

UNIT III: Style sheets

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3.1 Style sheets: Need for CSS,

The three major benefits of CSS:

1) Improves Web Appearance

Developers can create custom styles for elements on a web page, such as buttons, links, and images.

From adding distinct layouts, animations, designs to making the website user-friendly through more straightforward navigation and less time being invested.

2) Saves a lot of time

CSS style definitions are saved in external CSS files so it is possible to change the entire website by changing just one file.

3) Provide more attributes

CSS provides more detailed attributes than plain HTML to define the look and feel of the website.

CSS is the reduction of cost and time associated with the development phase of websites.

4) Make Development and Updates Easier

CSS makes it easier to maintain and update a website. By separating the content and presentation, developers can make changes to the design without affecting the content.

5) Enhanced User-Experience

CSS can also improve the accessibility of a website. It provides developers with the ability to create accessible designs that are compatible with screen

6) Device Customization

Another common concern in web design is the growing need to make web pages widely available as well as usable for various media.

7) Increases Page Speed

CSS can help reduce the page loading time of a website.

3.2 introduction to CSS,

CSS stands for Cascading Style Sheets.

It is a style sheet language which is used to describe the look and formatting of a document written in markup language.

It provides an additional feature to HTML. It is generally used with HTML to change the style of web pages and user interfaces.

Example: `<p style = "color:green; font-size:24px;" >Hello, World!</p>`

You can use CSS in three ways in your HTML document.

Inline Style Sheet – You can apply style sheet rules directly to any HTML element using style attribute of the relevant tag.

Internal Style Sheet – If you want to apply Style Sheet rules to a single document only, then you can include those rules in header section of the HTML document using `<style>` tag.

External Style Sheet – If you need to use your style sheet to various pages, then it's always recommended to define a common style sheet in a separate file. A cascading style sheet file will have extension as .css and it will be included in HTML files using `<link>` tag.

We can also use the three type of selectors (element,class and ID) in the style sheet.

Example:

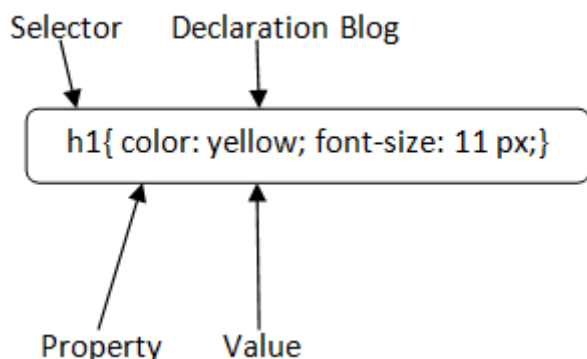
```
Tag_Name{
  property1 : value1;
}
```

```
.class {
  property1 : value1;
}
```

```
#id {
  property1 : value1;
}
```

3.3 basic syntax and structure

A CSS rule set contains a selector and a declaration block.



Selector:

Selector indicates the HTML element you want to style. It could be any tag like `<h1>`, `<title>` etc.

Declaration Block:

The declaration block can contain one or more declarations separated by a semicolon.

The Declaration Block enclosed with opening curly braces {and closing curly braces}

Property:

A Property is a type of attribute of HTML element. It could be color, border etc.

Value:

Values are assigned to CSS properties. In the above example, value "yellow" is assigned to color property.

Syntax: Selector {Property1: value1; Property2: value2; ;}

```
<style>
h1{
color:white;
background-color:red;
padding:5px;
} </style>
```

3.4 using CSS,

A] CSS Background

CSS background property is used to define the background effects on element.

There are 5 CSS background properties that affects the HTML elements:

1) CSS background-color

The background-color property is used to specify the background color of the element.

Ex. background-color: #b0d4de;

2) CSS background-image

The background-image property is used to set an image as a background of an element. By default the image covers the entire element.

Ex. background-image: url("paper1.gif");

3) CSS background-repeat

By default, the background-image property repeats the background image horizontally and vertically.

background-repeat: repeat-x; for horizontally.

background-repeat: repeat-y; for vertically.

background-repeat: no-repeat; for Single Image

4) CSS background-attachment

The background-attachment property is used to specify if the background image is fixed or scroll with the rest of the page in browser window. If you set fixed the background image then the image will not move during scrolling in the browser.

background-attachment: fixed; for no scrolling image.

background-attachment: scroll; for scrolling image.

5) CSS background-position

The background-position property is used to define the initial position of the background image. By default, the background image is placed on the top-left of the webpage.

background-position: top; background-position: bottom;

background-position: left; background-position: right;

background-position: center;

B] Manipulating texts, using fonts

CSS Font property is used to control the look of texts. By the use of CSS font property you can change the text size, color, style

Font attributes:

1) CSS Font Color

CSS font color is a standalone attribute in CSS although it seems that it is a part of CSS fonts. It is used to change the color of the text.

Ex. color: red;

2) CSS Font Family

CSS font family can be divided in two types:

Generic family: It includes Serif, Sans-serif, and Monospace.

Font family: It specifies the font family name like Arial, New Times Roman etc.

Serif: Serif fonts include small lines at the end of characters. Example of serif: Times new roman, Georgia etc.

Sans-serif: A sans-serif font doesn't include the small lines at the end of characters. Example of Sans-serif: Arial, Verdana etc.

Ex. font-family: sans-serif;

3) CSS Font Size

CSS font size property is used to change the size of the font.

Ex. `<p style="font-size:200%;"> This font size is set on 200%. </p>`
`<p style="font-size:20px;"> This font size is 20 pixels. </p>`

4) CSS Font Style

CSS Font style property defines what type of font you want to display. It may be italic or normal.

```
h2 { font-style: italic; }
```

```
h2 { font-style: normal; }
```

5) CSS Font Variant

CSS font variant property specifies how to set font variant of an element. It may be normal and small-caps.

Ex. `p { font-variant: small-caps; }`
 `h3 { font-variant: normal; }`

6) CSS Font Weight.

CSS font weight property defines the weight of the font and specify that how bold a font is. The possible values of font weight may be normal, bold, bolder, lighter or number (100, 200..... upto 900).

Ex. `<p style="font-weight:bold;">This font is bold.</p>`
 `<p style="font-weight:900;">This font is 900 weight.</p>`

7) CSS text-align

This CSS property is used to set the horizontal alignment of a table-cell box or the block element. It is similar to the vertical-align property but in the horizontal direction.

Possible values

justify: It is generally used in newspapers and magazines. It stretches the element's content in order to display the equal width of every line.

center: It centers the inline text.

right: It is used to align the text to the right.

left: It is used to align the text to the left.

8) word-wrap

CSS word-wrap property is used to break the long words and wrap onto the next line. This property is used to prevent overflow when an unbreakable string is too long to fit in the containing box.

Syntax:

`word-wrap: normal| break-word| inherit ;`

Ex . `word-wrap: break-word;`

C] borders and boxes

The CSS border is a shorthand property used to set the border on an element.

The CSS border properties are use to specify the style, color and size of the border of an element.

1) CSS border-style

The Border style property is used to specify the border type which you want to display on the web page.

Ex. border-style: none; dotted; dashed; solid; double; groove; ridge;

2) CSS border-width

The border-width property is used to set the border's width. It is set in pixels. You can also use the one of the three pre-defined values, thin, medium or thick to set the width of the border.

Ex. border-width: 5px;
border-width: medium;

3) CSS border-color

border-color: red;

4) CSS border-radius

This CSS property sets the rounded borders and provides the rounded corners around an element

If we provide a single value (**border-radius: 30px;**) it will set all corners to the same value.

border-radius: 20% 10% ; the first value will be used for the top-left and bottom-right corners, and the second value will be used for the top-right and bottom-left corners.

border-radius: 10% 30% 20%; the first value will be used for the top-left corner, the second value will be applied on top-right, and bottom-left corners and the third value will be applied to the bottom-right corner.

border-radius: 10% 30% 20% 40%; then the first value will be the radius of top-left, the second value will be used for the top-right, the third value will be applied on bottom-right, and the fourth value is used for bottom-left.

CSS border-collapse

This CSS property is used to set the border of the table cells and specifies whether the table cells share the separate or common border.

This property has two main values that are separate and collapse.

separate: It is the default value that separates the border of the table cell. Using this value, each cell will display its own border.

collapse: This value is used to collapse the borders into a single border. Using this, two adjacent table cells will share a border. When this value is applied, the border-spacing property does not affect.

Ex. border-collapse: collapse;

D] Margins, padding lists, positioning using CSS, CSS2,

CSS Margin

CSS Margin property is used to define the space around elements. It is completely transparent and doesn't have any background color. It clears an area around the element.

Top, bottom, left and right margin can be changed independently using separate properties. You can also change all properties at once by using shorthand margin property.

CSS Margin Properties

Margin - is used to set all the properties in one declaration.

margin-left - it is used to set left margin of an element.

margin-right - It is used to set right margin of an element.

margin-top - It is used to set top margin of an element.

margin-bottom - It is used to set bottom margin of an element.

CSS Margin Values

Auto - This is used to let the browser calculate a margin.

Length - It is used to specify a margin pt, px, cm, etc. its default value is 0px.

% - It is used to define a margin in percent of the width of containing element.

Inherit - It is used to inherit margin from parent element.

CSS Padding

CSS Padding property is used to define the space between the element content and the element border.

It is different from CSS margin in the way that CSS margin defines the space around elements. CSS padding is affected by the background colors. It clears an area around the content.

Top, bottom, left and right padding can be changed independently using separate properties. You can also change all properties at once by using shorthand padding property.

CSS Padding Properties

Padding - It is used to set all the padding properties in one declaration.

Padding-left - It is used to set left padding of an element.

Padding-right - It is used to set right padding of an element.

Padding-top - It is used to set top padding of an element.

Padding-bottom - It is used to set bottom padding of an element.

CSS Padding Values

Length - It is used to define fixed padding in pt, px, em etc.

% - It defines padding in % of containing element.

CSS Position

The CSS position property is used to set position for an element. it is also used to place an element behind another and also useful for scripted animation effect.

A position element's computed position property is relative, absolute, fixed or sticky.

1) CSS Static Positioning

This is a by default position for HTML elements. It always positions an element according to the normal flow of the page. It is not affected by the top, bottom, left and right properties.

2) CSS Fixed Positioning

The fixed positioning property helps to put the text fixed on the browser. This fixed text is positioned relative to the browser window, and doesn't move even you scroll the window.

3) CSS Relative Positioning

The relative positioning property is used to set the element relative to its normal position.

4) CSS Absolute Positioning

The absolute positioning is used to position an element relative to the first parent element that has a position other than static. If no such element is found, the containing block is HTML.

Ex. position: absolute;

3.5 Overview and features of CSS3.

CSS3 is the latest version of CSS.

CSS3 provides JavaScript and mobile development features with additional features such as transitions, gradients, and more.

1. Compatibility

When CSS3 code is written in CSS, it is invalid.

CSS3 makes the Web Pages more attractive. It takes less time to create a page.

2. Design

CSS3 is the latest version and supports the responsive design.

3. Animation

the animation and 3D transformations are used. Elements are moved across the screen with the assistance of JavaScript and flash. By using the elements, also be ready to change the size and color. All kinds of transformations and animations are performed by using CSS3.

4. Rounded corners and gradient

In CSS3 the developer writes the code like:

```
round border {border-radius: 20px}.
```

```
gradBG {Background:linear-gradient(red,black);}
```

5. Text Effects and Text Animations

In CSS3, the developer adds text-shadows to make it easy and effective. They add words for the visual effects of the break line and a comfortable fit inside the column. It changes the size and color of the text.

6. Color

CSS3 supports HSL RGBA, HSLA and the gradient colors.

7. Word Wrapping

CSS3 word wrapping feature allows developers to control and manage long words when they exceed the container's width
word-wrap: break-word;

The End