



# CSS Advance

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# CSS Flexbox

- What is Flexbox?
  - A layout model for arranging items in a container, allowing for flexible and responsive designs.
  - Ideal for creating one-dimensional layouts (rows or columns).
- Key Concepts:
  - Container: The parent element with `display: flex;`
  - Items: Child elements inside the container.
  - **Properties:**
    - `justify-content`: Aligns items horizontally (e.g., center, space-between).
    - `align-items`: Aligns items vertically (e.g., center, flex-start).
    - `flex-direction`: Defines the direction of items (e.g., row, column).

e.g:

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

# CSS Grid

- What is CSS Grid?
  - A two-dimensional layout system for creating complex grid-based designs.
- Key Concepts:
  - Grid Container: The parent element with `display: grid;`
  - Grid Items: Child elements inside the container.
  - **Properties:**
    - `grid-template-columns`: Defines the number and size of columns.
    - `grid-template-rows`: Defines the number and size of rows.
    - `gap`: Adds spacing between grid items.

e.g:

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

# Media Queries

- What are Media Queries?
  - CSS techniques to apply styles based on screen size or device type.

e.g:

```
@media (max-width: 768px) {  
  body {  
    background-color: lightblue;  
  }  
}
```

- Breakpoints:
  - Mobile: max-width: **480px**
  - Tablet: max-width: **768px**
  - Desktop: min-width: **1024px**

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# Animations and Transitions

## Transitions:

Smoothly change property values over time (e.g., hover effects)

e.g:

```
button {  
  transition: background-color 0.5s ease;  
}  
button:hover {  
  background-color: blue;  
}
```

## Animations:

Create complex animations using @keyframes.

e.g:

```
@keyframes slide {  
  0% { transform: translateX(0); }  
  100% { transform: translateX(100px); }  
}  
.box {  
  animation: slide 2s infinite;  
}
```

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# CSS Frameworks

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# What is a CSS Framework?

A **CSS framework** is a pre-written collection of CSS styles that helps developers design websites faster and more efficiently.

- Provides **ready-made components** like grids, buttons, and forms.
- Ensures **consistency** in design across different projects.
- Saves time by **reducing the need to write CSS from scratch**.

## Popular CSS Frameworks

Framework	Features	Best For
<b>Bootstrap</b>	Responsive grid system, UI components, easy customization	General-purpose, fast development
<b>Tailwind CSS</b>	Utility-first approach, highly customizable, lightweight	Custom designs, modern UIs
<b>Bulma</b>	Simple, flexible, lightweight, grid-based	Minimalistic projects
<b>Foundation</b>	Advanced responsiveness, accessible, flexible grid	Large-scale responsive websites
<b>Materialize</b>	Google's Material Design principles, responsive UI	Material Design-styled apps



# Bootstrap

## Grid System:

Responsive 12-column grid for layouts.

```
<div class="row">
  <div class="col-md-6">Left Column</div>
  <div class="col-md-6">Right Column</div>
</div>
```

## Pre-Styled Components:

- **Navbar:** Responsive navigation bars.
- **Cards:** Flexible content containers.
- **Modals:** Pop-up dialogs.

```
<div class="card">
  <div class="card-body">
    <h5 class="card-title">Card Title</h5>
    <p class="card-text">Card content here.</p>
  </div>
</div>
```

# Referring Sources

- CSS: <https://www.w3schools.com/Css>
- Bootstrap: <https://getbootstrap.com>

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