1 - Basic HTML/CSS and the DOM API

1. Learning Outcomes

On completion of this lab you will have:

- Demonstrated the differences between websites and web applications
- Reviewed basic HTML and CSS language features and implemented code fragments for creating and styling common web page elements in the browser
- Created DOM elements using the native JSAPI
- Modified DOM elements using the native JSAPI

2. Grading

This worksheet is worth up to 10% of your overall module grade. Marks can be deducted in case plagiarism is identified.

You may work on this worksheet during lab the sessions in week 3 and the first hour of the lab in week 4 with instructor assistance, and must be ready to demonstrate after the first hour of the lab in week 4, as submissions not demonstrated will not be marked without mitigating circumstances.

3. Submission

The deadline for submission on Brightspace is Wednesday Oct 11, 2023 @23:59 through Brightspace.

The work and submission workflow are as follows:

- Create a public git (e.g. GitHub) repository.
- Create a sub-folder for each problem below. problem-1, problem-2, problem-3 etc.
- Put your solution for each problem in their respective folders.
- When you are finished developing your worksheet solution, compress and zip all problems into one zip file. Name this***<student-id>***-lab-1.zip
- ***<student-id>*** is something like C12345678
- Upload to Week 3 / Lab 1 / Lab 1 – Upload.

4. Resources

You are free to research whatever you need to solve the problems in this lab. Some recommended resources include:

- https://developer.mozilla.org/en-US/docs/Web/Guide/HTML
- https://developer.mozilla.org/en-US/docs/Web/CSS
- https://developer.mozilla.org/en-US/docs/Web/API/Document_Object_Model
- https://developer.mozilla.org/en-US/docs/Web/JavaScript
- https://www.codecademy.com/learn/javascript

5. Problem Sets

Credit will be given for well-organised and maintainable code, so keep it DRY

1	Create a flexible grid with 1 row and 4 columns. The width of each column is 25% of the window size. This percentage width must be maintained even if the page is resized. Each cell of the grid can contain another 1x4 flexible grid. The border of the grid must be 1px black. Perform the following operations based on the value of window size: If the window size is less than 960px, then the 1x4 flexible grid becomes a 2x2 grid. That is, the 3rd and 4th columns slide down onto the 2nd row. If the window size is less than 640px, then the 1x4 flexible grid becomes 4x1 grid. Each column slides under the one before it. The 2nd column slides under the 1st, the 3rd slides under the 2nd, and the 4th slides under the 3rd. **DO NOT USE BOOTSTRAP!**	25 marks
3	Create a simple note-taking app. A user should be able to: Add a note Edit a note Delete a note Also: Each note should be in a colored rectangular box. Box colors can be selected from a fixed list of colors.	45 marks
4	**This problem is related to the content present during the class in week 3.** By using the files provided for the Chrome Extension, make some changes on the Content.js and extend the functionality by changing different elements of the DOM. Take a look at the “developer’s mode” on your browser to get inspire about what possible elements you could change. Provide a short readme file explaining your extension’ functionalities. Be creative!	30 marks