CST8209 – Lab 3 – Loops

Objective

In this lab you will learn to use external JavaScript files and work with the JavaScript while, do while and for loops.

Requirements

1. Download the zipped file folder Lab3.zip
2. Extract the files and save to your computer – preferably to your course workspace folder
3. Open the Lab3 folder in your text editor (Atom)
4. You should find 4 .html files in the Lab3 project folder
5. You should find one .js file in the scripts sub folder
6. Install view-in-browser in atom:
    1. Press Ctrl+ , or from atom main menu, choose packages>Settings View>Open
    2. Install> view-in-browser
    3. Wait until package completely installs then restart atom
    4. Right-click any file in folder pane and select>View in browser

Optional: If you wish to launch a simple development http server with live reload capability, install atom-live-server-plus package too.

Section A – Working with the JavaScript while loop

You will create a script file in scripts folder ("Lab3/scripts/while.js") that will prompt the user to enter a number between 1 and 100. You will then iterate through a **while loop** to display the index value as long as the index value is less than the value entered by the user.

Edit while.html

Using while.html as your starting point…

1. Edit the script tag to contain a reference to an external file "scripts/while.js"
2. Save the file.

Create while.js

1. Right click on the scripts folder and select New File.
3. Name the new file while.js
4. Create a variable named choice
5. Set the choice variable to prompt the user to enter a number between 0 and 100.
   (see sample.js for an example on how to prompt the user for a value)

6. Create a variable for the index and set the value to 0
7. Create a while loop to display the value of the index
8. Increase the value of the index by 10 each time you iterate through the loop
   hint: increase the index by using the += operator

Section B – Working with the JavaScript do while loop

You will create a do while loop that will prompt the user to guess a number between 1 and 10. You will keep prompting the user until their input is equal to the secret number.

Edit dowhile.html

Using dowhile.html as your starting point…

1. Edit the script tag to contain a reference to an external file "scripts/dowhile.js"
2. Save the file

Create dowhile.js

1. Right click on the scripts folder and select New File.
2. Name the new file dowhile.js
3. Create a variable named secret and set the value to a number of your choice between 1 and 10
4. Create a variable named guess and set it to prompt the user to guess a number between 1 and 10.
5. You will continue to iterate through the loop and prompt the user until the value the user enters is equal to the secret number
6. When the user has guessed the secret number, display a congratulations message to the user
   hint: document.writeln(“Congratulations!.....”); //pay attention to the double quotes

Section C – Working with the JavaScript for loop

You will prompt the user to enter values for minimum, maximum and increase. You will use these entered values to initialize the for loop.

Edit for.html

Using for.html as your starting point…

1. Edit the script tag to contain a reference to an external file "scripts/for.js"
2. Save the file

Create for.js

1. Right click on the scripts folder and select New File
2. Name the new file for.js
3. Create a variable named minimum and set it to prompt the user to enter a value for minimum

4. Create a variable named maximum and set it to prompt the user to enter a value for maximum
5. Create a variable named increase and set it to prompt the user to enter a value for increase
   Note – we need to convert the minimum, maximum and increase variables from a string type to a number type so the loop will work correctly. We can use the Number() function to do this. When creating your variables use the following syntax
   var input = Number(prompt("Enter the minimum value",""));
6. Initialize the for loop
   1. use the variable named minimum to set the index
   2. use the variable named maximum to create a condition that evaluates if the index is less than or equal to the value of the maximum variable
   3. use the increase variable to increase the index with each iteration
      hint: for (var i=minimum; i< maximum; i += increase)
   4. Iterate through the loop and display a message showing the value of the index as long as the condition is true.
   5. You can use min, max for short notation.

Deliverables

1. Save all your work.
2. Compress the Lab3 folder, renaming it to Lab3_First_Last_Student#.zip
   Example Lab3_Sanaa_Issa_040999888.zip
3. Upload the zipped file

Marking Scheme Rubric

This lab has a maximum mark of 3, awarded according to the following rubric.

Criteria	Mark
Superior capability. Lab submitted meets or exceeds expected standards	3
Satisfactory capability, acceptable product/result	2
Marginal capability, substandard product/result	1
No capability, unacceptable product/result. Work not submitted	0

Note that 40% of your final grade comes from the grades you obtained from your labs and assignments.

Last Updated - September 2020