CPT 162

Lab 2

For this lab you will be creating a page that will utilize a function, an array and perform date calculations. This page will take the basic information about the price for a product, and determine what the discount is if an additional amount is purchased. Please start by downloading the Lab 2 starter from the dropbox. Once that has been completed, extract the files and rename the folder to lastname-Lab2. Then open the labTwo.js file that is in the js folder. This file is blank at this point and is the main file you will be modifying for this lab. The labTwo.html file should be modified to add the code below. Be sure to put your name in the title area.

```
<!DOCTYPE html>
<html>
  <head>
    <title>Your name here - Lab 2</title>
  </head>
  <body>
    <center>
    <section id="mainPage">
      <h1>MB Tax Table</h1>
      <section id="outputArea"></section>
    </section>
    <script src="js/labTwo.js"></script>
    </center>
  </body>
</html>
```

The purpose of this program is to create a tax table to show what the tax rates if the user spends anywhere from 1 to 20 dollars. The standard tax rate is 10 percent, however we are going to use the city specific tax rate of 11.5 percent. We will have a variable to make sure that the program wants to use the specific percentage rate, if not it will revert to the default. The code below declares the variables for the taxAmount, the option of which rate to use, a counter for the loop and creates a variable for output we can add more information to through concatenation.

```
var taxAmount = .115;
var mainOption = 'usePercent';
var i = 1;
var outputMessage = '<table border>';
```

The code below on line 6 checks to see if the mainOption variable from above was set to usePercent, so it will use the 11.5 percent rate that was set. Notice the 3 equal to signs, that will not only check to see if the values are equal, but also if the variable type is the same. Line 7 creates the while loop to cycle through the calculation for the table 20 times. An alternate method would be to use i <= 20. Line 8 and 9 concatenate both html code and the calculation to format the output. The items in single quotes are text, which if this text is html code will be parsed as code, instead of just text. On line 9, the calculation is performed, then the result is parsed as a float so we can run the toFixed option after, which will limit the result to 3 decimal places. Line 10 increments the count, and line 11 closes the while loop.

```
6  if (mainOption === 'usePercent') {
7    while (i < 21) {
8      outputMessage += '<tr><th>' + i + ' * ' + taxAmount + '</th><td>'
9          + parseFloat((i * taxAmount)).toFixed(3) + '</td></tr>';
10     i++;
11   }
```

Line 12 below ends the prior if statement, then sets the else portion of the statement. This will trigger if the program does not wish to use the usePercent option. The loop is called, and then the code performs the calculation and concatenates as above. The only difference in code is that the calculation uses .10 instead of the taxAmount variable.

```
12 } else {
13   while (i < 21) {
14     outputMessage += '<tr><th>' + i + ' * ' + .10 + '</th><td>'
15         + parseFloat((i * .10)).toFixed(3) + '</td></tr>';
16     i++;
17   }
18 }
```

Now that both calculations have been performed, the table needs to be closed, which is done on line 19 by concatenating the html to the outputMessage variable. Line 20 creates the object named e1 to access the outputArea object on the html page. Line 21 then completed the program by setting outputMessage as the innerHTML value for the e1 variable.

```
19 outputMessage += '</table>'
20 var el = document.getElementById('outputArea');
21 el.innerHTML = outputMessage;
```

When you have completed the code for this lab, be sure to zip this project and upload into D2L. In addition, upload the unzipped folder into the istwebclass server, into a folder called CPT 162, then Lab 2. An example of the working html page is below. If the page is not showing correctly, the full code for this project is below, check to see if there are any issues in your code.

# MB Tax Table

| | |
|---|---|
| 1 * 0.115 | 0.115 |
| 2 * 0.115 | 0.230 |
| 3 * 0.115 | 0.345 |
| 4 * 0.115 | 0.460 |
| 5 * 0.115 | 0.575 |
| 6 * 0.115 | 0.690 |
| 7 * 0.115 | 0.805 |
| 8 * 0.115 | 0.920 |
| 9 * 0.115 | 1.035 |
| 10 * 0.115 | 1.150 |
| 11 * 0.115 | 1.265 |
| 12 * 0.115 | 1.380 |
| 13 * 0.115 | 1.495 |
| 14 * 0.115 | 1.610 |
| 15 * 0.115 | 1.725 |
| 16 * 0.115 | 1.840 |
| 17 * 0.115 | 1.955 |
| 18 * 0.115 | 2.070 |
| 19 * 0.115 | 2.185 |
| 20 * 0.115 | 2.300 |

```
var taxAmount = .115;
var mainOption = 'usePercent';
var i = 1;
var outputMessage = '<table border>';

if (mainOption === 'usePercent') {
  while (i < 21) {
    outputMessage += '<tr><th>' + i + ' * ' + taxAmount + '</th><td>'
        + parseFloat((i * taxAmount)).toFixed(3) + '</td></tr>';
    i++;
  }
} else {
  while (i < 21) {
    outputMessage += '<tr><th>' + i + ' * ' + .10 + '</th><td>'
        + parseFloat((i * .10)).toFixed(3) + '</td></tr>';
    i++;
  }
}
outputMessage += '</table>'
var el = document.getElementById('outputArea');
el.innerHTML = outputMessage;
```