07

Advanced CSS

WHAT YOU WILL LEARN

- ➢ 2D Transforms
- ➢ 3D Transforms
- ➢ Transitions
- ➢ Animation

2D Transforms

- Transforms allow you to move, rotate, scale, and skew elements.

- With the CSS transform property you can use the following 2D transformation methods:

  ➢ The translate() Method - The translate() method moves an element from its current position (according to the parameters given for the X-axis and the Y-axis).
    - Example - `div {`
                `transform: translate(50px, 100px);`
                `}`
  ➢ The rotate() Method - The rotate() method rotates an element clockwise or counter-clockwise according to a given degree.
    - Example - `div {`
                `transform: rotate(20deg);`
                `}`
  ➢ The scale() Method - The scale() method increases or decreases the size of an element (according to the parameters given for the width and height).
    - Example - `div {`
                `transform: scale(2, 3);`
                `}`
  ➢ The skew() Method - The skew() method skews an element along the X and Y-axis by the given angles.
    - Example - `div {`
                `transform: skew(20deg, 10deg);`
                `}`
  ➢ The matrix() Method - The matrix() method combines all the 2D transform methods into one.
    - Example - `div {`
                `transform: matrix(1, -0.3, 0, 1, 0, 0);`
                `}`

- ➤ rotateX() - The rotateX() method rotates an element around its X-axis at a given degree:
    - ▪ Example - `#myDiv:hover {`
      ```
          transform: rotateX(150deg);
      }
      ```
- ➤ rotateY() - The rotateY() method rotates an element around its Y-axis at a given degree:
    - ▪ Example - `#myDiv:hover {`
      ```
          transform: rotateY(150deg);
      }
      ```

- ➤ rotateZ() - The rotateZ() method rotates an element around its Z-axis at a given degree:
    - ▪ Example - `#myDiv:hover {`
      ```
          transform: rotateZ(150deg);
      }
      ```

Transitions

CSS transitions allows you to change property values smoothly, over a given duration.

- ➢ **Transition** - The transition effect will start when the specified CSS property (width) changes value.

  ## Example - div {
  ```
   width: 100px;
   height: 100px;
   background: red;
   transition: width 2s;
  }
  div:hover {
   width: 300px;
  }
  ```

- ➢ **transition-delay** - specifies a delay (in seconds) for the transition effect

  - ▪ Example -
    ```
    div {
        transition-delay: 2s;
    }
    ```

- ➢ **transition-duration** - Specifies how many seconds or milliseconds a transition effect takes to complete

  - ▪ Example -
    ```
    div {
        transition-duration: 5s;
    }
    ```

- ➢ **transition-property** - Specifies the name of the CSS property the transition effect is for

  - ▪ Example -
    ```
    div {
        transition-property: width;
    }

    div:hover {
        width: 300px;
    }
    ```

Animation

CSS allows animation of HTML elements without using JavaScript or Flash!

- ➢ @keyframes
- ➢ animation-name
- ➢ animation-duration
- ➢ animation-delay
- ➢ animation-iteration-count
- ➢ animation-direction
- ➢ animation-timing-function
- ➢ animation-fill-mode
- ➢ animation