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 \rightarrow 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.

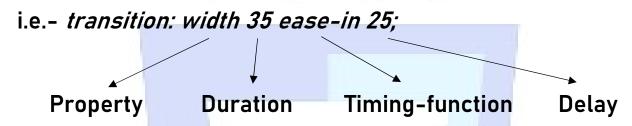
The Transition Property

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

- 1) Transition-property \rightarrow 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:-



Transitioning Multiple Properties

We can transform multiple properties as follows:

e.g.- transition : opacity 15 case-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;}

}
```

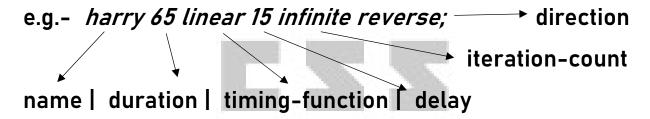
Properties to add Animations

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 animaton 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:



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;\} \rightarrow Can add as many intermediate 100\%\{width:200px;\} properties as possible \}
```