# Assignment 1 – Solving JavaScript Problems

## Purpose

- Implement a Web Design Template (Header, Footer, and Menu) using CSS/Bootstrap 4
- Solve a number of JavaScript problems
- Upload your website to a Web server

## Due Date

- This lab must be handed in:
  **Friday Oct 09, 2020 – before midnight**

## Assessment

- This assignment is worth 10% of your total course mark.

## Assigned Readings

- **Lecture Slides** posted on Brightspace:
  - Module 1 -> Part 1 - Part 4
  - Module 2

- The following chapters of **Fundamentals of Web Development** will be useful in completing this exercise:
  - Chapter 1- Chapter 6

## Lab Supplies

To complete this lab you will require the following lab supplies:

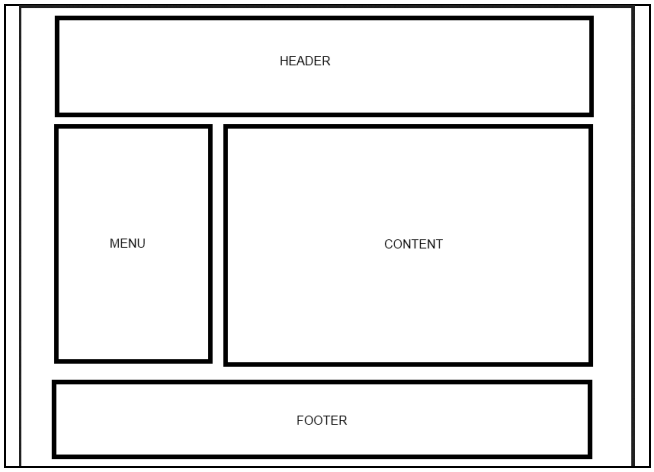
- Textbook: **Fundamentals of Web Development**
- Code Samples (**JavascriptSampleCode.zip**)
- Notepad++ (or other text editor, or IDE)

## Summary of Tasks

1. Implement a Web Design Template using CSS/Bootstrap 4
2. Solve a number of JavaScript problems
3. Upload your webpages to a webserver
4. View your webpage using a web browser
5. Submit the source code and the URL for Assignment 1 on Brightspace

## Task 1

You must implement the specified Design Template (**Course Content → Extra Materials → Common Look and Feel →Design Template.png**) using **CSS/Bootstrap 4**.




**The web design template must have the following elements: Header, Footer, and Menu.**

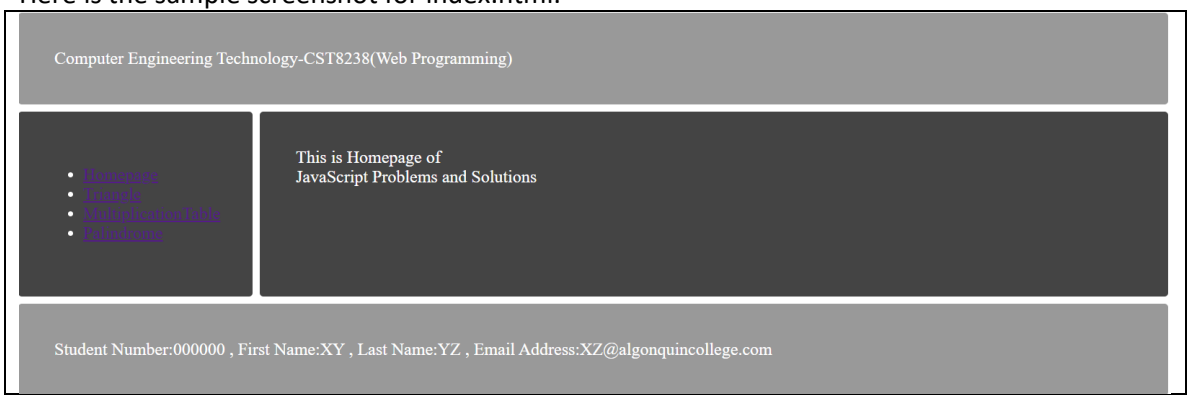
- Header
  - Program Name and Course Name
- Menu
  - Links to index.html, Triangle.html, MultiplicationTable.html and Palindrome.html.
- Footer
  - Student Number, First Name, Last Name, Email Address

## Task 2

Create a web page named '***index.html***' that implements the 'Design Template' specified in Task 1. The title of the web page will be 'JavaScript Problems and Solution'.

This web page will serve as the home page for Assignment 1 and contain the links for Triangle.html, MultiplicationTable.html and Palindrome.html.

Here is the sample screenshot for index.html:

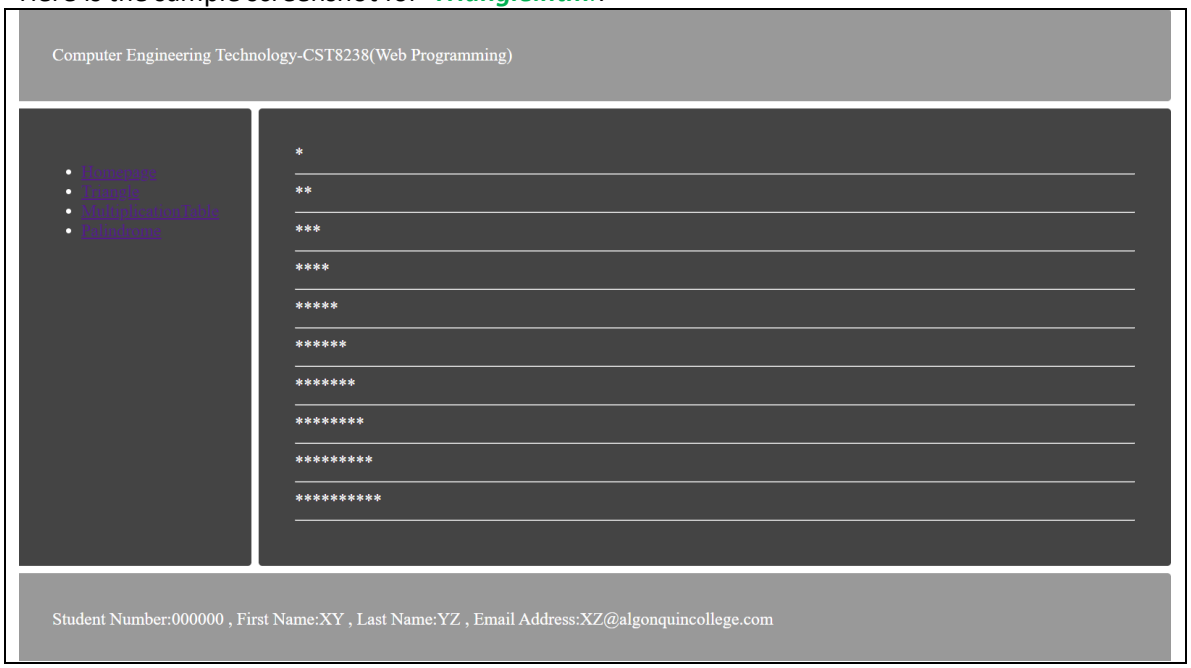



## Task 3

Create a web page named '***Triangle.html***' that implements the 'Design Template' specified in Task 1. The title of the web page will be 'Triangle'.

In this web page, draw a triangle of (*) inside the content area of the template in which each row increases in length by one character (*). You must use loop statement of JavaScript to draw the triangle.

Here is the sample screenshot for '***Triangle.html***:

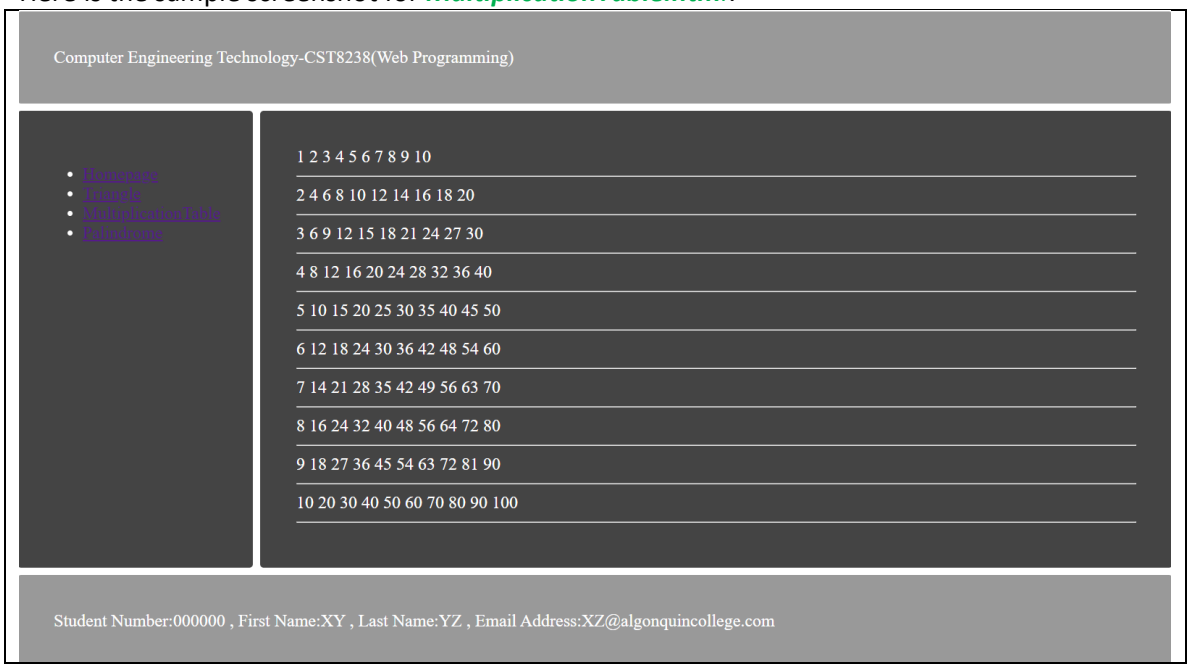


## Task 4

Create a web page named '***MultiplicationTable.html***' that implements the 'Design Template' specified in Task 1. The title of the web page will be 'MultiplicationTable'.

In this web page, implement a multiplication table (from 1 to 10) inside the content area of the template. You must use loop statement of JavaScript to implement the multiplication table.

Here is the sample screenshot for ***MultiplicationTable.html***:




## Task 5

Create a web page named '***Palindrome.html***' that implements the 'Design Template' specified in Task 1. The title of the web page will be '***Palindrome***'.

In this web page, implement a JavaScript function to determine whether a string is a Palindrome, which is a string or any sequence of characters/numbers that reads the same backwards and forwards such as *madam*, *racecar*.

Here are the steps that need to be implemented for ***Palindrome.html***:

### Step 1- Accept Input from the user using 'Prompt'

You need to display a prompt asking the user to provide a string to check whether the string is a Palindrome.

Clicking on ***Palindrome.html*** will display the following prompt:

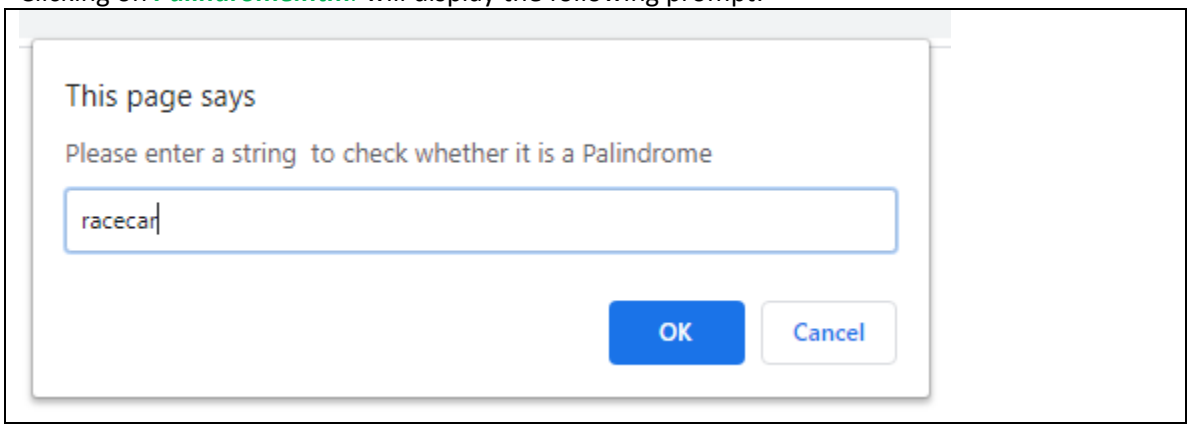



Fig: Sample input screenshot while providing an input string which is a Palindrome

## Step 2- Determine whether the string is a Palindrome and then display the result

You need to write JavaScript function to check whether the input string is a Palindrome and then display the result inside the content area of the template. If the provided string is a Palindrome, you have to display the output as '**true**'.

After clicking 'OK' on 'Prompt', the output will be displayed as follows:


Fig: Sample output screenshot when the provided string is a Palindrome

**Alternative Scenario**: Now we consider the alternative scenario when the user provides an input string that is **NOT** a Palindrome. In this case, you have to display the output as '**false**'.

The screenshots for the alternative scenario are as follows:

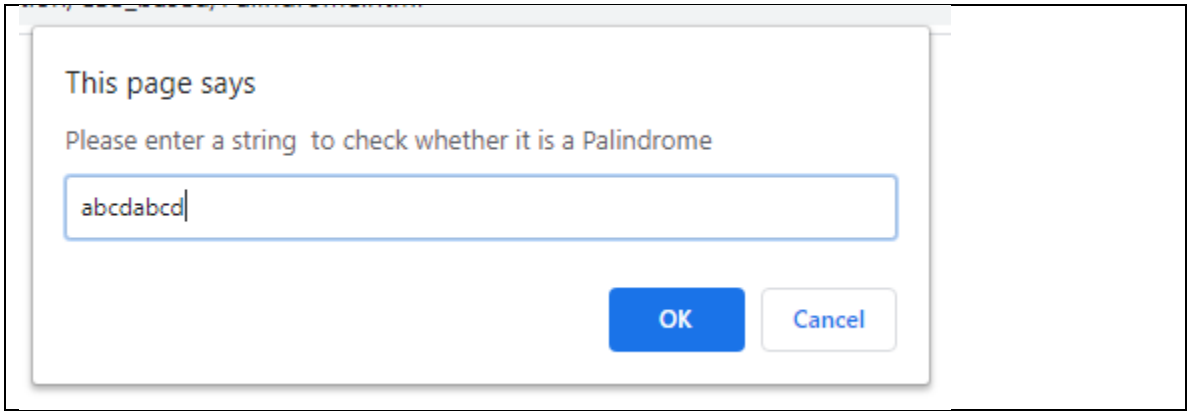



Fig: Sample input screenshot while providing an input string which is NOT a Palindrome

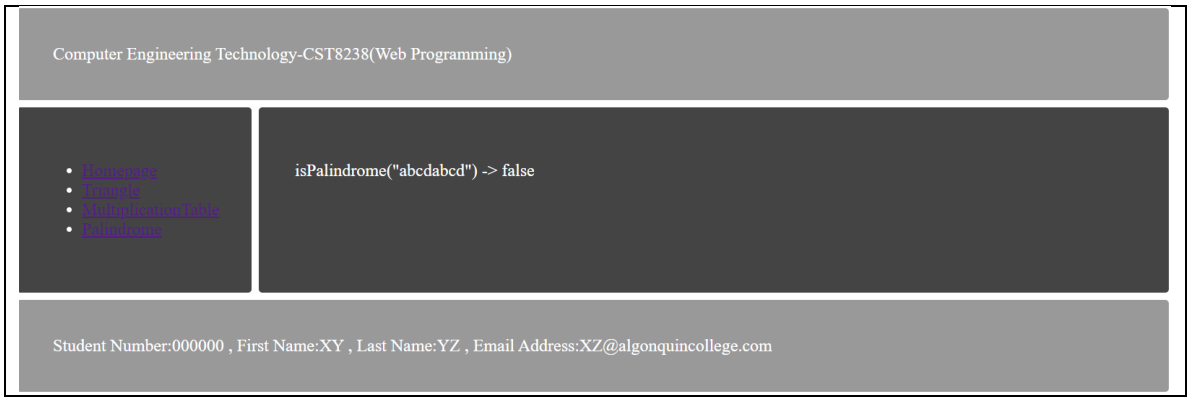



Fig: Sample output screenshot when the provided string is NOT a Palindrome

## Task 6

Create Assignment 1 submission folder '**Assignment1**' and copy **index.html, Triangle.html**, **MultiplicationTable.html**, **Palindrome.html** and other required files **(e.g., .css)** into this folder**.**

## Task 7

Upload your website for Assignment 1 into a Web Hosting Server by uploading '**Assignment1**' folder inside the 'public_html' directory of 'SiteGround' Web Hosting domain using DashBoard.

The 'File Upload' instruction is posted on Brightspace (**Course Contents -> Module 1 -> Part 2 -> SiteGround_FileUpload_Instruction.docx**).

## Task 8

View your website for Assignment 1 using a web browser. Open a web browser and navigate to the following web address:

**http://your_web-hosting_domain_name/Assignment1/<filename>**

For example, the sample URL for the homepage of Assignment 1 on an arbitrary web hosting domain is:

*rejaulc.sgedu.site/Assignment1/index.html*

where '*rejaulc.sgedu.site*' is the name of an arbitrary web hosting domain, '*Assignment1*' is the submission folder for Assignment 1, '*index.html*' is the homepage of Assignment 1.

## Task 9

Once you have confirmed that your webpage is available online, you are ready to hand in your Assignment.
Create a compressed file (**Assignment1.zip**) which will contain the following files:

- **index.html,**
- **Triangle.html**,
- **MultiplicationTable.html**,
- **Palindrome.html**

(N.B. Please keep in mind that ONLY .**zip** file is accepted as the format of the compressed file.)

Create a word document (Assignment1.doc) in which write the following Information:

- Student Number
- First Name
- Last Name
- The URL, or hyperlink, for the homepage of Assignment 1

To hand in your Assignment, go to Brightspace and navigate to Course Content → Assignments and click on 'Assignment 1 – Solving JavaScript Problems' link. Upload the word document (Assignment1.doc) and the compressed file (**Assignment1.zip**) on Brightspace.

**IMPORTANT NOTE**:
If the URL, or hyperlink, does not direct the professor to the Assignment you will receive a ZERO for the lab assignment.

**IMPORTANT NOTE**:
If you do not upload either Assignment1.zip or Assignment1.doc on Brightspace, you will receive a ZERO for the assignment.