COM212 - Introduction to Web Technologies
Make-up Exam
Due: To be announced

Important Notes:

You should ONLY use the language constructs we learned in the class. If you use any construct other than what we learned in the class I reserve the right to deduct points ranging from a couple of points to no credit at all depending what you used.

Implement all of the below without any JavaScript library (except for Bootstrap which should **only** be used for the page layout and responsive Web).

Final exam should be done on an individual basis as other homeworks. Any code sharing may get no credit with a disciplinary action taken.

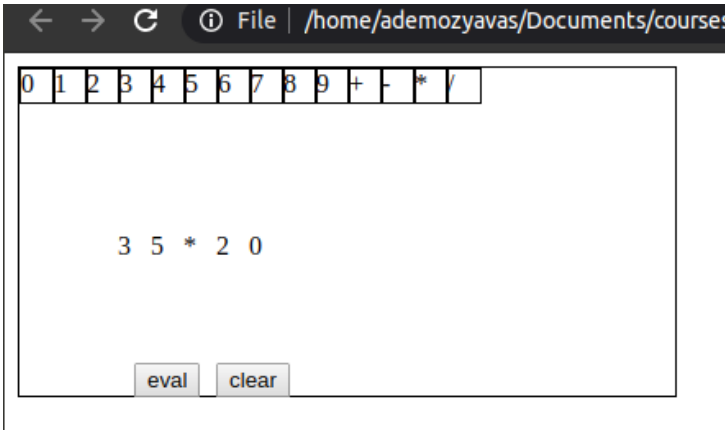
Make sure to follow the instructions given below in your implementation.

1. You will design a 3-column web page using Bootstrap.
2. The content of your page should consist of the things you are interested in so that you decide your title of the page, what sections to have and so forth.
3. Use image(s) (with text wrapping them), table(s), form(s) etc on your page with CSS styles.
4. You will place a div somewhere on your page that will be a calculator. The top of the div has digits 0 through 9 with four arithmetic operations. Two buttons “evaluate” and “clear” are placed at the bottom of this div. Clicking on a digit or arithmetic operator with your mouse should place that digit or operator sequentially somewhere in the middle of the div. Once you are done with your arithmetic expression, clicking the “evaluate” button should display “= xxx” to the right of the expression where xxx stands for the result of the expression entered by you. Clicking the “clear” button should erase the expression letting your start over. In my implementation there are some extra space between the digits of a integer which show “35 * 20”. As you can see, to obtain this arithmetic expression “3”,“5”,”*”,”2”, and “0” are clicked at the top the div. Please make sure yours looks better than mine. **Do not use canvas** (Html5 element) in your implementation. A figure of what this calculator may look like is given at the end of this document.
5. In the main content of the page, you will show a couple of separate stories. You make them up. Each story is displayed as a

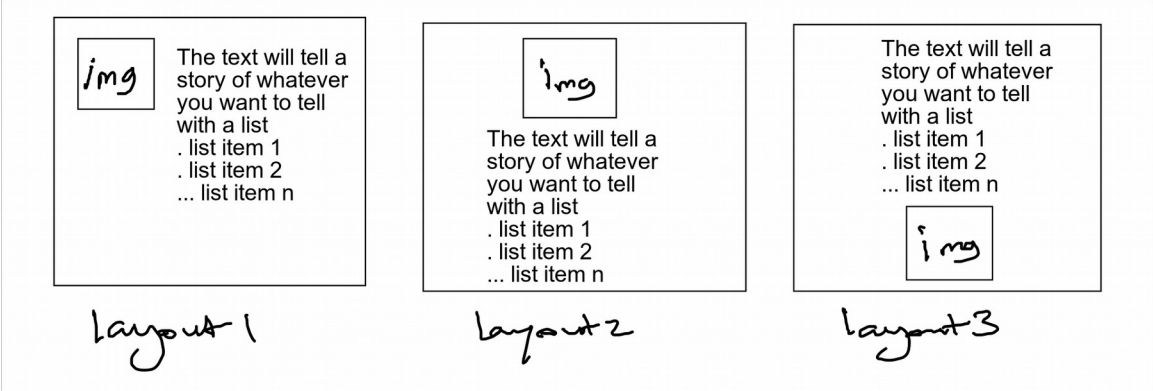
div which will be created and returned by a Javascript function. Each story can have an image, an un(ordered) list and some text. This three-piece information (image's src, list (an array probably) and text(string data)) should be passed in object literal notation to the function. The function then will organize the 3-piece data inside a div element and return this div which is going to be placed on your page. There is a catch tough about this function. It may return a different layout of the 3-piece data depending on an argument you supply to it. These different layouts are the image can come at the top left with the text to its right with the list, the image can come at the top with the text and the list underneath it, or at the bottom where text and the list at the top. You specify the location in an argument you pass to this function. A drawing of this is given at the end of the document.

6. Somewhere on your page you will have a "digital clock" showing the hour,minute and second in the 24-hour format. Follow the instructions in your clock implementation:
   a) This clock should be in a div.
   b) Write a Digit constructor function that returns a Digit object with append and setInv functions for all digits created from the Digit constructor function.
   c) Digit function takes the top and left position of the digit that it creates and return.
   d) The object return from Digit has all seven digits pieces that make up a digit.
   e) The append function takes a parent element and appends all the seven pieces to it.
   f) SetInv function takes the pieces of a digit that are to be invisible and make them invisible (while the rest of the digit pieces are visible). This method should be used to set each digit to its proper value.
   g) A figure of your clock is given at the end of this document.
   h) As you can tell from my implementation decription, NO CANVAS for the digital clock.

The calculator div example.



Three different layouts the function returns (stories can be told in three different formats):



Digital Clock:

Deliverables:

1. All your file(s) zipped with your full name should be turned in the UBIS system by the due date and time.
2. Put a readme.txt file that explains what you did finish and could not finish with whys if you want to. Or put anything that will help me understand your process. Briefly please.
3. Put a screen shot of your page and include in your zip file.