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.
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:

PROMINEO TECH

• Week3CodingAssignment.js - Untitled (Workspace) - V

JS Week3CodingAssignment.js ● <> Week3.html

Coding Assignment > JS Week3CodingAssignment.js > ...

```
1   //1
2   var ages = [3, 9, 23, 64, 2, 8, 28, 93];
3
4   function subtractFirstFromLast(lastValue, firstValue){
5       return ages[ages.length-1] - ages[0];
6   };
7
8   console.log(subtractFirstFromLast());
9   ages.push(18);
10  console.log(subtractFirstFromLast());
11
12  var getSum = 0;
13  for(var i = 0; i < ages.length; i++){
14      getSum += ages[i];
15  };
16  console.log(getSum/(ages.length));
17
18
19
20  //2
21  var names = ['Sam', 'Tommy', 'Tim', 'Sally', 'Buck', 'Bob'];
22
23  var getTotal = 0;
24  for(var i = 0; i < names.length; i++){
25      getTotal += names[i].length;
26  };
27  console.log(getTotal/names.length);
28
29  var allTogether = '';
30  for(var i = 0; i < names.length; i++){
31      allTogether += ' ' + names[i];
32  };
33  console.log(allTogether);
34
35
```

PROMINEO TECH

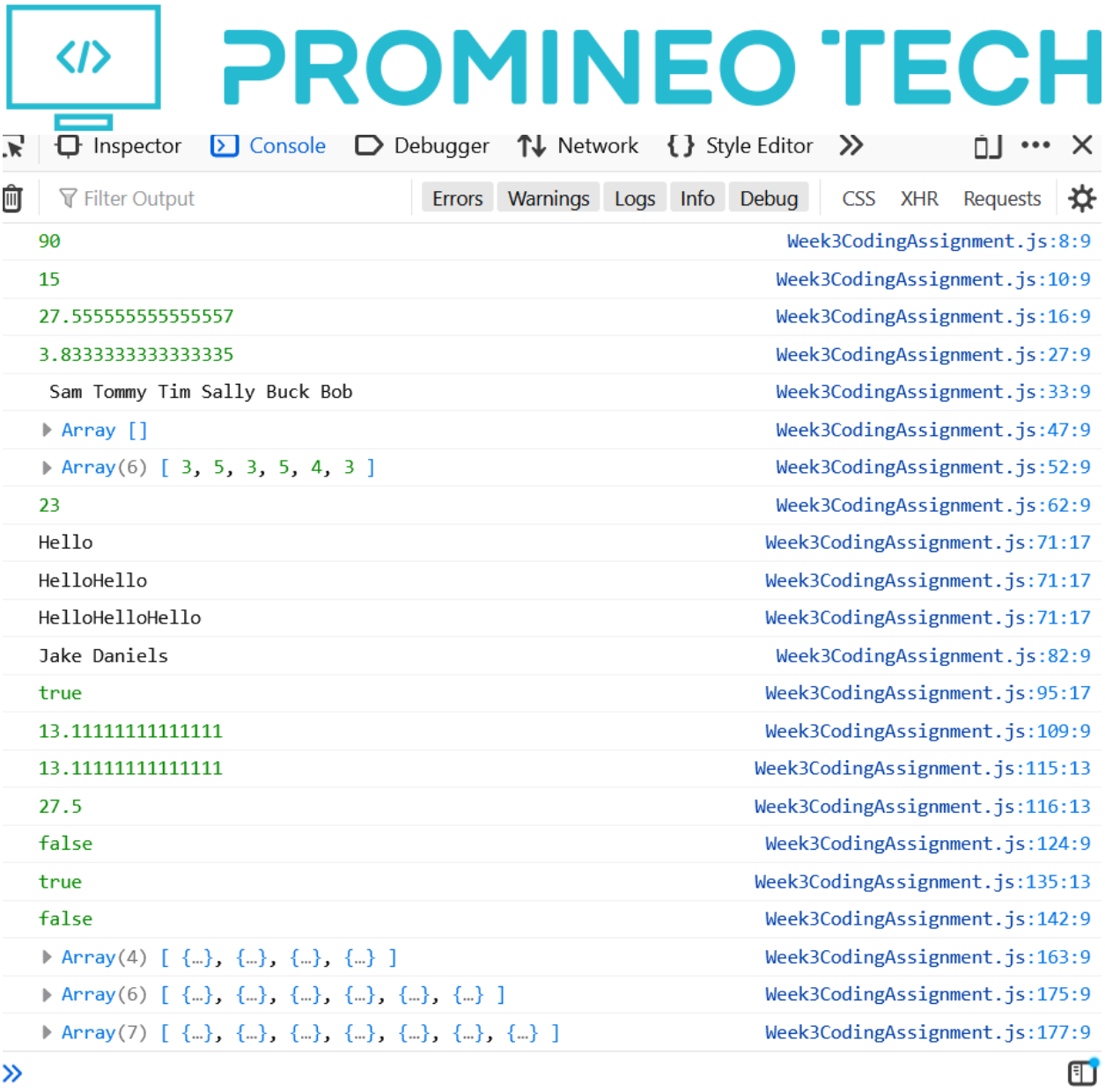
```
35
36
37  /*
38  3.  You write the last element of an array using the array's length - 1: array[array.length-1]
39
40  4.  You write the first element of an array using 0: array[0]
41  */
42
43
44
45  //5
46  var nameLengths = [];
47  console.log(nameLengths);
48  for(var i = 0; i < names.length; i++){
49      var newNameLength = names[i].length;
50      nameLengths.push(newNameLength);
51  };
52  console.log(nameLengths);
53
54
55
56
57  //6
58  var calculateSum = 0;
59  for(var i = 0; i < nameLengths.length; i++){
60      calculateSum += names[i].length;
61  };
62  console.log(calculateSum);
63
64
```

```
64
65
66  //7
67  function concatTimesNum(word, n){
68      var concatWord = '';
69      for(var i = 0; i < n; i++){
70          concatWord += word;
71          console.log(concatWord);
72      }
73  };
74  concatTimesNum("Hello", 3);
75
76
77
78  //8
79  function createFullName(firstName, lastName){
80      return firstName + ' ' + lastName;
81  };
82  console.log(createFullName("Jake", "Daniels"));
83
84
85
86  //9
87  var numbers1 = [8, 6, 7, 2, 5, 8, 32, 10, 40];
88  var scores = [50, 14, 22, 24];
89
90  function checkIsGreaterThan100(array){
91      var arraySum = array.reduce(function(accumulator, currentValue){
92      return accumulator + currentValue;
93      });
94      if (arraySum > 100){
95          console.log(true);
96      };
97  };
98  checkIsGreaterThan100(numbers1);
99
100
101
```

```
100
101
102  //10
103  function average(array){
104      var average = array.reduce(function(accumulator, currentValue){
105          return accumulator + currentValue;
106      });
107      return average/array.length;
108  };
109  console.log(average(numbers1));
110
111
112
113  //11
114  function checkIfFirstAverageisGreater(array1, array2){
115      console.log(average(array1));
116      console.log(average(array2));
117
118      if(average(array1) > average(array2)){
119          return true;
120      }else{
121          return false;
122      };
123  };
124  console.log(checkIfFirstAverageisGreater(numbers1, scores));
125
126
127
128  //12
129  function willBuyDrink(isHotOutside, moneyInPocket){
130      if(isHotOutside.toLowerCase() === "yes"){
131          isHotOutside = true
132      }else{
133          isHotOutside = false
134      };
135      console.log(isHotOutside)
136      if(isHotOutside === true && moneyInPocket > 10.5){
137          return true;
138      }else{
139          return false;
140      };
141  };
142  console.log(willBuyDrink("yeS", 1));
143
144
```

```
144
145
146   //13
147   var guardStudents = []; // An array of color guard students
148
149   function Student(first, last, grade){
150       this.firstName = first;
151       this.lastName = last;
152       this.grade = grade;
153   };
154   // A function that creates a new student with their name and grade
155
156   var student1 = new Student('Emma', 'Smith', 11);
157   var student2 = new Student('Haley', 'Johnson', 9);
158   var student3 = new Student('Todd', 'James', 10);
159   var student4 = new Student('Sarah', 'Beck', 12);
160   // Some sample students
161
162   guardStudents.push(student1, student2, student3, student4);
163   console.log(guardStudents);
164   // Testing to see if this would add them correctly
165
166
167   function addStudent(firstName, lastName, grade){
168       var x = new Student(firstName, lastName, grade);
169       guardStudents.push(x);
170   };
171   // A new function that creates the student and automatically adds them to the array
172
173   addStudent('Holly', 'Jackson', 12);
174   addStudent('Heidi', 'May', 9);
175   console.log(guardStudents);
176   addStudent('Abby', 'Heiser', 'coach');
177   console.log(guardStudents);
178   // More testing
179
180   /* I created this function so that I could add new color guard students to an existing
181   database of students more easily. This would make it easier for me to keep track of
182   students or potentially allow them to add themselves to the database. */
183
```

Screenshots of Running Application:



URL to GitHub Repository:

https://github.com/aheiser2/Week-3-Coding-Assignment