**Theory Assignment:**

**1. What is Tailwind CSS and how does it differ from traditional CSS frameworks?**

**Tailwind CSS** is a modern, utility-first CSS framework used for rapidly building custom user interfaces. Instead of providing predefined components (like Bootstrap or Bulma), Tailwind gives you low-level utility classes that let you build completely custom designs without writing any CSS.

**Differences from traditional CSS frameworks:**

| **Feature** | **Tailwind CSS** | **Traditional Frameworks (e.g., Bootstrap)** |
| --- | --- | --- |
| **Approach** | Utility-first | Component-based |
| **Customization** | Highly customizable via config file | Limited customization |
| **CSS file size** | Smaller with PurgeCSS / JIT | Often includes unused styles |
| **Learning Curve** | Steeper initially | Easier to use out of the box |
| **Speed of development** | Faster for experienced users | Faster for beginners |

**2. What is utility-first CSS and what are its advantages?**

**Utility-first CSS** is a methodology where you use small, single-purpose classes (utilities) directly in your HTML to style elements. Instead of writing custom CSS for every element, you use pre-built classes like bg-blue-500, text-center, or p-4.

**Advantages:**

* **Faster Development**: No need to switch between HTML and CSS files.
* **Consistent Design**: Shared utility classes lead to consistent styling.
* **Reduced CSS Bloat**: Unused styles can be purged during production builds.
* **Better Responsiveness**: Tailwind includes built-in responsive utilities.
* **Maintainable Code**: You can see styles directly in the HTML structure.

**3. Five Common Tailwind Classes Explained:**

| **Class** | **Description** |
| --- | --- |
| p-4 | Adds padding of 1rem (16px) on all sides |
| bg-blue-500 | Sets the background color to a mid-blue shade |
| text-white | Makes the text color white |
| rounded-lg | Applies large border-radius to make corners rounded |
| flex | Applies flexbox layout to the element |