

■ CSS Notes

Introduction to CSS

CSS (Cascading Style Sheets) is used to style HTML elements like colors, layouts, and fonts. CSS can be applied in three ways:

Inline CSS → `<h1 style="color: blue;">Hello World</h1>`

Internal CSS → `<style> h1 { color: red; } </style>`

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

CSS Syntax

Basic syntax structure:

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

```
p {  
    color: green;  
    font-size: 18px;  
}
```

Selectors

Types of selectors:

Element Selector → `p { color: red; }`

ID Selector → `#title { font-size: 24px; }`

Class Selector → `.highlight { background: yellow; }`

Universal Selector → `* { margin: 0; }`

Group Selector → `h1, h2, p { color: blue; }`

Attribute Selector → `input[type="text"] { border: 1px solid; }`

Pseudo-class → `a:hover { color: red; }`

Pseudo-element → `p::first-letter { font-size: 30px; }`

Colors

Different ways to define colors:

Named: red, blue, green

HEX: `#ff0000`

RGB: `rgb(255,0,0)`

RGBA: `rgba(255,0,0,0.5)`

HSL: `hsl(0, 100%, 50%)`

Backgrounds

Adding colors and images:

```
body {  
    background-color: lightblue;  
    background-image: url("bg.jpg");  
    background-repeat: no-repeat;
```

```
    background-size: cover;
}
```

Box Model

Every element has Content, Padding, Border, Margin:

```
div {
    width: 200px;
    padding: 20px;
    border: 2px solid black;
    margin: 10px;
}
```

Typography

Text formatting properties:

```
font-family: Arial, sans-serif;
font-size: 16px;
font-weight: bold;
text-align: center;
line-height: 1.5;
```

Borders & Outlines

Example of borders and outlines:

```
div {
    border: 2px solid red;
    border-radius: 10px;
    outline: 3px dashed blue;
}
```

Shadows

Applying shadows:

```
h1 {
    text-shadow: 2px 2px 5px gray;
}
div {
    box-shadow: 4px 4px 10px black;
}
```

Gradients

Linear gradient example:

```
div {
    background: linear-gradient(to right, red, yellow);
}
```

Transformations

Rotating and scaling elements:

```
div {  
  transform: rotate(45deg);  
  transform: scale(1.5);  
}
```

Transitions & Animations

Smooth transitions and animations:

```
button {  
  transition: 0.5s;  
}  
button:hover {  
  background-color: blue;  
}  
  
@keyframes move {  
  from { left: 0; }  
  to { left: 100px; }  
}  
div {  
  position: relative;  
  animation: move 2s infinite;  
}
```

Navigation Bar Example

Simple horizontal navbar:

```
ul {  
  list-style-type: none;  
  background: black;  
  overflow: hidden;  
}  
li {  
  float: left;  
}  
li a {  
  display: block;  
  padding: 14px;  
  color: white;  
  text-decoration: none;  
}  
li a:hover {  
  background: gray;  
}
```

Flexbox

Flexible layouts using Flexbox:

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

Grid

Grid-based layout:

```
.container {  
  display: grid;  
  grid-template-columns: repeat(3, 1fr);  
  gap: 20px;  
}
```