

## SOEN287 – Summer 2019 Assignment #2

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**Due Date:** By 11:59 PM **August 3<sup>rd</sup>**, 2019

**Evaluation:** 11% of final mark (see marking rubric at the end of handout)

**Late Submission:** none accepted

**Purpose:** The purpose of this assignment is to help you learn the JavaScript and HTML documents, and dynamic documents with JavaScript.

**CEAB/CIPS Attributes:** This assignment primarily evaluates use of JavaScript and HTML, and dynamic documents with JavaScript. (Use of engineering tools).

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### **General Guidelines When Writing Programs:**

- Include the following comments at the top of your source codes

```
// -----  
// Assignment (include number)  
// Written by: (include your name (s) and student id(s))  
// For SOEN 287 Section (your section) – Summer 2019  
// -----
```

- In a comment, give a general explanation of what your program does.
- Include comments describing key steps in your program.
- Display clear prompts for users when you are expecting the user to enter data from the keyboard.
- All output should be displayed with clear messages as well as in an easy to read format.

## Question #1

Write a JavaScript utility for a number based game. The tool should first check whether the data entered is a number or not. If it is then whether it is prime or not. If it is prime then print the number in reverse.

- A) You have to declare an input type and a button in your HTML form with input type having a placeholder

Enter your number	Try it
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- B) This utility will have three functions `validateNumber()`, `isPrimeNumber()`, and `reverseNumber()`
- `validateNumber`: Make sure the amount entered is numeric, alert a message "Please enter numeric value" otherwise.
  - `isPrimeNumber`: Analyze the number and alert one of the following two messages depending on the number
    - This is not a prime number
    - This is a prime number and reverse is (reverse number here)
  - `reverseNumber`: Reverse of the prime number

## Question #2

Write a JavaScript to identify whether user entered string pairs are anagrams or not. The javascript code should be in an external file called "anagram.js", an HTML file named "anafun.html" should be created which will contain only a **div** element with id "statsOut". Javascript should ask a user to enter pairs of String data until he/she enters "-1". You should check for numeric data and ignore it. Anagram stats should be displayed in the div tag of the HTML file.

- A) You have to use an external CSS file called "ana.CSS" to set border, font, margin, *etc.* for the div tag.
- B) The JavaScript file (anagram.js) should keep prompting a user for input until he/she enters -1. Numerical values as well as empty input should be handled gracefully and ignored. The script should print whether each String pair entered is anagram or not.
- C) If a user enters 5 consecutive entries without entering a string, the script should print "You have exceeded invalid entry limit."

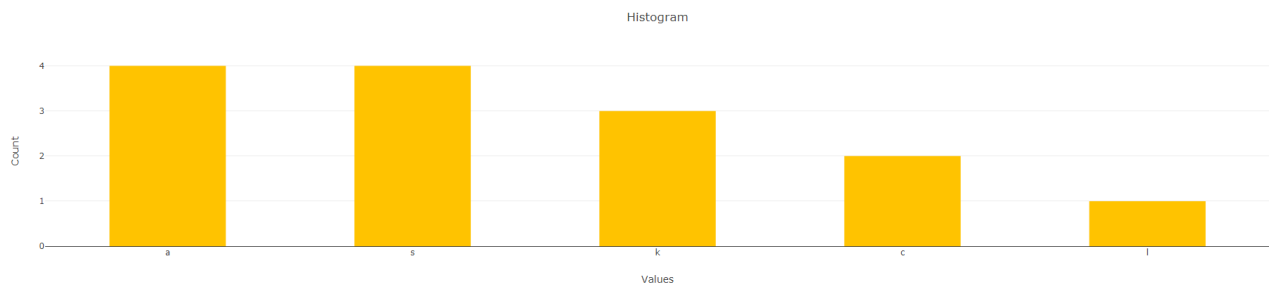
you have entered below mentioned string pairs.  
Pairs DOG and GOD are anagrams.  
Pairs Listen and Silent are anagrams.  
Pairs Dorm and Storm are not anagrams.

### **Question #3**

Write a JavaScript to plot frequency of user specified characters in a user given sentence. You have to make use of the “plotly” library and a sample file for the same is provided to you under week of July 28th.

- A) Create an HTML form as depicted below with two labels, two input boxes, a button and a div element. User will enter a string and a word as inputs, and you should plot the frequency chart in the div element on click event of a button.

Input String:	asaskbkkacnaclmdsfsmdf
Input Word:	asvcklj
Plot Histogram	



- B) Create a CSS file to put your favorite styles for all the elements in the form. It should have a minimum of style shown above. You can choose colors of your likings.
- C) JavaScript could be within the same html file or as an external file. The choice is again up to you.

### **Question #4**

Write a JavaScript function HideMe() that takes a user specified sentence and hides a certain words by replacing them with XXXXX. For a sentence that is without any of the mentioned words, you should print the entire sentence in a highlighted manner. The words to be checked are (soen287, summer, and 19). The search should not be case insensitive.

Sample outputs are mentioned below.

This is assignment2 for SOeN287.

>> This is assignment2 for XXXXXXXX.

The deadline is August 4<sup>th</sup>.

>> The deadline is August 4<sup>th</sup>.

## Submitting Assignment#2

- Zip source code (HTML and JavaScript and CSS files) of this assignment.
- Naming convention for zip file: Create one zip file, containing all source code files for your assignment using the following naming convention:
  - The assignment must be done individually:  
The zip file should be called *a#\_studentID*, where # is number of the assignment *studentID* is your student ID number. For example, for first assignment, student 123456 would submit *a2\_123456.zip*
- For submission please use Moodle link available in the week of July 28<sup>th</sup>.
- Assignments not submitted to the correct location or not in the requested format will not be graded.
- Submit only ONE version of an assignment. If more than one version is submitted the last one will be graded and all others will be disregarded.

## Evaluation Criteria of Assignment#2 (20 points)

HTML Document with JavaScript source code	
<b>Question #1 (5 pts.)</b>	
HTML form	1 pt.
Global variables	0.5 pt.
Function validateNumber()	0.5 pt.
Function isPrimeNumber()	2.0 pts.
Function reverseNumber()	1 pt.
<b>Question #2 (5 pts.)</b>	
ana.CSS	1.0 pt.
Prompt boxes for user input	1.0 pt.
Input validation	0.5 pt.
JavaScript Function	2.0 pts.
Display the result	0.5 pt.
<b>Question #3 (5 pts.)</b>	
HTML form	1.0 pt.
CSS for all the styling	1.0 pt.
JavaScript Function to parse input data	0.5 pts.
JavaScript Function to process data for plotly	2.0 pts.
Display the result	0.5 pt.
<b>Question #4 (5 pts.)</b>	0.5 pt.
Function HideMe() described in head	2.0 pt.
Using loop : for	0.5 pts.
Using the If statement	0.5 pts.
Tester described in body section	1.0 pt.
Display the result	1.0 pts.