Project 1

* **Due** Wednesday by 11:59pm

* **Points** 100

**Instructions**

Please complete this project yourself. While you are encouraged to have high-level discussions with your fellow students, you must be able to complete the details of this project on your own.

**Late Policy**: All projects are due by 11:59 pm of the stated due date. Projects submitted after the due date/time are considered late and will not be graded. Late projects will only be graded in cases of documented emergencies. **It is your responsibility to upload projects on time.**

**Part 1: Complete and Upload Week 1 Lab Files**

1. [20 pts] During Week 1 Lab, you created three JavaScript files: console1.js, console2.js, and console3.js. Each of these files should have contained your console JavaScript code, and uploaded to your 111/p1 folder on the UO Pages web server. If you did not complete these steps, you will need to complete all steps of the Week 1 Lab.

*Use the Chrome Console for all remaining tasks of this project just as you did in the Week 1 Lab. Use the Save As functionality of the Chrome Console to save your JavaScript code as indicated during each step.*

*You should practice adding a semi-colon to the end of each JavaScript statement you enter into the Chrome Console. One point will be deducted from your overall score if you do not use at least one semi-colon in your project solution.*

**Part 2: JavaScript Basics - Working With String and Number Variables [58 pts]**

1. Use the Clear Console feature to clear the Chrome Console
2. [1 pt] Declare a variable named "myName" and assign this variable your first and last name as a string
3. [1 pt] Use the "myName" variable and the string length property to display the length of your name
4. [1 pt] Use the "myName" variable and the toUpperCase() function to display your name in all uppercase letters
5. [1 pt] Use the "myName" variable and the indexOf() function to find the first space in your name.
6. [2 pts] Use the "myName" variable and the + concatenation operator shortcut to display "My name is " followed by your name
7. [1 pts] Declare a new variable named "myAge" and assign this variable your age as a number (you may use any integer number and not your real age if you prefer)
8. [3 pts] Declare a new variable "myInfo" and the + concatenation operator shortcut to assign this variable the value of the "myName" variable, a space character as a string, and the value of the "myAge" variable
9. [4 pts] Use the charAt() function and length property to display the last character of the "myName" variable
10. [4 pts] Use the "myInfo" variable, the + concatenation operator shortcut, and the "\t" tab special character to display two tabs and your name (Hint: Your name will be pushed over to the right two tabs)
11. [2 pts] Add the trim() function to the previous answer to remove the tab special characters (Hint: Consider using parenthesis around your concatenation)
12. [1 pt] Declare a variable "price" and assign this variable 23.95 as a number
13. [1 pt] Declare a variable "discount" and assign this variable 0.10 as a number
14. [2 pts] Use the variables "price" and "discount" to display the new price after using the \* multiplication operator to calculate the discount and subtracting the discount from the price
15. [2 pts] Add the toFixed() function to the previous solution to display the new discounted price to two (2) fixed number of decimal places
16. [1 pt] Declare a variable "discountedPrice" and use the previous solution to assign the discounted price to this variable
17. [3 pts] Use the "discountedPrice" variable, the % modulo operator, and the \* multiplication operator to calculate and display the remainder if four (4) items are purchased at the discounted price (Hint: You will again need to use parenthesis)
18. [1 pt] Use the "discountedPrice" variable and the - subtraction operator to display subtracting five (5)
19. [1 pt] Use the "discountedPrice" variable and the + arithmetic operator to display adding five (5)
20. [2 pts] Use the "discountedPrice" variable and the += plus equals operator to display adding five (5)
21. [1 pt] Use the "myAge" variable and the ++ increment operator to display your age incremented by one (1)
22. [4 pts] Use the "myAge" variable, the -- decrement operator, and the + concatenation operator to display your current age, a comma, a space, and your current age minus one (1), in the following format (with your age value): *My current age is 21, and my age less one is 20*
23. [4 pts] Use the "myAge" variable, the typeof function, and the + concatenation operator, and display converting the "myAge" variable value to a string
24. [2 pts] Use the "myAge" variable and the toString() function to display converting the variable value to a string
25. [3 pts] Use the "myAge" variable and the toString() function to display converting the variable value to a string representation of the variable value in hexadecimal, or base 16
26. [2 pts] Use the "myAge" variable and the String() function to display converting the variable value to a string
27. [2 pts] Use the "price" variable and the parseInt() function to convert the variable value to an integer (essentially truncating the number and removing the decimal component)
28. [3 pts] Use the "myAge" variable, String() function, and the parseInt() function to convert the variable value first to a string, and then back to an integer number
29. [3 pts] Use the "myAge" variable, String() function, and the parseFloat() function to convert the variable value first to a string, and then back to a float number (a number with a decimal component)
30. Use the Save As feature to save the contents of the Chrome Console to a file named NumbersAndStrings.js. Use a text editor (such as Sublime) to edit the NumbersAndStrings.js file to remove any error lines, leaving the file with ONLY the solutions to each question. Your solutions must be in the same order as the questions.

**Part 3: JavaScript Basics - Working With Logical And Comparison Operators [22 pts]**

1. Use the Clear Console feature to clear the Chrome Console
2. [1 pt] Use the Boolean function and determine if the number 0 is true or false
3. [1 pt] Use the !! Boolean function shortcut and determine if the number 1 is true or false
4. [3 pts] Use the Boolean function and determine if the following values are true or false: "", '', NaN, false, null, and undefined (see p. 42 of the text)
5. [1 pt] Declare a variable "willRain" and assign this variable the boolean value of true
6. [1 pt] Use the "willRain" variable and the ! logical NOT operator to display the opposite variable value (true becomes false)
7. [1 pt] Declare a variable "mustGoOutside" and assign this variable the boolean value false
8. [3] Use the "willRain" and "mustGoOutside" variables, and the && logical AND operator to determine if you need to search for your umbrella
9. [3 pts] Use the || logical OR operator, the > greater than comparison operator, and the <= less than or equal to comparison operator  to determine if the number 3 is greater than 2 or if the number 100 is less than or equal to 50
10. [1 pt] Use the "willRain" and "mustGoOutside" variables and the != inequality (not equal to) comparison operator to determine if these two variables are equivalent
11. [1 pt] Use the "willRain" and "mustGoOutside" variables and the == soft equality (equal to) comparison operator to determine if these two variables are equivalent
12. [1 pt] Use the "willRain" and "mustGoOutside" variables and the === hard equality (equal to and are of the same data type) comparison operator to determine if these two variables are equivalent
13. [1 pt] Use the == soft equality (equal to) comparison operator to determine if null and undefined are equivalent
14. [1 pt] Use the === hard equality (equal to and are of the same data type) comparison operator to determine if null and undefined are equivalent
15. [1 pt] Use the isNaN() function to determine if the integer number 15 is a number or is not a number (a false response from isNaN() means the value IS a number)
16. [1 pt] Use the isNaN() function to determine if the string "15" is a number or is not a number
17. [1 pt] Use the isNaN() function to determine if the string "abcd" is a number or is not a number
18. Use the Save As feature to save the contents of the Chrome Console to a file named LogicalAndComparison.js. Use a text editor (such as Sublime) to edit the LogicalAndComparison.js file to remove any error lines, leaving the file with ONLY the solutions to each question. Your solutions must be in the same order as the questions.

**Part 4: Upload Your Project Solution Files**

In order for your project solution files to be graded, you MUST upload all of your files to the 111/p1 folder on the UO Pages server. Once you have uploaded your files, use your browser to navigate to your 111/p1 folder and VERIFY that all of your solution files have been uploaded. You should also click on each file and make sure the contents of the files match what you uploaded. In other words, make sure that you didn't upload a file with no content.

Refer to Week 1 Lab for instructions on how to upload your solution files and verify the files were successfully uploaded.