

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:

- Create an array called `ages` that contains the following values: 3, 9, 23, 64, 2, 8, 28, 93.
 - 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.
 - Add a new age to your array and repeat the step above to ensure it is dynamic (works for arrays of different lengths).
 - Use a loop to iterate through the array and calculate the average age. Print the result to the console.
- Create an array called `names` that contains the following values: 'Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'.

- Use a loop to iterate through the array and calculate the average number of letters per name. Print the result to the console.
- 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.
- How do you access the last element of any array?
- How do you access the first element of any array?
- 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
```

- 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.
- 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').
- 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).
- 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.
- Write a function that takes an array of numbers and returns the average of all the elements in the array.
- 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.
- 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.
- 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:

```
C:\Users\17827\Documents> .\Week 3 Assignment.js > ...
1  // Question 1
2
3  let ages = [3, 9, 23, 64, 2, 8, 28, 93];
4  sum = (ages[7] - ages[0]);
5
6  console.log(sum);
7
8  ages.push(20);
9
10 console.log(ages);
11
12 let total = 0;
13 for (let i = 0; i < ages.length; i++){
14   total += ages[i];
15 }
16 let avg = total / ages.length;
17 console.log(avg);
18
19 // Please note I am aware that ages[7] - ages [0] is not allowed, but I'm not sure how to write the code programmatically. Please explain. Thank you.
20
21
22
23
24 // Question 2
25
26 let names = ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'];
27
28 let total = 0;
29 for (let i = 0; i < names.length; i++){
30   total += names[i].length;
31 }
32 let avg = total / names.length;
33 console.log(avg);
34
35 let str = '';
36 for (let i = 0; i < names.length; i++){
37   str += (names[i] + " ");
38 }
39 console.log(str);
40
41
42
43
44 // Question 3
45
46 // Answer: You can access the last element of an array by using array.slice(-1), pop(), or array.length-1.
47
48
```

```
C:\Users\17827\Documents> .\Week 3 Assignment.js > ...
49
50 // Question 4
51
52 // Answer: You can access the first element of an array by using shift() or array[0].
53
54
55
56 // Question 5
57
58 let names = ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'];
59 let nameLengths = names.map(function(element){
60   return element.length;
61 });
62 console.log(nameLengths);
63
64
65
66 // Question 6
67
68 let sum = nameLengths.reduce(function(accumulator, currentValue){
69   return accumulator + currentValue;
70 });
71 console.log(sum);
72
73
74
75 // Question 7
76
77 function repeatGreeting(word, n){
78   return word.repeat(n);
79 }
80 console.log(repeatGreeting("Hello", 3));
81
82
83
84 // Question 8
85
86 function createFullName (firstName, lastName){
87   return firstName + ' ' + lastName;
88 }
89 console.log(createFullName("Sara", "May"));
90
91
92
93
```

```
93 // Question 9
94
95 function sumOfArray(arrayOfNumbers){
96   let sum = 0;
97   for (let i = 0; i < arrayOfNumbers.length; i++){
98     sum += arrayOfNumbers[i];
99   }
100   return sum > 100;
101 }
102
103
104
105
106 // Question 10
107
108 function averageOfArray(array){
109   let avg = sumOfArray(array)/array.length;
110   return avg;
111 }
112
113
114
115 // Question 11
116
117 function avg (){
118   if (avgOfArrayOne >= avgOfArrayTwo){
119     return true;
120   } else
121 }
122
123
124
125 // Question 12
126
127 function willBuyDrink (){
128   let isHotOutside;
129   if (isHotOutside === true) {
130     return false;
131   } else
132     let moneyInPocket = 11;
133   if (moneyInPocket > 10.50){
134     return true;
135   } else
136 }
137
138
```

```
114 // Question 11
115
116 function avg (){
117   if (avgOfArrayOne >= avgOfArrayTwo){
118     return true;
119   } else
120 }
121
122
123
124
125 // Question 12
126
127 function willBuyDrink (){
128   let isHotOutside;
129   if (isHotOutside === true) {
130     return false;
131   } else
132     let moneyInPocket = 11;
133   if (moneyInPocket > 10.50){
134     return true;
135   } else
136 }
137
138
139
140 // Question 13
141
142 function sum (num1, num2){
143   return (num1 + num2);
144 }
145 console.log(sum(350,100));
146
147 // This function was created to find the sum of num1 and num2, return the output, and the print the output to the console.
```

Screenshots of Running Application:

```
1 // Question 1
2
3 let ages = [2, 9, 23, 64, 2, 8, 28, 93];
4 sum = (ages[7] - ages[0]);
5
6 console.log(sum);
7
8 ages.push(20);
9
10 console.log(ages);
11
12 let total = 0;
13 for (let i = 0; i < ages.length; i++){
14     total += ages[i];
15 }
16 let avg = total / ages.length;
17
18 console.log(avg);
19
20 /// Please note I am aware that ages[7] - ages [0] is not allowed, but I'm not sure how to write the code programmatically. Please explain. Thank you.
21
22
23
24 /// Question 2
25
26 let names = ['Sam', 'Tommy', 'fin', 'Sally', 'Buck', 'Bob'];
27
28 let total = 0;
29 for (let i = 0; i < names.length; i++){
30     total += names[i].length;
31 }
32 let avg = total / names.length;
33
34 console.log(avg);
35
36 let str = '';
37 for (let i = 0; i < names.length; i++){
38     str += (names[i] + " ");
39 }
40 console.log(str);
41
42
43
44 /// Question 3
45
46 /// Answer: You can access the last element of an array by using array.slice(-1), pop(), or array.length-1.
47
```

URL to GitHub Repository:

<https://github.com/MonicaHunter0812/week3Assignment>