REPORT ASSIGNMENT LAB 1

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Course: Web Application Development

Lab 1: HTML & CSS

Github: https://github.com/TienAnh0108/Lab1_Assignment1.git

1. 5–10 separate HTML files.
    a. Why do we need to separate 5-10 HTML files?

    Separating a website into 5–10 individual HTML files is important for organization, usability, and maintainability. Each file represents a different page or function of the site, such as Home, About, Projects, Blog, and Contact.

    b. How do we separate 5-10 HTML files?

2. Use semantic tags: header, nav, main, section, article, footer.
    a. What is sematics tags?

    Semantic tags are HTML5 elements that describe the meaning and purpose of the content inside them, rather than just how it looks.

    Each of these tags gives meaning to its content — for example:

    - <header> defines the top section of a page or article.
    - <nav> identifies navigation links.
    - <main> contains the primary content.
    - <article> is for independent, self-contained pieces (like blog posts).
    - <footer> defines the bottom section or credits.

b. Why do we need to use semantic tags?

We use semantic tags because they make our websites more structured, accessible, and SEO-friendly. They help both developers and browsers understand the structure of a webpage more clearly.

c. How do we use semantic tags?

```
<header>
    <nav class="navbar">
        <div class="navdiv">
            <div class="logo"><a href="#">Peano</a></div>
            <ul>
                <li><a href="index.html">Home</a></li>
                <li><a href="about.html">About</a></li>
                <li><a href="projects.html">Projects</a></li>
                <li><a href="gallery.html">Gallery</a></li>
                <li><a href="blog.html">Blog</a></li>
                <li><a href="map.html">Map</a></li>
                <li><a href="contact.html">Contact</a></li>
            </ul>
        </div>
    </nav>
</header>
```

```
<footer class="footer-home">
    <p>&copy; 2025 Peano | <a href="policy.html">Privacy Policy</a></p>
</footer>
```

```html
<main class="home-main">
    <section class="intro">
        <h1>Hello, I'm <span>Nguyễn Tiến Anh</span></h1>
        <h2>Junior Front-End Developer</h2>
        <p>
            I'm passionate about building beautiful, responsive, and accessible web experiences.
            I started coding at university, where I turned my curiosity about design and technology
            into real projects – from interactive portfolios to creative UI prototypes.
        </p>
        <p>
            My journey began with small personal websites, but quickly grew into a love for modern
            front-end frameworks, clean design, and thoughtful user interaction. Today, I continue
            learning and improving every day – one line of code at a time.
        </p>

        <a href="projects.html" class="btn">View My Work</a>
    </section>

    <section class="skills">
        <h3>Core Skills</h3>
        <ul>
            <li>HTML5, CSS3, JavaScript (ES6+)</li>
            <li>Responsive Web Design (Flexbox & Grid)</li>
            <li>UI/UX Principles & Accessibility</li>
            <li>GitHub & Version Control</li>
        </ul>
    </section>
</main>
```

3. Consistent navigation bar across pages
    a. What is the consistent navigation bar?

    A consistent navigation bar is a menu that appears in the same position and with the same layout, style, and links across all pages of a website. It usually contains internal links such as Home, About, Projects, Blog, Contact, etc., and helps users easily move between different sections of the site

    b. Why do we need to use it?

    A consistent navigation bar is essential for usability, accessibility, and professional design. It helps improve UX, ensures design consistency, increases accessibility, simplifies site maintenance, and supports SEO and internal linking.

c. How do we use the consistent navigation bar?

```
<header>
    <nav class="navbar">
        <div class="navdiv">
            <div class="logo"><a href="#">Peano</a></div>
            <ul>
                <li><a href="index.html">Home</a></li>
                <li><a href="about.html">About</a></li>
                <li><a href="projects.html">Projects</a></li>
                <li><a href="gallery.html">Gallery</a></li>
                <li><a href="blog.html">Blog</a></li>
                <li><a href="map.html">Map</a></li>
                <li><a href="contact.html">Contact</a></li>
            </ul>
        </div>
    </nav>
</header>
```

4. Internal + external links.
    a. What are internal and external links?

    Internal links are hyperlinks that connect one page to another within the same website. They help users move between sections of your own site.

    External links are hyperlinks that direct users to a page or resource on a different website or domain. They are often used for references, resources, or related content.

    b. Why do we should use it?

    Using both internal and external links improves website usability, credibility, and SEO (Search Engine Optimization).

    c. How do we can use it?

- Internal Link

```
<a href="projects.html" class="btn">View My Work</a>
```

- External Link

```
src="https://www.youtube.com/embed/QH2-TGUlwu4"
```

5. ≥5 images with alt; at least one figure/figcaption.
    a. How do we apply more than 5 images?

```
<div class="gallery-grid">
  <img src="img1.jpg" alt="Project 1" />
  <img src="img2.jpg" alt="Project 2" />
  <img src="img3.png" alt="Project 3" />
  <img src="img4.png" alt="Project 4" />
  <img src="img5.jpg" alt="Project 5" />
</div>
```

6. At least one iframe (Google Maps, YouTube, etc.).
    a. What is the iframe?

    The <iframe> (inline frame) is an HTML element that allows you to embed another webpage or external resource inside your current webpage. It creates a small “window” or “frame” that displays another HTML document, video, map, or interactive content directly within your site.

    b. Why do we need to use it?

    Using <iframe> provides both functional and visual benefits for your website: To embed external content easily, enhance UX, enrich page design and interactivity.

    c. How can we use it?

```
<div class="map-video">
  <iframe
    src="https://www.google.com/maps/embed?pb=!1m18!1m12!1m3!1d3919.4978!2d106.700!3d10.776!2m3!1f0!2f0!3f0!3m2!1i1024!2i768!4f13.1!3m3!1m2!1s
    allowfullscreen=""
    loading="lazy">
  </iframe>
</div>

<div class="video-embed">
  <iframe width="560" height="315" src="https://www.youtube.com/embed/QH2-TGUlwu4"
  title="YouTube video player" frameborder="0" allowfullscreen></iframe>
```

7. Full form with multiple components
    a. What is full form with multiple components?

    A full form with multiple components is an HTML form that includes a wide variety of input types and structured elements for collecting different kinds of user data.

b. Why do we need to use it?

A full form with multiple components is important because it ensures your website is interactive, functional, and user centered.

c. How can we use it?

```html
<main class="survey-main">
  <section class="survey-container">
    <h1>Project Collaboration Survey</h1>
    <p class="survey-subtitle">Please fill this form to help me understand your needs better.</p>

    <form class="survey-form" action="#" method="post">
      <fieldset>
        <legend>Personal Info</legend>

        <label for="fullname">Full Name</label>
        <input type="text" id="fullname" name="fullname" required pattern="[A-Za-z ]{3,}"
          title="Only letters and spaces allowed">

        <label for="email">Email</label>
        <input type="email" id="email" name="email" required>

        <label for="tel">Phone</label>
        <input type="tel" id="tel" name="tel" placeholder="123-456-7890" pattern="[0-9]{3}-[0-9]{3}-[0-9]{4}"
          required>
      </fieldset>

      <fieldset>
        <legend>Project Preferences</legend>

        <label for="projectType">Project Type</label>
        <select id="projectType" name="projectType" required>
          <optgroup label="Web">
            <option value="frontend">Frontend Development</option>
            <option value="uiux">UI/UX Design</option>
          </optgroup>
          <optgroup label="Others">
            <option value="branding">Branding</option>
            <option value="consulting">Consulting</option>
          </optgroup>
        </select>
```

```
      <label>Preferred Contact:</label>
      <div class="radio-group">
        <label><input type="radio" name="contact" value="email" checked> Email</label>
        <label><input type="radio" name="contact" value="phone"> Phone</label>
      </div>

      <p>Include extra services:</p>
      <div class="checkbox-group">
        <label><input type="checkbox" name="extra" value="seo"> SEO</label>
        <label><input type="checkbox" name="extra" value="hosting"> Hosting</label>
      </div>

      <label for="budget">Estimated Budget ($)</label>
      <input type="number" id="budget" name="budget" min="100" max="10000" step="100">

      <label for="deadline">Preferred Deadline</label>
      <input type="date" id="deadline" name="deadline">

      <label for="satisfaction">Satisfaction Level</label>
      <input type="range" id="satisfaction" min="0" max="10" step="1" value="5">
      <output id="rangeValue">5</output>

      <label for="color">Brand Color</label>
      <input type="color" id="color" name="color">

      <label for="resume">Upload Example File</label>
      <input type="file" id="resume" name="resume" accept=".pdf,.jpg,.png">

      <input type="hidden" name="form_id" value="surveyForm2025">
    </fieldset>

    <label for="comments">Additional Comments</label>
```

```
    <label for="comments">Additional Comments</label>
    <textarea id="comments" name="comments" rows="5" placeholder="Any special requests?"></textarea>

    <input type="submit" value="Submit Survey">
    <input type="reset" value="Reset">

    <div class="progress-area">
      <p>Progress:</p>
      <progress value="80" max="100"></progress>

      <p>Confidence Meter:</p>
      <meter value="0.9" min="0" max="1" optimum="0.8"></meter>
    </div>
  </form>
 </section>
</main>
```

8. Use labels for all inputs; group with fieldset + legend.

```
<label for="fullname">Full Name</label>
<input type="text" id="fullname" name="fullname" required pattern="[A-Za-z ]{3,}"
  title="Only letters and spaces allowed">

<label for="email">Email</label>
<input type="email" id="email" name="email" required>
```

9. Use required, pattern, min/max/step.

```
<label for="tel">Phone</label>
<input type="tel" id="tel" name="tel" placeholder="123-456-7890" pattern="[0-9]{3}-[0-9]{3}-[0-9]{4}"
 required>
```

10. Show friendly error messages.

```
<input type="text" id="fullname" name="fullname" required pattern="[A-Za-z ]{3,}"
  title="Only letters and spaces allowed">
```

11. External CSS file

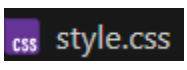
    a. What is the CSS file?

    CSS (Cascading Style Sheets) file is a separate file that defines how HTML elements should look on a web page. It controls visual presentation such as colors, fonts, spacing, layout, and responsiveness. A CSS file usually has the extension .css, and it is linked to an HTML document using the <link> tag inside the <head> section.

    b. Why do we need to use CSS file?

    To separate content from design, consistency across pages, easier maintenance, responsive design, faster performance and professional appearance.

    c. How do we use it?

    - We access style.css from html files by this way:

```
<link rel="stylesheet" href="style.css">
```

12. Use Flexbox/Grid; responsive (at least 1 breakpoint ~768px).
    a. What are Flexbox and Grid?

    Flexbox is a CSS layout system that allows elements to automatically adjust their size and position within a container. It is mainly used for one-dimensional layouts — arranging items in a row or a column.

    b. Why do we should use Flexbox and Grid?

    Use Flexbox → for aligning elements in one direction (like navbars or menus).

    Use Grid → for arranging elements in both directions (like image galleries or page layouts).

    Both improve usability, responsiveness, and design consistency.

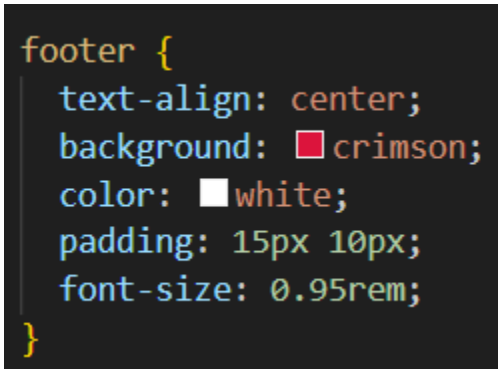
13. CSS variables for colors
    a. What are CSS variables?

    CSS variables (also called custom properties) are reusable values defined in CSS that store information like colors, fonts, or sizes.

    b. Why do we should use CSS variables?

    They make your website more consistent, flexible, and maintainable.

    c. How do we use it?



14. Hover/focus states
    a. What is hover/focus state?

    The hover state is a CSS effect that occurs when a user moves the mouse pointer over an element (like a button or link). It's defined using the: hover pseudo-class in CSS.

b. Why do we use it?

Improves user experience (UX), enhances accessibility, encourages interaction, and provides visual consistency

c. How do we use it?

```
.navdiv li a:hover,
.navdiv li a:focus{ /*Thêm trạng thái cho biết người dùng tương tác với các items*/
  color: #ffe5ec;
  border-bottom: 2px solid #fff;
}
```