

# CHAPTER 9 – TRANSFORM, TRANSITIONS & ANIMATIONS

Transforms are used to rotate, move, skew or scale elements. They are used to create a 3D effect.

## The Transform Property

Used to apply a 2D or 3D transformation to an element.

## The Transform-Origin Property

Allows to change the position of transformed elements

2D transforms → can change x & y axis

3D transforms → can change z axis as well

## CSS 2D Transform Methods

You can use the following 2D transforms in CSS:

1. Translate()
2. Rotate()

3. ScaleX()
4. ScaleY()
5. Skew()
6. Matrix()
7. Scale()

## **CSS 3D Transform Methods**

1. RotateX()
2. RotateY()
3. RotateZ()

## **CSS Transitions**

Used to change property values smoothly, over a given duration.

## **The Transition Property**

The transition property is used to add transition in CSS. Following are the properties used for CSS transition.

- 1) Transition-property → The property you want to Transition.
- 2) Transition-duration → Time for which you want transition to apply.

3) Transition-timing-function → How you want the property to transition.

4) Transition-delay → Specifies the delay for the transition.

All these properties can be using a single shorthand property :-

i.e.- *transition: width 35 ease-in 25;*

Property

Duration

Timing-function

Delay

## **Transitioning Multiple Properties**

We can transform multiple properties as follows:

e.g.- *transition : opacity 15 ease-out 15, transform 25 ease-in;*

## **CSS Animations**

Used to animate CSS properties with more control.

We can use @keyframes rule to change the animation from a given style to a new style.

e.g.- *@keyframes harry{*

*from{width:20px;} → Can change multiple properties*

*to{width:31px;}*

*}*

## **Properties to add Animations**

Following are the properties used to set animation in CSS:

1. Animation-name → name of the animation
2. Animation-duration → How long does the animation run?
3. Animation-timing-function → Determines speed curve of the animation.
4. Animation-delay → Delay for the start of an animation.
5. Animation-iteration-count → Number of times an animation should run.
6. Animation-direction → Specifies the direction of the animation.

## The Animation Shorthand

All the animation properties from 1-6 can be applied like this:

e.g.- *harry 65 linear 15 infinite reverse;* → direction  
name | duration | timing-function | delay  
iteration-count

## Using percentage value states with animation

We can use % values to indicate what should happen when a certain percent of animation is completed.

e.g.- *@keyframes harry{*  
*0%{width:20px;}*  
*50%{width:80px;}* → Can add as many intermediate  
*100%{width:200px;}* properties as possible  
*}*