UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II
BACHELOR OF SCIENCE IN COMPUTER SCIENCE
WEB TECHNOLOGIES COURSE – SPRING 2025
TEACHER: Luigi Libero Lucio Starace, Ph.D.

DATE: March 13, 2025
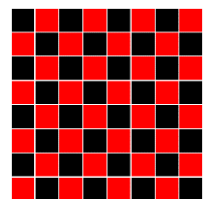**BEST DONE BEFORE:** March 18, 2025

ASSIGNMENT: #02   TOPIC: CSS

EXERCISE 1. CSS CALISTHENICS

Open the **webpage.html** document provided with this assignment in your favourite text editor. You are not allowed to change anything in the document, except for the **<head>** element and its content.

Start by creating a new stylesheet (**style.css**) and by including it in the web page. Then write CSS rules to implement the following requirements:

1. The header should have a blue background, and any text contained in it should be white.
2. The navbar should have a light grey background. Moreover, the links in the navbar should be separated by a dash symbol (" – "). There should be no dash before the first link and no dash after the last link. **Hint**: this can be done with a single rule, if you use also the **:not** pseudo-class selector.
3. The *Paragraphs* section contains some wisdom on CSS by the great master Fu-Tzu. The **<span>**s with the "master" class should be highlighted in using a bold style and blue color. Moreover, in each paragraph, all the **<em>** elements appearing after a **<span>** with the "master" class should be highlighted with a bold font and red color. The other **<em>**s should be simply highlighted in green and underlined.
4. The links that open in a new window/tab should be prefixed with the right-arrow emoji: ➡
5. The links that lead to external pages (i.e., when the target URL starts with "http") should report the string "(ext.)" after their content.
6. The *Lists* section contains a list to honour some Italian pasta shapes. Pay your respects by making sure that the items of the list are properly colored according to the Italian flag. The first item should be green, the second white, the third red, the fourth green again and so on. The CSS rule(s) should also work also when new pasta shapes are added to the list. **Hint**: take a look at the nth-child pseudo-class.
7. In the *Chessboard* section, the chessboard (which is actually a **<table>**) has a little problem: they forgot to paint the black cells! Fix this problem with CSS, so that it looks like a proper chessboard (see pic on the side). **Hint:** note that the red background on the table cells is specified as an authored inline style. How can that be overridden?

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EXERCISE 2. THE CASCADE

Consider the following snippet of HTML and the CSS rules reported on the right.

```html
<div id="container" class="container">
  <p>This is a paragraph.</p>
</div>
```

```css
p {color: green;}
div p {color: blue;}
#container p {color: red;}
.container p {color: orange;}
[id] p {color: yellow;}
```

First, compute the specificity for each of the **color** properties defined in the above CSS. Then, sort the properties in decreasing order of specificity, and use the ordering to predict the color of the paragraph. Confirm that your calculations are correct by creating an HTML document with the above content and styles, by opening it in a web browser, and by using the Browser Dev Tools to check the specificity of the rules.

What would happen if the **<p>** element in the above snippet had a **style** attribute with the content: `"color: pink;"`? Describe, step-by-step, the application of the cascade algorithm in that scenario. Then, add the style attribute in the HTML document you created and confirm that your prediction was correct.

Consider the HTML document obtained after adding the style attribute. Suppose you need the to override the pink color on the paragraph with a new CSS rule, and make the color purple. What rule could you write to do so? Confirm in the web browser that your new rule works as intended.

Change the value of the style attribute in the HTML document to `"color: pink !important;"`. What happened in the rendered document? Explain the steps in the cascade algorithm that led to that result.

Consider now the HTML document obtained after updating the style attribute in the previous step. Suppose you need to override the pink color on the paragraph with a new color of your choice. How can you do that by adding new rules in the authored CSS? How can you do that by adding new CSS properties in the inline style?