

In CSS, transition and animation properties are used to add visual effects and smooth transitions to elements on a webpage. Here's an overview of these properties:

1. Transition Properties:

- `transition-property`: Specifies the CSS property to which the transition effect should be applied.
- `transition-duration`: Defines the duration of the transition effect.
- `transition-timing-function`: Specifies the timing function that determines the acceleration or deceleration of the transition.
- `transition-delay`: Sets a delay before the transition effect starts.

Example:

```
```css
.element {
 transition-property: width;
 transition-duration: 0.3s;
 transition-timing-function: ease-in-out;
 transition-delay: 0.1s;
}
```
```

2. Animation Properties:

- `animation-name`: Specifies the name of the keyframes animation that should be applied to the element.
- `animation-duration`: Defines the duration of the animation.
- `animation-timing-function`: Specifies the timing function that determines the acceleration or deceleration of the animation.
- `animation-delay`: Sets a delay before the animation starts.
- `animation-iteration-count`: Specifies the number of times the animation should repeat.
- `animation-direction`: Sets whether the animation should play in reverse or alternate directions.
- `animation-fill-mode`: Defines how the element should be styled before and after the animation.
- `animation-play-state`: Controls whether the animation is running or paused.

Example:

```
```css
.element {
 animation-name: slide;
 animation-duration: 1s;
 animation-timing-function: ease-in-out;
 animation-delay: 0.2s;
}
```

```
animation-iteration-count: infinite;
animation-direction: alternate;
animation-fill-mode: forwards;
animation-play-state: running;
}
```

```
@keyframes slide {
 0% {
 transform: translateX(0);
 }
 50% {
 transform: translateX(100px);
 }
 100% {
 transform: translateX(0);
 }
}
...
```

In the above example, the element will continuously slide back and forth by 100 pixels horizontally with a duration of 1 second and an ease-in-out timing function. The animation will start after a 0.2s delay and repeat infinitely.

These properties allow you to create smooth transitions and captivating animations on your web page, enhancing the user experience and making your designs more engaging.