

COM212 - Introduction to Web Technologies
Final Exam
Due: On the official final exam date (UBIS system)

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.

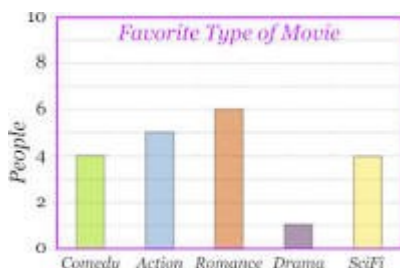
Implement all of the below without any JavaScript library (except for Bootstrap which should **only** be used for the page layout and responsive Web).

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

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 styling them.
4. You will implement a brief library (a class or constructor function) that will create a bar graph given proper data. In this case the data will be hard coded in your JavaScript code (that is is not coming from a database since we do not cover the server side yet). Even though data for the bar graph are in your JavaScript code, make no assumptions on how many bars, with what values, etc are passed to your library, that is, write your library as flexible as possible. The important thing is that the data come in a specified format (in object literal notation), that is, you are required to pass your data in object literal notation to your class' constructor (or your constructor function). Your data should include the x-axis title, y-axis title, the number of bars in the graph together with their value (y-value). . Your whole graph should be placed in a div which you should be able to place anywhere on your page. Use as much object-oriented JavaScript as possible in your code to show your understanding. **Do not use canvas** (Html5 element) in your implementation. A figure of your bar graph is given at the end of this document.
5. Somewhere on your page you should have a quote of the day sliding from left to right randomly chosen from a set of quotes of the day repository stored on your page. Pick a location for it.

- Keep this quote changing (and sliding). Implement it with JavaScript (with no CSS animation).
6. Somewhere on your page have a questions/answers section on how to cope with staying home during a pandemic. That is, share your experience with others. Initially only questions should show up with a down arrow at the beginning of it. Once you move your mouse over one the question should show some signs that you are on it. Clicking the mouse should expand it to reveal the answer to that question turning the down arrow to up arrow. Clicking on the question should shrink it all to the question again.
 7. Somewhere on your page you will a “digital clock” showing the hour, minute and second in the 24-hour format. This clock should be in a div. In your implementation of the clock, make sure that its digits will consist of smaller divs that you should create dynamically. Use an object oriented way if you can. A figure of your clock is given at the end of this document.

A bar graph example. To create the bar graph given below (or any other), you should pass at least the title for the graph (Favorite type of movie), each bar (its value, color, name [4, green, Comedy]), the y-value of the chart (People, here you write people without any transformation [as People] or use CSS for the transformation)



The clock.



An example of a digital clock is given on the left. Each digit consists of at most 7 div's (the 8 digit) or at least 2 div's (the 1 digit).

Deliverables are on the next page!!!

Deliverables:

All your file(s) zipped with your full name should be turned in the UBIS system by the due date and time.

Put a screen shot of your page and include in your zip file.