   return fullName;
71 }
72 console.log(createFullName('George', 'Lucas'));
73
74 // Problem 9:
75 let find100 = 0;
76 let arr = [10, 150, 5, 400];
77
78 function findGreaterthan100(array){
79   for (i = 0; i < array.length; i++){
80     find100 += array[i];
81   } if (find100 > 100) {return 'True';}
82 }
83 console.log(findGreaterthan100(arr));
84
85 // problem 10:
86
87 let prob10 = 0;
88 function findAverage(array){
89   for (i = 0; i < array.length; i++){
90     prob10 += array[i];
91   } return prob10 / array.length;
92 }
93
94 console.log(findAverage(arr));
```



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```
Users > ngolz > Desktop > promineo > week3 > JS ArraysAndFunctions.js > ...
98 // Problem 11:
99
100 let them = 0;
101 let that = 0;
102 // I know to be more descriptive with my variables when actually using data
103
104 let arr2 = [14, 16, 12, 199]
105 function findGreaterAverage(array1, array2){
106   for(i = 0; i < array1.length; i++){
107     them += array1[i];
108   }
109   for(i = 0; i < array2.length; i++){
110     that += array2[i];
111   }if (them > that){
112     return "true"
113   } else return "false"
114 }
115 console.log(findGreaterAverage(arr2, arr));
116
117
118 // Problem 12:
119
120 let hot = true;
121 let money = 20;
122
123 function willBuyDrink(isHotOutside, moneyInPocket){
124   if (isHotOutside == true && moneyInPocket >= 10.50){
125     return 'true';
126   }else return "no drink for you"
127 }
128
129 console.log(willBuyDrink(hot, money));
130
131
132 //Problem 13:
133
134 let computer = 1200;
135 let moneyInWallet = 2000;
136
137 function checkBalance(itemCost, moneyInWallet){
138   remainingMoney = moneyInWallet - itemCost;
139   if(remainingMoney >= 0){
140     return 'you bought the item, ' + remainingMoney + " dollars left!";
141   } else return "not enough money.";
142 }
143
144 console.log(checkBalance(computer, moneyInWallet));
145
146 // This function allow you to check if you are able to purchase and item and will tell you the remainder of money after the purch
147 // I created this because I though it would be useful to immediately know your remaining balance after purchasing an item.
```

Screenshots of Running Application:

```
Elements Console Sources Network >> Search Settings
[ ] Preserve Log [ ] Emulate User Gesture [All] Evaluations Errors Warnings Logs
Console cleared at 9:52:50 PM
90 Global Code — ArraysAndFunctions.js:5
27 Global Code — ArraysAndFunctions.js:8
50 Global Code — ArraysAndFunctions.js:10
31.3 Global Code — ArraysAndFunctions.js:16
3.8333333333333335 Global Code — ArraysAndFunctions.js:27
Sam Tommy Tim Sally Buck Bob Global Code — ArraysAndFunctions.js:33
[ 3, 5, 3, 5, 4, 3 ] (6) Global Code — ArraysAndFunctions.js:50
23 Global Code — ArraysAndFunctions.js:57
HelloHelloHello Global Code — ArraysAndFunctions.js:63
George Lucas Global Code — ArraysAndFunctions.js:72
True Global Code — ArraysAndFunctions.js:84
56.25 Global Code — ArraysAndFunctions.js:96
true Global Code — ArraysAndFunctions.js:115
true Global Code — ArraysAndFunctions.js:129
you bought the item, 800 dollars left! Global Code — ArraysAndFunctions.js:144
>
```