JavaScript exercises

You can find a good reference to JS here https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide and to jQuery here http://api.jquery.com/

Exercise 3.1.1

The following exercises are very simple (seen from an experienced Java/C# programmer's point of view) they don't require an HTML page, and are mainly meant as a short introduction to JavaScript:

a. Write a function `sizeOfLongest(words)` that takes an array of words and returns the length of the longest one.

b. Write a function `getLongestWord(words)` that takes an array of words and returns the first occurrence of the longest word.

c. Write a `function max(),` that takes two numbers as arguments and returns the largest of them.

d. Write a function `max2()` that takes an arbitrary amount of numbers as arguments and returns the largest (hint: use the `arguments` object or the rest operator)

e. Write a function that returns the current day as a string, i.e Monday, Tuesday …

Exercise 3.1.2

The following questions are meant to introduce the JavaScript array, the only built in list type in JavaScript, and the functionality it offers.

All questions are one-liners, so the main task is to figure out which method to use ☺

Create the two arrays below, spelled exactly as they are given. This will form the start for all the following questions.

```
var boys = ["Peter", "lars", "Ole"];
var girls = ["Janne", "hanne", "Sanne"];
```

a. Create a new array called ***all***, which should be a concatenation of the two arrays given above, starting with the boys and ending with the girls.
b. Create a comma separated string containing all the names from the *all*-array, separated by commas.
c. Create a hyphen (-) separated string containing all the names from the *all*-array, separated by hyphens.

d. Add the names Lone and Gitte to the end of the ***all*** array (remember, all can be done in one-liners)

e. Add the names Hans and Kurt to the start of the ***all*** array

f. Remove the first name in the array (Hans)

g. Remove the last name from the array (Gitte)

h. Remove Ole and Janne from the middle of the array

i. Sanne thinks it's unfair that the boys have to come first, reverse the *all* array, so that the girls come first.

j. Peter thinks that this is just as unfair and suggests that the array should be sorted. Sort the array.

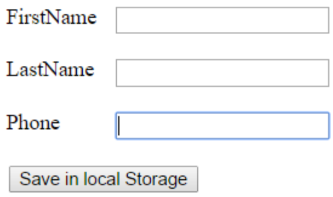
k. The default sort algorithm doesn't handle the situation where name can be either capitalized or not. Write a user-defined sort method to fix this problem.

l. Convert all the names in the array to uppercase (hint: use the map function, with a sufficient callback).

m. Create a new array containing all the names that start with either "l" or "L" (hint: use the filter function with a sufficient callback).

Exercise 3.1.3

Create a page which allows users to type firstname, lastname and age as sketched below.



If have not used HTML before you can find help here https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/Forms/My_first_HTML_form. You do not need to use the <form> tag but can get help on how to make the layout like above.
When the save button is pressed you should create a JavaScript object containing these values and serialize it, as a JSON String, into localStorage (http://www.w3schools.com/html/html5_webstorage.asp).

Next time the user returns to the page, you should de-serialize (in the load-event handler) this value back into a JavaScript object and populate the input fields with the values. (Hint: use the window onload event)

Come up with your own "is it Friday today" page using Javascript, and preferably, decorated with some nice CSS (if you can…).

Exercise 3.1.4

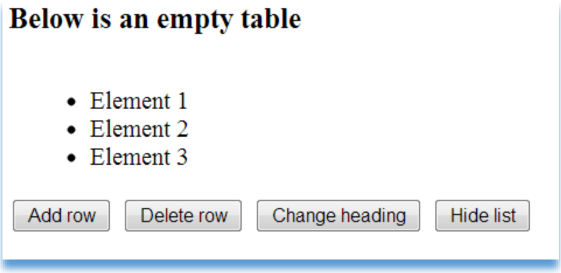
Now let’s make it a bit more fun and start to use JavaScript to manipulate our html-pages. The following will require you to make both an html page (which must include the script) and the script-file.

Manipulating the DOM

Create an html page which should render as the example below:

The HTML should include (added information about the tags to use in parenthesis):

- A heading (<h1></h1>)
- An empty table (<table></table>)
- An unordered list with some sample lines (<ul><li></li></ul>)
- Four buttons. (<button>Text</button> …)



Below is an empty table

- Element 1
- Element 2
- Element 3

Implement the necessary JavaScript, in a separate file, to dynamically add/remove rows to/from the table, change the heading text, and finally, hide and unhide the list.