**COMM644  
Assignment 7**

**Part 1 - Strings and String Manipulation (10 points)**

1. Create an application that prompts the user for their name. Then, find the length of characters in the person’s name. Use the alert method to display the result.
2. Create an application that prompts the user for their name. Then, prompt the user for a numeric value so that they can find the letter in the string based on the number they specify. Use the alert method to display the result.
3. Create an application that prompts the user for their first name. Then, prompt the user for their last name using a second prompt. Use the alert method to display the text "Your name is: " along with the result of the first name and last name concatenated together. You will use a concatenation operator to concatenate the literal string with the result of the String object method’s result.
4. Create an application that stores the text “The quick brown fox jumps over the lazy dog” within a variable. Then, find and display within an alert the index of the word “fox”.
5. Create an application that stores the text “The quick brown fox jumps over the lazy fox” within a variable. Then, find and display within an alert the index of the last instance of the word “fox”.
6. Create an application that stores the text “The quick brown fox jumped over the lazy dog” within a variable. Then, prompt the user for their full name. Then, replace the text “the lazy dog” in the variable with the name that the user enters within the prompt. Use the alert method to display the result.
7. Create an application that stores the text “The quick brown fox jumps over the lazy dog” within a variable. Then, prompt the user for a word. Next, search for the word within the string that the user enters into the prompt. Use the alert method to display the result.
8. Create an application that stores the text “The quick brown fox jumps over the lazy dog” within a variable called old\_string. Then, use slice(), substr(), or substring() to extract the words “the lazy dog” from the old\_string variable and store that result in a second variable called new\_string. Use the alert method to display the uppercase result of new\_string.
9. Create an application that stores the text “ THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG ” within a variable. Make sure to add space before and after the text so that appears very similar to the text here. Use the alert method to display the lowercase result of the variable once the space has been trimmed off.
10. Create an application that stores the text “the quick brown fox jumps over the lazy dog” within a variable. The user clearly forgot to capitalize the first letter in the sentence. Programmatically capitalize the first letter in the sentence and display the result in an alert.

**Part 2 - Math and Math Functions (5 points)**

1. Create an application that prompts the user for a number. Regardless of whether they enter a negative or positive number, make sure to display the positive version of that number in the console window. If I enter -15 in the prompt and -15 is displayed in the console window, you did this one wrong.
2. Create an application that prompts the user for a floating point value (decimal). Store the result of that input in a variable and then round it up to the nearest whole number. Display the result within a console window.
3. Create an application that prompts the user for a floating point value (decimal). Store the result of that input in a variable and then round it down to the nearest whole number. Display the result within a console window.
4. Create an application that prompts the user for 5 numbers. Ask them to comma delimit each number so you get 1,2,3,4,5 for example. Store the result of that input in a variable and then find the largest and smallest numbers in that list. Display both of those numbers within a console window.
5. Create an application that prompts the user for a number. Now find the square root of that number and display the result within a console window.

**Part 3 - Date and Date Functions (5 points)**

1. Create an application that gets the number of days in a month. Display that result within the console window.
2. Create an application that gets the month name from a particular date. Display that result within the console window.
3. Create an application that tests whether a date is a weekend. Display that result within the console window.
4. Create an application that gets yesterday’s day of the week. For instance, if today is Tuesday, the console window should display Monday.
5. Create an application that gets the current day of the week. The twist here is that I want only the first letter of the day. If today is Tuesday, the letter T should be displayed in the console window.

**Part 4 - Death by JavaScript (6 points each for 30 points total)**

Solve the following string/math/number/function/array-related problems. Each solution should be written within its own function and the output should be displayed within a console window. The display should be the return value of the function call.

1. Write a JavaScript function that returns a passed string with letters in alphabetical order. Assume punctuation and number symbols are not included in the passed-in string.  
     
   **Sample Data and Output**  
   Example string: 'webmaster'   
   Expected Output: 'abeemrstw'
2. Write a JavaScript function that accepts a string as a parameter and converts the first letter of each word of the string to upper case.  
     
   **Sample Data and Output**  
   Example string: 'the quick brown fox'   
   Expected Output: 'The Quick Brown Fox'
3. Write a JavaScript function that accepts a string as a parameter and counts the number of vowels within the string.

**Sample Data and Output**

Example string: 'The quick brown fox'

Expected Output: 5

1. Write a JavaScript function that generates a string id (specified length) of random characters.  
     
   **Sample Data and Output**  
   Expected Output: RCv1SBUC or PmJkc2Y2 or nIi5L0FA
2. Write a JavaScript function that accepts a list of country names as input and returns the longest country name as output.  
     
   **Sample Data and Output**Sample function: Longest\_Country\_Name(["Australia", "Germany", "United States of America"])  
   Expected output: "United States of America"