Assignment 3
Web Programming Lab

Program 1. The objective of this exercise is to get an HTML5 workflow setup and do some basic input handling with javascript.

First Name: [ ] Last name: [ ] Alignment: [Left ◆] Font size: 50% ━━━▮━━━━━ 200%	Hello, {name}! Welcome to Web Programming Lab!

Your task is to replicate the interface shown above. When the user first starts the program, both of the first and last name fields are empty, the text alignment should be to the left, and the font size should start at 100%. The two sections of the interface are contained in 1 pixel black borders with no space between cells and set on a grey (#cccccc) background. All content within each cell has 5 pixels of padding from the edge.

When a user inputs either their first or last name the "{name}" in "Hello, {name}!" should change to match. A space should appear between the first and last names only when both of them are not blank. If the user clears both name fields the string should return to "Hello, {name}!"

The alignment should include options for left, right, centered, and justified.

When the user moves the font size slider the text in the box should change to reflect the user choice. The slider should range from 50% to 200% and default to 100%. The slider should provide a reasonable resolution so users have a degree of fine control but can also notice the effect of a change. Here is an example of the interface after some user input:

First Name: [Amit] Last name: [Kumar] Alignment: [Left ◆] Font size: 50% ━━━▮━━━━━ 200%	Hello, Amit Kumar! Welcome to Web Porgramming Lab!

For this assignment, you will be required to leave your name in a comment. To create a comment in your Hello {name} file, below the first line (the one that reads <!DOCTYPE HTML>), type in: <!-- (your name) -->. If you are using the default template a comment is added in this location by default just replace the default text with your name.

Provided Files

The files provided include an index.html file, a main.css file and a main.js file.

The provided HTML file contains both a <head> and a <body>. Inside the <head> there are 2 <meta> tags, a <title> and a <link> tag. The <meta> tags should be left as is, they define the character set for the file and tell the browser to use a normal full screen scaling. The <title> should be changed to "Assignment 3 – {you name}". The <link> tag includes a reference to the Mycss.css file and should be left as is.

The Mycss.css file defines the styling of the interface. The provided file already contains styling to draw the border around the "target" cell. You will have to add further code to this file to change the background and styling for both cells.

The <body> contains a <table> with a single row <tr> and 2 cells <td>. The first cell (id="controls") should be where you place your input fields. The second cell (id="target") should contain the text being edited. The "target" cell already contains 2 divs with the initial text for you to use. The <body> also contains a <script> reference to the MyJS.js file, which should be left as is.

The MyJS.js file is where you should write your javascript code to respond to user input. Note that this script starts with the line "use strict"; This line tells the javascript compiler to take a strict interpretation of your code. This means a number of things that are normally allowed in javascript will be considered errors (for a full list of what is outlawed see here: http://www.w3schools.com/js/js_strict.asp). All javascript in this class will be run with strict mode enabled.

Hints

• You may want to look at the different kinds of form input fields available in HTML5

(http://www.w3schools.com/html/html_forms.asp &
http://www.w3schools.com/html/html5_form_input_types.asp)

• In CSS style names are usually written with a dash like (e.g. text-align:left), when accessing a style through javascript it is normally written with camelCase (e.g. style.textAlign = "left").

Program 2 (15 Puzzle) Write a web page that enables the user to play the game of 15. There is a 4-by 4 board (implemented as an XHTML table) for a total of 16 slots. One of the slots is empty. The other slots are occupied by 15 tiles, randomly numbered from 1 through 15. Any tile next to the currently empty slot can be moved into the currently empty slot by clicking on the tile. Your program should create the board with the tiles out of order. The user's goal is to arrange the tiles in sequential order row by row. Using the DOM and the onclick event, write a script that allows the user to swap the positions of the open position and an adjacent tile. [Hint: The onclick event should be specified for each table cell.]