🎨 CSS Notes for Beginners

1. Introduction to CSS

Definition: CSS (Cascading Style Sheets) is a language used to describe the presentation (look and formatting) of a web page written in HTML.

✅ It controls:

- Text styles
- Layout and spacing
- Colors and backgrounds
- Responsiveness

Explanation: CSS helps to separate content from design, making websites easier to maintain and style.

Example:

<p style="color: red;">This is red text.</p>

2. CSS Syntax & Selectors

Definition: CSS syntax is the set of rules that define how to apply styles to HTML elements using selectors and properties.

Explanation:

- The **selector** targets HTML elements.
- **Property** is the style attribute you want to change.
- **Value** is what you want to set the property to.

Syntax:

```css
selector {
  property: value;
}
```

Types of Selectors:

- **Element selector:** Targets all elements of a type.

```css
h1 {
  color: blue;
}
```

- **Class selector:** Targets elements with a specific class.

```css
.intro {
  font-size: 20px;
}
```

- **ID selector:** Targets an element with a specific ID.

```css
#main-title {
  text-align: center;
}
```

- **Group selector:** Targets multiple selectors.

```css
h1, p {
  margin: 10px;
}
```

- **Universal selector:** Targets all elements.

```css
* {
```

```css
  box-sizing: border-box;
}
```

- **Descendant selector:** Targets elements inside another element.

```css
div p {
  color: green;
}
```

---

3. Styling Text

Definition: Styling text means modifying font, size, color, spacing, alignment, and decoration.

Example:

```css
p {
  color: navy;
  font-size: 18px;
  font-family: Arial;
  font-style: italic;
  font-weight: bold;
  text-align: center;
  text-decoration: underline;
  letter-spacing: 1px;
  line-height: 1.5;
}
```

4. CSS Box Model

Definition: The CSS box model describes the rectangular boxes that are generated for elements.

Explanation: Every element is a box made up of:

- **Content** – the text or image inside
- **Padding** – space around content
- **Border** – boundary around padding
- **Margin** – space outside the border

Example:

```
div {
  padding: 10px;
  border: 1px solid black;
  margin: 20px;
}
```

5. Background & Borders

Definition: CSS properties to add background colors/images and border styles to elements.

Example:

```
div {
  background-color: lightblue;
  background-image: url('bg.jpg');
```

```
  border: 2px dashed red;

  border-radius: 10px;

}
```

6. Layout and Positioning

Definition: CSS layout properties control how elements are displayed and positioned on the screen.

Properties include: display, position, z-index, overflow

Example:

```
div {

  position: absolute;

  top: 10px;

  left: 20px;

  z-index: 5;

}
```

7. Lists and Tables Styling

Definition: Applying styles to HTML lists and tables.

List Example:

```
ul {

  list-style-type: square;

}
```

Table Example:

```css
table {
  border-collapse: collapse;
  width: 100%;
}
th, td {
  border: 1px solid black;
  padding: 8px;
}
```

8. Pseudo-classes and Pseudo-elements

Definition: Special selectors that style elements based on their state or part of the element.

Examples:

```css
a:hover {
  color: red; /* When hovered */
}


p::first-letter {
  font-size: 200%; /* Style first letter */
}
```

9. Responsive Design

Definition: Designing web pages that look good on all devices.

Explanation: Use media queries to apply styles based on screen size.

Media Query Example:

```
@media screen and (max-width: 600px) {
  body {
    background-color: lightgray;
  }
}
```

10. Flexbox

Definition: A CSS layout model for arranging items in a one-dimensional (row or column) layout.

Example:

```
.container {
  display: flex;
  justify-content: space-between;
  align-items: center;
  gap: 10px;
}
```

11. CSS Grid

Definition: A layout system for dividing space into rows and columns (2D layout).

Example:

```
.grid {
  display: grid;
  grid-template-columns: 1fr 1fr 1fr;
  gap: 10px;
}
```

12. Transitions & Animations

Definition: Add movement to elements using gradual changes or keyframe animations.

Transition Example:

```
button {
  transition: background-color 0.3s;
}
button:hover {
  background-color: yellow;
}
```

Animation Example:

```
@keyframes slide {
  from { left: 0; }
  to { left: 100px; }
```

```
}
div {
  animation: slide 2s infinite;
}
```

13. CSS Variables

Definition: Reusable custom property values defined in CSS.

Example:

```
:root {
  --main-color: blue;
}
p {
  color: var(--main-color);
}
```

14. Linking External CSS

Definition: Linking a separate .css file to an HTML document for styling.

Example in HTML:

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

15. Practice Ideas

- Create a profile card

- Build a navigation menu
- Design a landing page using Flexbox
- Create a responsive layout using Grid