

<!-- ! animation -->

- CSS Animations allow you to create smooth transitions and dynamic effects by animating changes to CSS properties over time.

Key Components of CSS Animations:

1. **`@keyframes` Rule**:

- Defines the stages of the animation and the styles at each stage.
- You can specify the styles at different percentages of the animation's duration or use keywords like `from` (equivalent to `0%`) and `to` (equivalent to `100%`).

- **Example**:

```
```css
@keyframes slideIn {
 from {
 transform: translateX(-100%);
 }
 to {
 transform: translateX(0);
 }
}
```

##### 2. **Animation Properties**:

- These properties are used to apply and control the animation on an element.

- **`animation-name`**: Specifies the name of the `@keyframes` animation to apply.

**Example**: `animation-name: slideIn;`

- **`animation-duration`**: Defines how long the animation takes to complete one cycle.

- Example: `animation-duration: 2s;` (2 seconds)

- **`animation-timing-function`**: Specifies the speed curve of the animation.

- Common values:

- `linear`: Constant speed from start to finish.
- `ease`: Starts slow, speeds up, and then slows down at the end.
- `ease-in`: Starts slow and then speeds up.
- `ease-out`: Starts fast and then slows down.
- `ease-in-out`: Slow start, fast middle, slow end.

- **`animation-delay`**: Sets a delay before the animation starts.
  - Example: `animation-delay: 1s;` (starts after 1 second)
- **`animation-iteration-count`**: Defines how many times the animation should repeat.
  - Common values:
    - `infinite`: Loops the animation indefinitely.
    - A specific number (e.g., `3`).
  - **Example**: `animation-iteration-count: infinite;`
- **`animation-direction`**: Specifies whether the animation should play forward, backward, or alternate between the two.
  - Values:
    - `normal`: Plays the animation forwards.
    - `reverse`: Plays the animation backwards.
    - `alternate`: Alternates between forward and reverse on each cycle.
  - **Example**: `animation-direction: alternate;`
- **`animation-fill-mode`**: Determines how the element should be styled before the animation starts and after it ends.
  - Values:
    - `none`: Default, no styles applied before/after the animation.
    - `forwards`: Retains the final styles after the animation ends.
    - `backwards`: Applies the starting styles before the animation begins.
    - `both`: Applies both `forwards` and `backwards` behaviors.
  - **Example**: `animation-fill-mode: forwards;`

### 3. **Shorthand Property**:

- The `animation` property can be used to set all the animation properties in one line.
- **Syntax**: `animation: name duration timing-function delay iteration-count direction fill-mode play-state;`
- **Example**:
 

```

css
.box {
 animation: slideIn 2s ease-in-out 1s infinite alternate forwards;
}

```