**Lab: HTML**

The purpose of this lab is to study the concepts discussed during [INF203 on web technologies](http://perso.telecom-paris.fr/dufourd/cours/inf203/) and in particular HTML, CSS and SVG.

Be careful: in this lab, there are often a lot of ways to get a visually correct result, and even a lot of ways to make a legal result in the sense of HTML. But there are much fewer good ways to do it, in the spirit of HTML5. In this lab session, we will stick with HTML5 spirit and so the grader will refuse you many solutions that may work visually but are not what we are looking for.

**Assignments**

You will zip the different HTML, CSS and SVG files (not the files provided in this document ) and drop the zip below. You may also validate your result with the [W3C validator](https://validator.w3.org/).

***Thank you for using zip (and not tar and gzip or bzip2).***

***No spaces or accented characters or special characters in the name of the zip file.***

***This assignment is to be done individually.***

**Additional useful information**

Additional useful information can be found in: [Labs Overview](https://perso.telecom-paristech.fr/dufourd/cours/inf203/labs-overview.html)

**Simple use of HTML**

**Question 1a:** Create a file with the text “My personal page from TelecomParis”, then open this file in your browser. You should see the above text in the browser. Use the source code browser (“View Source” or CTRL + U on Windows, “View Page Source” or Alt-Command-U on a Mac) and the Inspector Element (F12 or Alt-Command-I) and compare the results. What are the differences ? So get in the habit of regularly checking if the console displays errors and if the interpretation made by a browser is consistent with your expectations.

Remember there are three elements in question 1a:

1. the text file named exercise1.html with just one string in it,
2. the display in your browser where you see just the string,
3. the web developer window where you see the interpretation of the text file by the browser.

(2.) is not editable. (3.) is editable, but will disappear as soon as you reload the page from the file.

**Question 1b:** In the **file** of the previous question, add the basic tags then put in bold the words TelecomParis. Use a recent HTML tag (not the legacy b tag). Save your result in the file exercise1b.html.

Warning: the web developer window (3.) is editable and you could do the changes there and see the results in 2. but there is no way to save these changes. You have to edit a text file, for example using the Atom editor installed on the computers in the labs.

**Question 1c:** Add a “title” tag containing the text: “This is a test page”, and save it to the file exercise1c.html. What is displayed in the browser?

**Question 1d:** In the previous file, place the text “My personal page from TelecomParis” in a h1 element at the beginning of the page. After the h1 element, create 3 div elements and insert text into each of these elements. Insert enough text in the first two so that the complete content does not fit in the page and that the scroll bar appears. You can use automatically generated text, for example of the Latin “Lorem ipsum” with [this online generator](http://fr.lipsum.com/). Give identifiers d1, d2, d3 to each div element respectively. Note: the tag has to be div and the identifier is the value of an attribute called id.

Create a bullet list to navigate the page, with one link targetting each of the three div elements. Place this list in a nav element before the div elements. Add an external link (to another website) in the bullet list at the end, so that you have four children in the nav.

Add an image at the beginning of the second <div>. Use an image in PNG, JPEG or SVG format.

Save the result to a file named exercise1d.html.

**Question 1e:** Experiment the robustness and behavior of browsers when your tags are not or are badly closed. Find an example of an unclosed tag that does not change anything, and another unclosed tag that changes rendering dramatically.

**Adding CSS Styles**

**Question 2a:** Add to the file exercise1d.html, using the style attributes:

* on the first div, put CSS code that defines a 1 pixel thick border. Add space (13px) between the text and the border.
* on the image of the second div, add CSS code so that the text is displayed to the right of the image, with the rest of the text below the image if it is longer than the image. Think about readability, and so put a little space (11px) between the text and the image.
* on the third div, add CSS code that defines a background color dimgrey (which is a grey). Add space (10px) around the grey rectangle.

As a suggestion, you can check and modify the CSS code using the code inspector until you get it right, then transfer changes to the text file. Use CSS property background-color rather than background, as background has a complex syntax and is not recognised by the grader.

Save the result to a file named exercise2a.html.

Here is a picture of a valid response:

A person riding a bicycle

Description automatically generated with low confidence

The details (number of pixels, colors) may be different for you.

**Question 2b:** Move these CSS styles into a <style> element. Save the result to a file named exercise2b.html. Explain what you had to change and the advantages / disadvantages of this method.

**Question 2c:** Then delete this <style> element and use an external style sheet named exercise2c.css. Save the result in a file named exercise2c.html. Explain what you had to change and the benefits of using an external style sheet.

**Question 2d:** Add a class to the third div. Change the CSS of this class for this div to be displayed in front of other divs, at the position 83px, 83px (relative to the top left of the page) with a width and height of 465px. Save the result to files named exercise2d.html and exercise2d.css.

**Question 2e:** Change the CSS of this class so that this div is displayed in front of the other divs in position 119px, 119px with a width and height of 425px, but so that it does not move with the rest of the text when you scroll the page with the mouse. Save the result to files named exercise2e.html and exercise2e.css.

**Question 2f:** Change the CSS of this class so that this div disappears when you click on it. Note: the div comes back when you release the mouse button. Save the result to files named exercise2f.html and exercise2f.css.

**Question 2g:** Change the CSS of this class so that the text of this div gets the color red when you hover over it without clicking. Save the result to files named exercise2g.html and exercise2g.css.