Chapter 8: Transforms, Transitions and Animations

Transforms are used to rotate, move, skew or scale elements. They are used to create a 3-D 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 and y axis
3D transforms → can change z axis as well.

CSS 2D transform methods

you can use the following 2-D transforms in CSS.

1. translate()
2. rotate()
3. ScaleX()
4. ScaleY()
5. Skew()
6. matrix()
7. Scale()

CSS 3D transform methods

1. rotate X()
2. rotate Y()
3. rotate z()

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 set using a single shorthand property.

```
transition: width 35 ease-in 25;
            (1)   (2)  (3)    (4)
```

(1) Property
(2) duration
(3) Timing-function
(4) delay.

Transitioning multiple properties

we can transition multiple properties as follows:

Transition: opacity 1s ease-out 1s, transform 2s 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.

```
@keyframes harry {
    from {width: 20px;} - can change multiple
    to {width: 31px;}   properties.
}
```

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:

```
animation: harry 6s linear 1s infinite reverse;
```

(1) (2) (3) (4) (5)

Using of value states with animation

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

```
@keyframes harry {
  0% {
      width: 20px;
    }
  50% {
      width: 80px;
    }
  100% {
      with: 200px;
    }
}
```

→ can add as many intermediate properties as possible.