**JavaScript Project 1**

Create a single-web page application that includes a JavaScript program that has three parts: factorial, math calculations and string manipulation. This program spans the material covered in chapters 1-4. The topics covered are variables, strings, mathematics, decision structures, loops, functions, input boxes and output to a web page.

**Minimum Requirements:**

* This web page should use CSS to create professional, aesthetic and pleasing input and output formatting and presentation.
* The web page user interface (web page HTML elements) must comply with W3C accessibility requirements.
* The program should have appropriate data validation with clear error messages for every input.

**Part 1 - Factorial**

UI: textbox for input, web page for output, button for processing

INPUT: number

PROCESSING: calculate the factorial of the input number

OUTPUT: factorial with a visual representation of the calculation performed,   
for example, if **5** is inputted, the output would be: **5 x 4 x 3 x 2 x 1 = 120**\*\*also include a link back to the original page at the bottom of the output

**Part 2 – Math Calculations**

UI: button for starting processing, prompt input boxes web page for output

INPUT: numbers

PROCESSING: calculate the sum, average, high and low of the numbers inputted; when user enters CRLF (just hits the enter key) stop requesting input and output the four required values

OUTPUT: sum, average, high and low\*\*also include a link back to the original page at the bottom of the output

**Part 3 – String Manipulation**

UI: button for starting processing, prompt input boxes, web page for output

INPUT: string in first prompt input box, number in second prompt input box – the number input must be less than or equal to the number of characters in the previously inputted string

PROCESSING: locate the character in the string that is at the position of the number inputted, concatenate the string to itself the number of times as the number inputted, reverse the letters in the string

OUTPUT: the string inputted, the character in the string at the position of the number inputted, the string concatenated the number of times as the number inputted, and the string reversed, for example, if **frog** and **3** is inputted, the three output values would be: **frog, o, frogfrogfrog, gorf**\*\*also include a link back to the original page at the bottom of the output

**Upload the HTML and JavaScript code to Blackboard for grading.**

**No Printouts required.**