

Web Application Development

LAB 4: CSS Essentials

Main objectives

At the end of this activity, students should be able to:

- Learn how to write a CSS rule using a selector (the target) and a declaration (the style).
- Apply the different methods for connecting a CSS stylesheet to an HTML document.
- Examine specific CSS lines to describe how they change the visual look.
- Improve a page's appearance and write new code to match a specific frontend design.

CSS Rules :

Here is a CSS rule that displays heading in green:

```
h3 { color: green; }
```

A CSS rule consists of two main parts:

- **Selector:**
The target HTML element (in the example above, h3).
- **Declaration:**
The styling applied to the selector (e.g., color: green).
A declaration is further divided into:
 - **Property:** The attribute you want to change (e.g., color).
 - **Value:** The specific setting for that property (e.g., green).

Note:

When applying multiple styles to the same element, separate each declaration with a semicolon (;).

Example:

```
p { font-weight: bold; line-height: 1.5; }
```

Exercise 1:

- 1) Explain the different ways to link CSS to an HTML document. Give a brief description of each method.
- 2) Apply the CSS code (in figure 2) to the html (in figure 1) using internal styling.
- 3) Apply the CSS code (in figure 2) to the html (in figure 1) using external styling.

```
<!DOCTYPE html>
<html>
<head>
  <title>Algerian Cities</title>
</head>
<body>
<h1>Algeria</h1>
<h2>Welcome to Algeria</h2>
<h3>Top 5 Algerian Cities</h3>
<p>Here is a list of some cities in Algeria that
you might want to visit.</p>
  <ul>
    <li>Algiers</li>
    <li>Oran</li>
    <li>Jijel</li>
    <li>Bejaia</li>
    <li>Msila</li>
  </ul>
</body>
</html>
```

Figure 1 HTML code

```
h1 {
  color: darkgreen;
  font-family: Verdana, sans-serif;
  text-align: center;
}
h2 {
  color: navy;
  font-family: Arial, sans-serif;
}
h3 {
  color: maroon;
  font-style: italic;
}
p {
  color: gray;
  font-size: 16px;
  font-family: Georgia, serif;
}
ul {
  color: blue;
  font-family: Arial, sans-serif;
  font-size: 18px;
}
```

Figure 2 CSS code

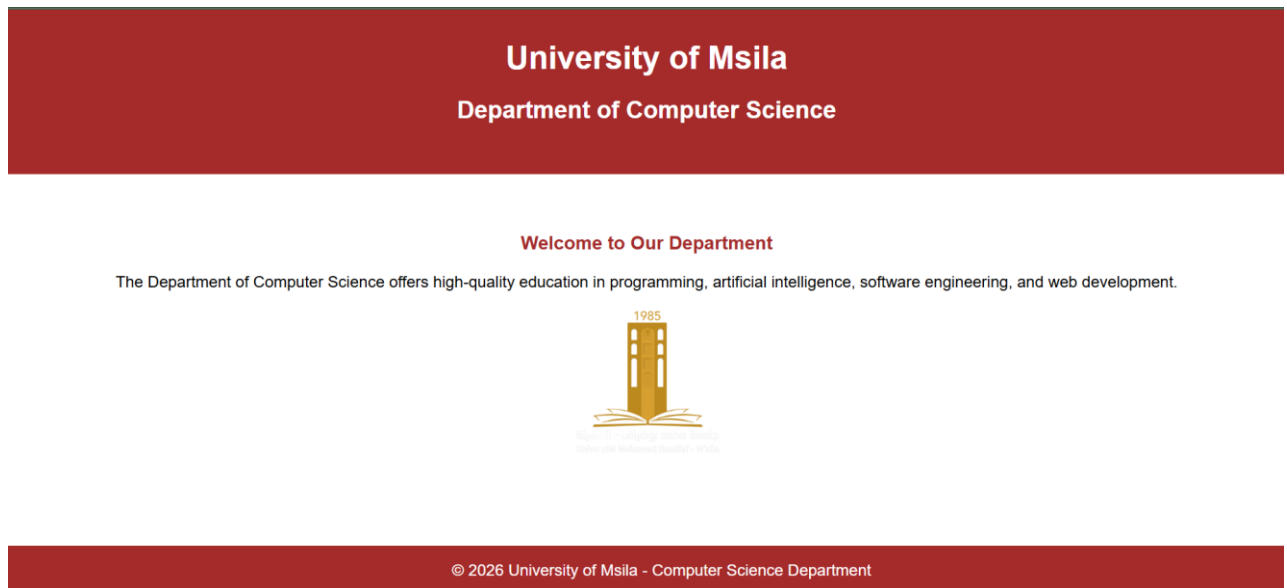
- 4) Modify the CSS code to improve the appearance of the page.

Exercise2: Copy and show the result of this code then analyse it by explaining what each line does and how it changes the look of the card.

```
<!DOCTYPE html>
<head>
  <meta charset="UTF-8">
  <title>CSS Analysis Exercise</title>
  <style>
    body {
      background-color: #f0f2f5;
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
      margin: 0;
      font-family: Arial, sans-serif;
    }
    .profile-card {
      display: flex;
      flex-direction: column;
      align-items: center;
      width: 300px;
      padding: 30px;
      background-color: #ffffff;
      border-radius: 20px;
      box-shadow: 0 10px 20px rgba(0, 0, 0, 0.1);
      transition: transform 0.3s ease;
    }
    .profile-card:hover {
      transform: translateY(-10px);
    }
    .profile-card img {
      width: 120px;
      height: 120px;
      border-radius: 50%;
      object-fit: cover;
      border: 5px solid #3498db;
    }
    .profile-card h2 {
      margin: 15px 0 5px 0;
      color: #333;
    }
    .profile-card p {
      color: #777;
      font-size: 14px;
      margin-bottom: 20px;
    }
    .contact-btn {
      background-color: #3498db;
      color: white;
      padding: 12px 25px;
      border: none;
      border-radius: 25px;
      font-size: 16px;
      font-weight: bold;
      cursor: pointer;
    }
  </style>
</head>
<body>
  <div class="profile-card">
    
    <h2>mohamed boudiaf</h2>
    <p>Frontend Developer</p>
    <button class="contact-btn">Message
Me</button>
  </div>
</body>
</html>
```

Exercise 3:

- Propose the HTML and CSS code required to reproduce exactly this frontend:



Exercise 3 solution:

```
<!DOCTYPE html>
<head>
  <meta charset="UTF-8">
  <title>University of Msila - Department of Computer Science</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: white;
      margin: 0;
      padding: 0;}
    header {
      background-color: brown;
      color: white;
      padding: 30px;
      text-align: center;}
    section {
      padding: 40px;
      text-align: center; }
    footer {
      background-color: brown;
      color: white;
      text-align: center;
      padding: 15px;
      position: fixed;
      bottom: 0;
      width: 100%; }
    h1 {margin: 0; }
    h3 {color: brown;}
    h2 {color: white;}
  </style>
</head>
<body>
  <header>
    <h1>University of Msila</h1>
    <h2>Department of Computer Science</h2>
  </header>
  <section>
    <h3>Welcome to Our Department</h3>
    <p>
      The Department of Computer Science offers high-quality education
      in programming, artificial intelligence, software engineering,
      and web development.
    </p>
    
  </section>
  <footer>
    &copy; 2026 University of Msila - Computer Science Department
  </footer>
</body>
</html>
```