



## 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? `[item.length - 1];`
4. How do you access the first element of any array? `firstElement = arrayElements[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:

```
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.



# PROMINEO TECH

```
1 // 1. create an array
2 let ages = [3, 9, 23, 64, 2, 8, 28, 93];
3 // a. subtract the value of the first element from the last element. Print the result to the console.
4 for(i = 0; i < ages.length; i++) {
5
6 }
7 console.log(ages[ages.length-1] - ages[0])
8
9 // b. add a new age to array and repeat step above.
10 ages.push(55);
11 console.log(ages[ages.length-1] - ages[1])
12
13 // c. use loop to iterate through array and calculate average age. Print the result to console.
14 const average = ages.reduce((total, amount, index, ages) => {
15     total += amount;
16     if(index === ages.length-1) {
17         return total/ages.length;
18     } else {
19         return total;
20     }
21 });
22 console.log(average);
23
24
25
26
```

2.

```
25
26
27 //2. create an array called names
28 let names = ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'];
29
30
31 // a. use loop to iterate through array and calculate the average number of letters per name. Print result to console.
32 let average = 0;
33 for( let i = 0; i < names.length; i++) {
34     average += names[i].length;
35 }
36
37 average /= names.length;
38 console.log(average);
39
40 // b. use loop to iterate through array and concatenate all the names together, seperated by spaces and print the result to the console.
41 let allNames = names.reduce(function(index, element) {
42     return index + ' ' + element;
43 })
44 console.log(allNames);
```

5 & 6.



# PROMINEO TECH

```
Go Run Terminal Help week 3 coding assg - week-1 - Visual Studio Code
JS week 3 coding assg X coding.html
2022-05-04-mountain > Coding Assignments > JS week 3 coding assg > ...
25
26
27 //2. create an array called names
28 let names = ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'];
29
30
31 // a. use loop to iterate through array and calculate the average number of letters per name. Print result to console.
32 //let average = 0;
33 //for( let i = 0; i < names.length; i++) {
34 //    average += names[i].length;
35 //}
36 //}
37 //average /= names.length;
38 //console.log(average);
39
40 // b. use loop to iterate through array and concatenate all the names together, seperated by spaces and print the result to the console.
41 //let allNames = names.reduce(function(index, element) {
42 //    return index + ' ' + element;
43 //})
44 //console.log(allNames);
45
46 // 5. create an array called nameLengths, calculate the sum of all elements, print to console.
47 let nameLengths = names.map(function(element) {
48     return element.length;
49 });
50 });
51 console.log (nameLengths);
52
53 // 6. write loop to iterate over the nameLengths array and calculate the sum of all the elements and print to the console.
54 let sum = nameLengths.reduce(function(accumulator, currentValue) {
55     return accumulator + currentValue;
56 });
57 });
58 console.log(sum);
59
```

7.

```
// 7. write a function that takes two parameters, word and n, as arguments and returns the word

let result = [];
const n = 5;
const stringToRepeat = 'word';
for (let i = 0; i < n; i++) {
    result.push(stringToRepeat);
}

result = result.join('');
console.log(result);
```



# PROMINEO TECH

8.

```
JS week 3 coding assg X JS VariablesAndOperations-Solution.js <> coding.html
2022-05-04-mountain > Coding Assignments > JS week 3 coding assg > ...
69 //result = result.join(' ');
70 //console.log(result);
71
72
73 // 8. write a function that takes two parameters, firstName and lastName, and returns
74
75 function fullName(firstName, lastName) {
76 |   console.log(firstName + ' ' + lastName);
77 | }
78 |   fullName('Bob', 'Riley');
79
```

9.

```
80
81 // 9. write a function that takes an array of numbers and returns true if the sum of all the
82 const array = [2, 65, 9, 55, 33, 65];
83 let sum = 0
84
85 for(let i = 0; i < array.length; i++) {
86 |   sum += array[i];
87 | }
88 |   console.log(sum);
89 |
90 if(sum > 100) {
91 |   console.log(true);
92
```

10.

```
87
88
89 // 10. Write a function that takes an array of numbers and returns the average of all the elements in the array.
90 const arr = [1, 2, 3, 5, 8, 13, 34, 65];
91 var sum = 0;
92 for(var number of arr) {
93 |   sum += number;
94 | }
95 average = sum / arr.length;
96 console.log(average);
97
```



# PROMINEO TECH

11.

```
30 //console.log(average);
31
32 // 11. write a function that takes two arrays of numbers and returns true if the average of the elements
33 var fun = [5, 43, 3, 6, 20, 66, 88];
34 var work = [1, 18, 5, 16, 56];
35
36 function avgNum(x) {
37   let sum = 0;
38   for (let i = 0; i < x.length; i++) {
39     sum += x[i];
40   }
41   return sum/x.length;
42 }
43
44 console.log(avgNum(fun));
45
46 function compareTo(fun, work) {
47   return avgNum(fun) > avgNum(work);
48 }
49 console.log(compareTo(fun, work));
50
```

12.

```
51
52 // 12. write a function called willBuyDrink that takes a boolean isHotOutside, and a number moneyInPocket, and returns true if it isHotOutside and if moneyInPocket >= 10.50
53 var isHotOutside = true
54 var moneyInPocket = 10.80
55
56 function willBuyDrink(isHotOutside, moneyInPocket) {
57   if(isHotOutside && moneyInPocket >= 10.50) {
58     return true;
59   }
60 }
61 console.log(willBuyDrink(isHotOutside, moneyInPocket));
62
```

13.

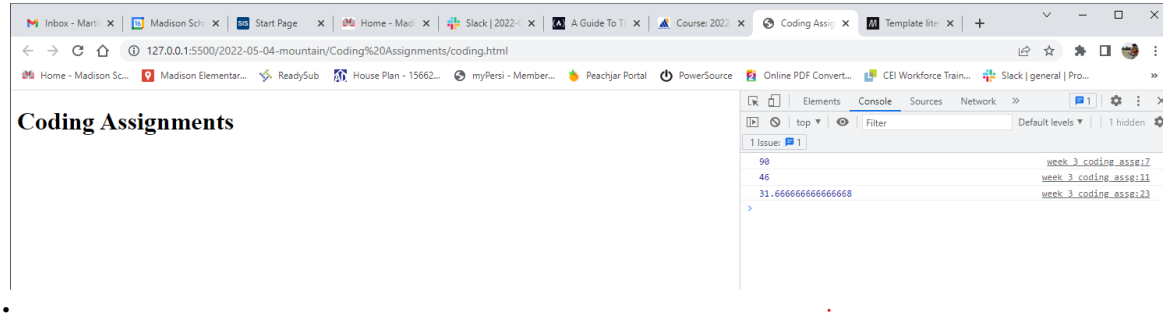
```
28
29 // 13. create a function of your own that solves a problem. In comments, write what the function does and why you created it.
30 //Calculates scores for a round of golf. 9 holes shown. My family likes to golf!
31 var scores = [3, 6, 5, 4, 6, 5, 4, 5, 4];
32
33 let total = scores.reduce(function(accumulator, currentValue) {
34   return accumulator + currentValue;
35 });
36 console.log(total);
37
38
```



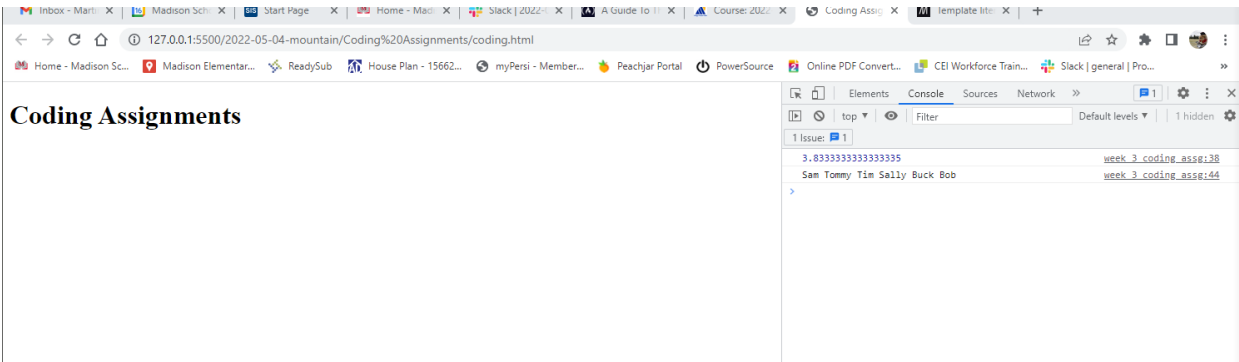
# PROMINEO TECH

## Screenshots of Running Application:

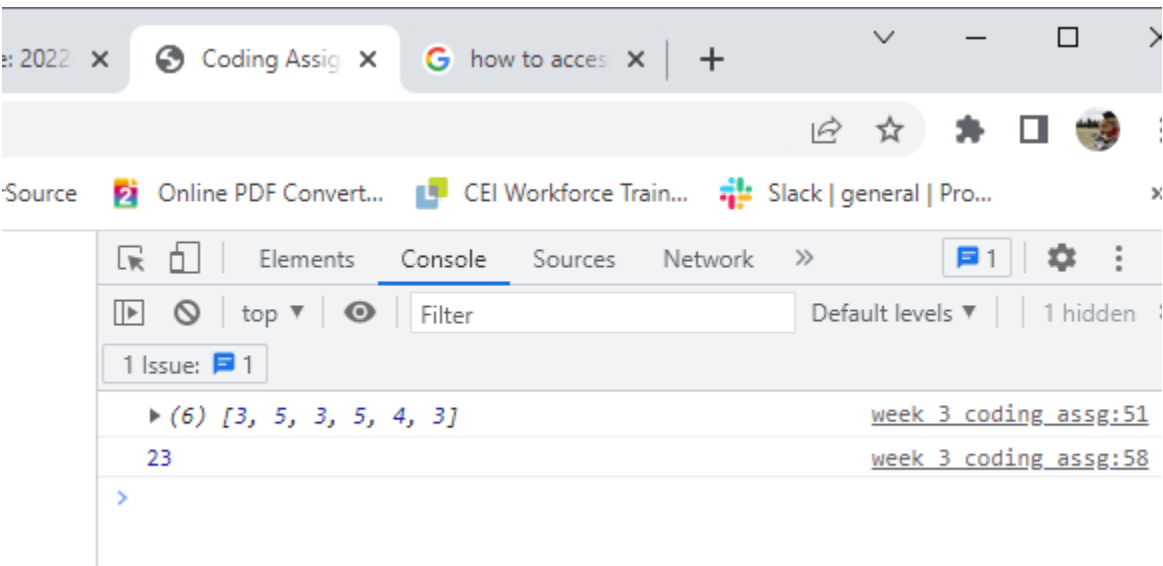
1.



2.



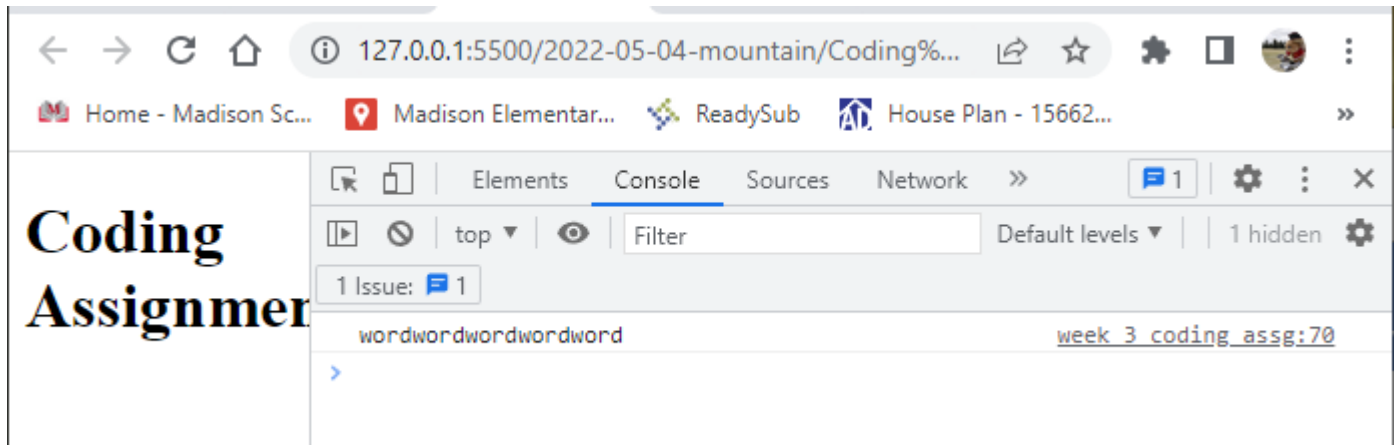
5 & 6.



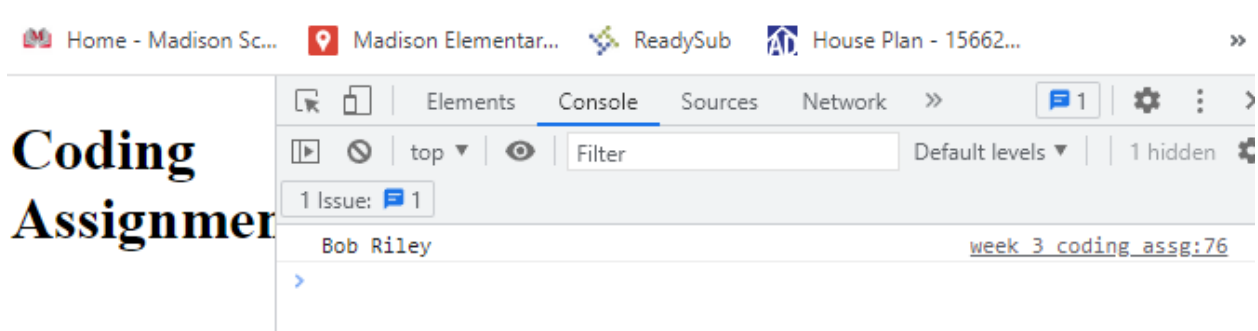


# PROMINEO TECH

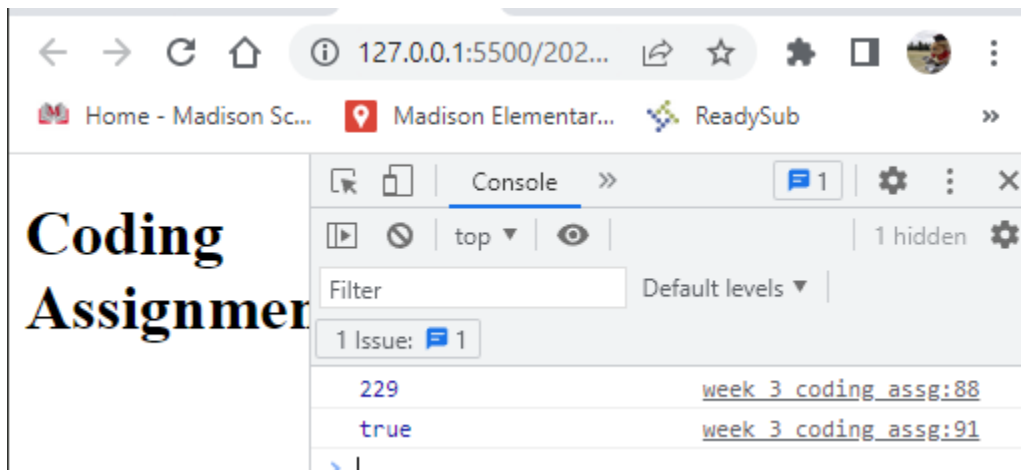
7.



8.



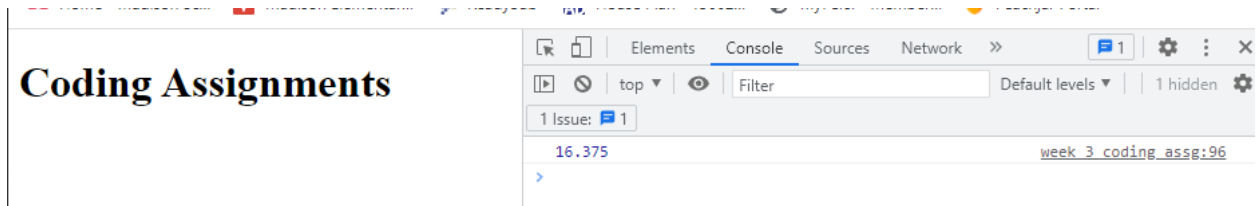
9.



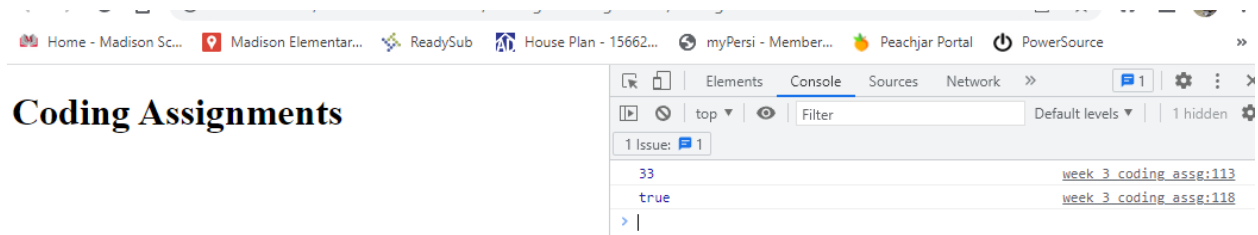




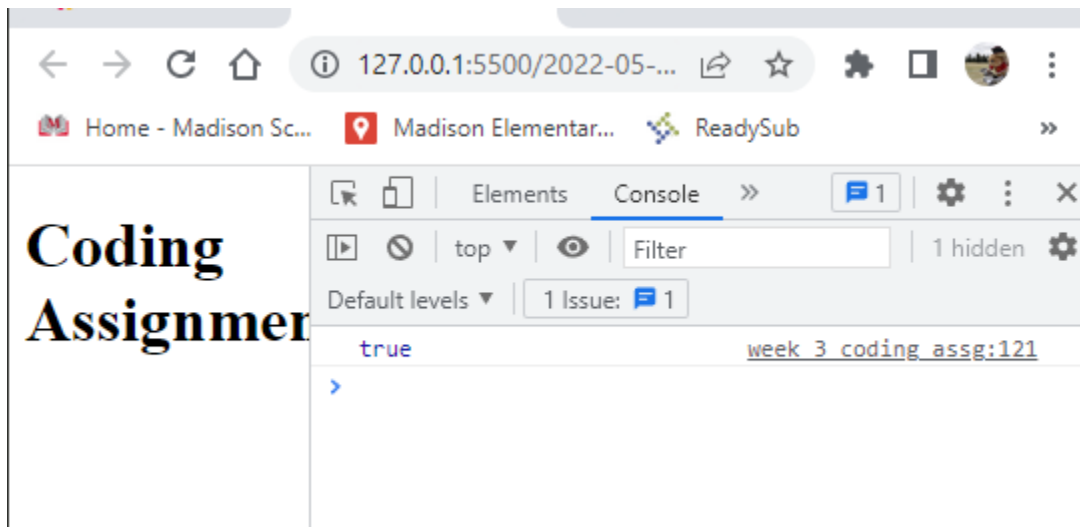
10.



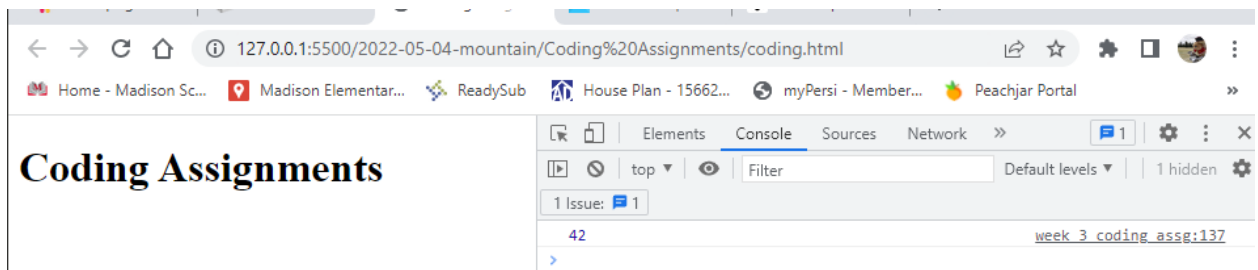
11.



12.



13.



URL to GitHub Repository:

<https://github.com/amrexburg/wk-3-js-coding-assignment.git>