Cascading Style Sheets (CSS)

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- **“CASCADING STYLE SHEET ”**
- STYLING OR DESIGNING OF HTML DOCUMENT
- **USES OF CSS**
    - TIME SAVING
    - EASY MAINTENANCE

WHAT IS CSS?

- SYNTAX:

```
selector
{
        property:value;
}
```

- Selector: HTML tag
- Property: attribute
- Value: value of attribute you want to change

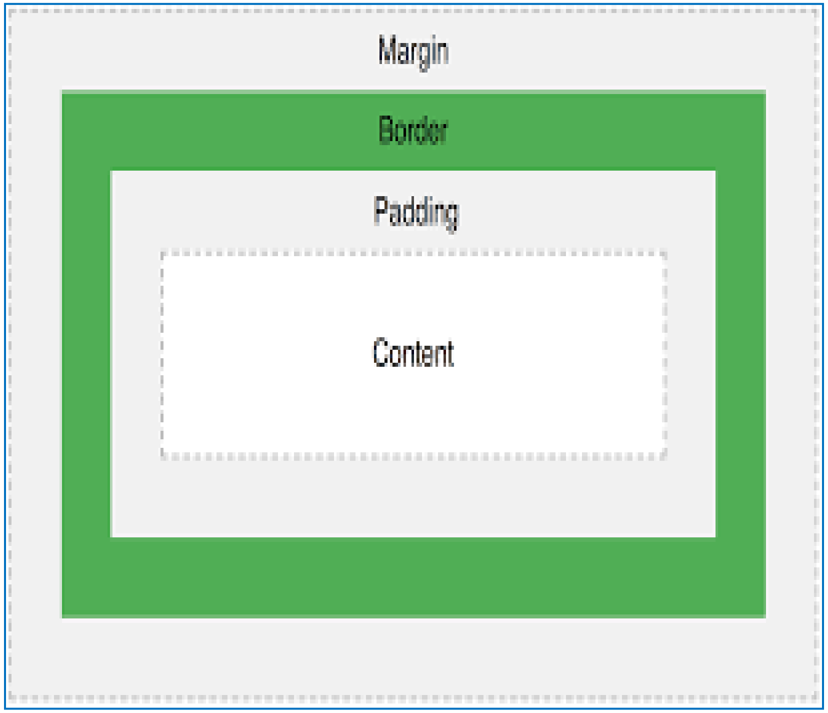
Cascading Style Sheets (CSS)

- Style sheets are used to separate presentational and structural information of the web page.
- Cascading style sheets use selectors (tags/id/class), followed by a list of properties
- Ex:

```
h1 {
    color: red;
    font: italic lem Times, serif;
    text-decoration: underline;
    background: black;
   }
```

CSS BOX MODEL

- CSS Box model Contains:
- Content
  - Main Content like text, images, links etc.
- Padding
  - Goes around content and inside border
- Border
  - It is around padding and content
- Margin
  - Area between webpage boundary and border



Basic Syntax and Structure

- A CSS document consists of a list of rules containing a selector and declaration block.

- Rules
- Classes
- ID
- Pseudo-Class Selectors

Rules

- Syntax of CSS:
  - Selector { property:value; property:value; .. }

- The selector is the identifier of the element, followed by a list of paired property:value.
  - body {color: yellow}

  - p {font-family: “sans serif”} // multiple words within quotes

  - p { // break up in different lines

    ```
    p {
            text-align: center;
            color: red;
      }
    ```
- Example(File)

Rules

- Multiple selectors:

  -
    ```
    h1, h2 {
            color: red;
            font: italic lem Times, serif;
            text-decoration: underline;
            background: black;
    }
    ```

  -
    ```
    h1, h2, h3, h4, h5, h6 {
        color: red;
    }
    ```

Example(File)

Classes

- Need to make several styles for the HTML elements
  - CSS code:

    ```
    .left { text-align: left }
    ```

  - Use it in HTML:

    ```
    <h1 class=“left”>
                This heading will be left aligned.
    </h1>
    <p class=“left”>
                This paragraph will also be left aligned.
    </p>
    ```

Example1(File)
Example2(File)

ID

- An ID selector will apply a specific style to an identified element.
  - CSS code:

    ```
    #bluepara {
                  text-align: center;
                  color: red;
    }
    ```

  - Use it in HTML:

    ```
    <p id=“bluepara”>
                  Some interesting thoughts….
    </p>
    ```

Example (File)

Class Vs. ID

- Class may apply to several parts/elements of a page whereas id applies only to one element and it should be unique.

- For example, it would be wrong to do this with the same id:
  - <h2 id=“alert”> This is an alert! </h2>
  - <p id=“alert”> This is an alert! </p>
  - <h3 id=“alert”> This is an alert! </h3>

Using CSS

- To use a CSS, we can whether embed the rules in the HTML document or have a totally separate file.

- External Style Sheets
- Embedded Style Sheets
- Inline style sheets

External CSS

- A separate external CSS file
- Extension .css

- We can change the look of the entire site by altering only one file.
- Each page that uses the style sheet needs to have a link to associate it with the style document

```
<head>
<link rel=“stylesheet” type=“text/css” href=“mystyle.css” />
</head>
```

- Example (CSS File)

INLINE STYLESHEET

- WRITTEN DIRECTLY IN TAG
- Example:

```
<p style=“color:blue”>
        text here
</p>
```

Embedded CSS

- Internal style sheet
- Style information is attached to only one document.

```
<head>
    <style type="text/css">
            hr { color: sienna }
            p { margin-left: 20px }
            body { background-image: url(picture1.jpg) }
    </style>
</head>
```

- Example

CSS TEXT & PROPERTIES

- Color
- Text-align
- Text-decoration
- Text-transform
- Text-indent
- Text-shadow
- Letter-spacing
- Line-height

```
P
{
Color:blue;
Text-align:right;
Text-decoration:underline;
Text-transform:lowercase;
Text-indent:10px;
Text-shadow:2px 2px 2px
#ff1234;
Letter-spacing:2px;
Line-height:60%
}
```

CSS FONTS

- **Font**
- **Font-family**
- **Font-size**
- **Font-style**
- **Font-variant**
- **Font-weight**

```
P
{
Font:italic bold 12px serif;
Font-family:”Times New Roman”,”serif”;
Font-size:small;
Font-style:normal;
Font-variant:normal;
Font-weight:bold;
}
```

CSS LINKS

- **Unvisited Link**

  a:link {color: #123456;}

- **Visited Link**

  a:visited {color:#FF0500;}

- **Mouse Over Link**

  a:hover { color:#1234FF;}

- **Selected Link**

  a:active { color:#FF10FF;}

Pseudo-Class Selectors

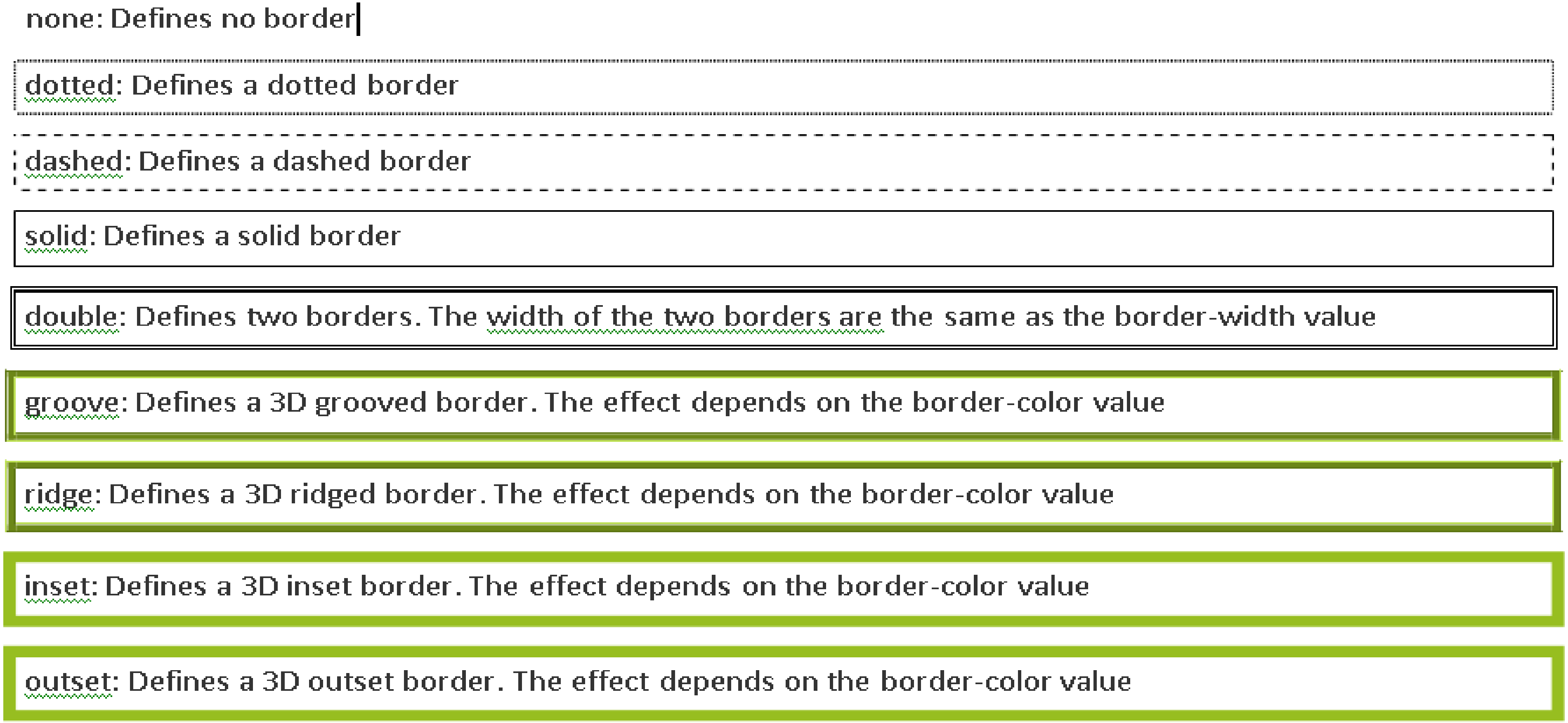
- Some selectors can be considered different because of the way the element they belong to works.

- For example, the anchor that creates a link can have pseudo classes attached to it.
- It could be visited, not visited or in process of being selected.
- To catch these states, pseudo-class selectors can be used:
  - a:link {color: red }
  - a:active {color: yellow }
  - a:visited {color: green }
- A link would be initially red, when visited it would be green, in the process of being clicked it would be yellow.
- To make a link bold when the cursor is above it,
  - a:hover {font-weight: bold }
  - a:link:hover {font-weight: bold }   // specific to links only

CSS BACKGROUND

- **Background**: write color or url of image
- **Background-attachment**: attachment is fixed or not
- **Background-color**: color of background
- **Background-image**: url of image
- **Background-position**: center, left, right
- **Background-repeat**: repeat or not repeat

CSS BORDERSTYLE



none: Defines no border

dotted: Defines a dotted border

dashed: Defines a dashed border

solid: Defines a solid border

double: Defines two borders. The width of the two borders are the same as the border-width value

groove: Defines a 3D grooved border. The effect depends on the border-color value

ridge: Defines a 3D ridged border. The effect depends on the border-color value

inset: Defines a 3D inset border. The effect depends on the border-color value

outset: Defines a 3D outset border. The effect depends on the border-color value

Background Color

- Sets the background color of the element.

```
body {
            background: #F0F8FF;
      }
```

Or

```
body {
            background: yellow;
      }
```

- CSS standard supports 16 color names: aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white and yellow.

Background Images

- Example (CSS file)

```
body {
            background: #F4a460;
            background-image: url(“Picture1.jpg”);
            background-repeat: no-repeat;
      }
```

Background Images

Property	Description	Values
Background	Sets all background properties in one declaration	As RGB
Background-attachment	Sets whether image moves with page when scrolled	Scroll or fixed
background-color	Sets the background color of an element	RGB, hex, name or transparent
background-image	Sets an image in the background	URL or none
Background-position	Sets the starting position of an image in background	Top left/top center/top right/center left/center center/center right/bottom left/bottom center/bottom right/ x-% y-% / x-pos y-pos
background-repeat	Sets the repetition of an image used in the background	Repeat Repeat-x Repeat-y No-repeat

Manipulating Text

- Set the color of the text

```
h1 { color: #00ff00 }
h2 { color: yellow }
h3 { color: rgb(255,20,40) }
P { color: rgb(0,0,255) }
```

- The background color of the text can also be changed:

```
h3 { color: rgb(255,20,40) ; background-color: yellow }
```

- Letter spacing in the Text is done by:

```
h1 { color: #00ff00; letter-spacing: -3px }    (decreased spacing)
h2 { color: yellow; letter-spacing: 0.6px }    (increased spacing)
```

Manipulating Text

- Text Alignment:

```
h1 {text-align: center}
h2 {text-align: left}
h3 {text-align: right}
```

- Text decoration:

```
h1 {text-decoration: overline }
h2 {text-decoration: line-through}
h3 {text-decoration: underline }
a {text-decoration: none }
```

Manipulating Text

- Text Indentation:

  p {text-indent: 1cm}

- Text Case:

  p.uppercase {text-transform: uppercase }
  p.lowercase {text-transform: lowercase }
  p.capitalize {text-transform: capitalize}

- Example

Fonts

- Font features: Example

  -
    ```
    h3 {
        font-family: times;
        font-size: 150%;
        font-style: normal
        }
    ```

  -
    ```
    p {
        font-family: courier;
        font-size: 100%;
        font-style: oblique
        }
    ```

  -
    ```
    p.sansserif {
        font-family: sans-serif;
        font-style: italic
        }
    ```

Borders and Boxes

- The border properties allow many styles of border to be placed around areas.

Property	Description	Value
Border	Sets all properties for four borders in one declaration	Border-width Border-style Border-color
Border-bottom	Sets all properties for bottom border in one declaration	Border-bottom-width Border-style Border-color
Border-bottom-color	Sets bottom border color	Border-color
Border-bottom-style	Sets bottom border style	None/hidden/dotted/dashed/solid/double/groove/ridge/inset/outset
Border-color	Sets the color of borders	Color

Borders and Boxes

Property	Description	Value
Border-style	Sets style for the four borders	None/hidden/dotted/dashed/solid/double/groove/ridge/inset/outset
Border-left	Sets all properties for left side border	Border-left-width Border-style Border-color
Border-right	Sets all properties for right side border	Border-right-width Border-style Border-color
Border-top	Sets all properties for top side border	Border-top-width Border-style Border-color
Border-width	Sets width for all borders	Thin/medium/thick/length

Margins

- Margin is the space between one element and another.

```
p.margin { margin-top: 5cm }
```

- margins can be set for top, bottom, left and right.

```
p.margin { margin: 2cm 4cm 3cm 4cm }
```

Padding

- Padding allows us to insert extra space around the contents of the element but inside the border.

- We can change only the padding zone’s thickness, but not its border.

    - td {padding-bottom: 2cm; padding-top:2cm }

- Example

Lists

- It is possible to alter the list item marker and where the marker is placed. (Example)
  - ul.disk { list-style-type: disc }
  - ul.circle { list-style-type: circle }
  - ul.square { list-style-type: square }
  - ul.none { list-style-type: none }

Property	Description	Values
List-style-image	Use an image as a marker	None, url
List-style-position	Positioning of marker	Inside, outside
List-style-type	Type of marker	None, disc, circle, square, decimal, ..
List-style	Set all properties	All above properties

Positioning using CSS

- Unlike HTML, CSS allows good control over the positioning of elements.
- CSS controls exactly where elements will appear.

- Absolute positioning
  - The positioning sets the top left of the element
  - Example

- Relative positioning
  - Elements can be placed relatively; in relation to its normal position.
  - position: relative;
    left/top/right/bottom: n
  - Example

Positioning using CSS

- Z-Index positioning
  - It is possible not only to position elements in x and y coordinates, but in terms of depth of the screen too so things can appear to be behind or in front of the others.
  - A Z-Index property has a number that describes where the object is in the stack of visible elements.
  - Example
  - In example, the heading is at depth 2 so is most visible, followed by the image at 1 and finally the furthest back is the paragraph.

Positioning using CSS

- Shaping an Element
  - An element, such as an image, can also be shaped with the clip property.
  - img {

```
        position: absolute;
        clip: rect(0px 50px 200px 0px }
      }
```

Positioning using CSS

- Layout and Structure
  - It is important to maintain structure within the document that will be styled by CSS.
  - Break the page into logical sections with div (division) elements.

  - Example