

11-CSS Crash Course

Chapter 12: Crash Course in CSS

CSS (Cascading Style Sheets) is a language that defines how HTML elements are presented. With CSS, you can control colors, layouts, fonts, animations, and much more to bring your web pages to life.

12.1 What is CSS?

CSS works alongside HTML by defining the style of elements. While HTML provides structure, CSS handles the visual presentation.

Example:

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

12.2 Ways to Use CSS

CSS can be applied to HTML in three different ways:

1. **Inline CSS:** Directly inside an HTML element's `style` attribute.

Example:

```
1 <p style="color: blue;">Blue Text</p>
```

2. **Internal CSS:** Inside a `<style>` tag in the `<head>` section of your HTML file.

Example:

```
1 <style>
2   p {
3     color: green;
4   }
5 </style>
```

3. **External CSS:** Linked to an external file, ideal for separating styling from HTML content.

Example:

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

12.3 CSS Syntax

CSS follows a simple syntax:

```
1 selector {
2     property: value;
3 }
```

Example:

```
1 body {
2     background-color: lightblue;
3 }
```

12.4 Selectors

CSS selectors determine which HTML elements are targeted by the styles.

1. **Type Selector:** Targets elements by tag name.

Example:

```
1 h1 {
2     font-size: 32px;
3 }
```

2. **Class Selector:** Targets elements by their `class` attribute (use a dot `.` before the class name).

Example:

```
1 .highlight {
2     color: yellow;
3 }
```

3. **ID Selector:** Targets elements by their `id` attribute (use a hash `#` before the ID name).

Example:

```
1  #main-title {  
2    text-align: center;  
3  }
```

4. **Group Selector:** Targets multiple elements.

Example:

```
1  h1, h2 {  
2    color: red;  
3  }
```

12.5 Common CSS Properties

1. Text Styling:

- `color` : Changes text color.
- `font-family` : Sets the text font.
- `font-size` : Changes the font size.
- `text-align` : Aligns text (left, right, center, justify).

Example:

```
1  p {  
2    color: gray;  
3    font-family: Arial, sans-serif;  
4    text-align: justify;  
5  }
```

2. Background Styling:

- `background-color` : Changes the background color.
- `background-image` : Sets an image as the background.
- `background-size` : Adjusts image size.

Example:

```
1  body {  
2    background-color: lightyellow;
```

3. Box Model Properties:

Every element in CSS is treated as a rectangular box. These are the main properties:

- `margin` : Space outside the box.
- `padding` : Space inside the box.
- `border` : Defines the border around the box.

Example:

```
1  div {  
2    margin: 20px;  
3    padding: 10px;  
4    border: 2px solid black;  
5  }
```

4. Layout Styling:

- `display` : Controls the layout type (`block` , `inline` , `flex` , etc.).
- `position` : Defines the element's position (`relative` , `absolute` , `fixed` , `sticky`).

Example:

```
1  div {  
2    display: flex;  
3    justify-content: center;  
4  }
```

12.6 Responsive Design

Responsive design ensures your web page looks great on all devices.

1. Media Queries: Apply styles based on screen size.

Example:

```
1  @media (max-width: 600px) {
2    body {
3      background-color: lightblue;
4    }
5  }
```

2. **Percentages and `em` / `rem` Units:** Use relative units for font sizes and widths instead of fixed pixels.

Example:

```
1  p {
2    font-size: 1.2em;
3  }
```

12.7 Practical Examples

1. **Basic Styled Page:**

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <style>
5      body {
6        font-family: Arial, sans-serif;
7        background-color: lightgray;
8        color: black;
9      }
10     h1 {
11       color: blue;
12     }
13     p {
14       line-height: 1.6;
15     }
16   </style>
17 </head>
18 <body>
19   <h1>Welcome to CSS</h1>
20   <p>This is a paragraph styled with CSS.</p>
21 </body>
22 </html>
```

2. Responsive Navigation Bar:

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4    <style>
5      nav {
6        display: flex;
7        justify-content: space-around;
8        background-color: black;
9        padding: 10px;
10     }
11     nav a {
12       color: white;
13       text-decoration: none;
14     }
15     @media (max-width: 600px) {
16       nav {
17         flex-direction: column;
18         align-items: center;
19       }
20     }
21   </style>
22 </head>
23 <body>
24   <nav>
25     <a href="#home">Home</a>
26     <a href="#about">About</a>
27     <a href="#contact">Contact</a>
28   </nav>
29 </body>
30 </html>
```