Unit 1 :

CSS Fundamentals
[Cascading Style Sheets]

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- **Basic understanding of the following**

  - WWW

  - HTML

  - Fundamentals of building Web pages

- Although HTML is a great tool with which we can publish information across the web, it does not give the desired control over elements.

- Late 90s saw a rise in the need for more stylish and more complex web pages.

- When the purpose of developing web pages expanded beyond mere display of information, it became increasingly tough to build these web pages using HTML alone

Evolution of CSS

- This necessity drove the evolution of Style Sheets, officially called Cascading Style sheets.

- CSS is a W3C Recommendation.

- It was developed to enhance the look and feel of the web pages and gain more control on HTML elements.
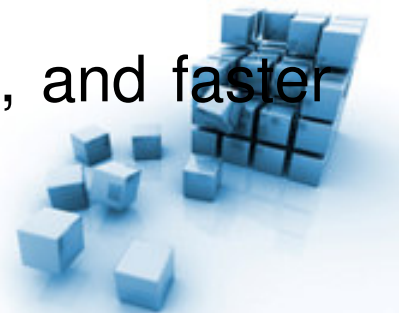
- A style sheet simply holds a collection of rules that we define to enable us to manipulate our web pages.

- Style sheets are attached to HTML documents and they describe how the document is displayed or printed.

- A CSS file is saved with a .css extension.

Why use Style sheets?

- To gain more precise control than ever before, over layout, fonts, colors, backgrounds, and other typographical effects.

- It provides a way to update the appearance and formatting of an unlimited number of pages by changing just one document.

- For compatibility across browsers and platforms.

- All this would mean less code, smaller pages, and faster downloads.

Using CSS

There are two ways to use CSS in HTML files

- Using CSS in a single HTML file

- Storing CSS information in a central file which is included in all the HTML files

Using CSS in a single HTML file

- This can be done by placing CSS information inside the <HEAD></HEAD> section of the HTML page.

- It can also be accomplished by including CSS information within an HTML element.

- Incorporating changes is a tedious affair, as it will involve changing in each and every web page that uses this style.

Storing CSS information in external File

- Store the CSS information in one file (the CSS file) and include that file into all the web pages.

- A single CSS file can control the look and feel of an entire website.

- Incorporating changes would mean changing the instruction in just the external CSS file, the changes would automatically reflect in all the web pages.

- Is a more maintainable and obvious approach.

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- What style will be used when there is more than one style specified for an HTML element?

  Order of precedence
  1. Inline style (inside an HTML element)

  2. Internal style sheet (inside the <head> tag)

  3. External style sheet

  4. Browser default

The CSS syntax is made up of three parts

- Selector
- Property
- Value

Syntax
selector { property : value }

Some Examples
body { color : black }
p { font-family : "sans serif" }

Examples (contd.)

p { text-align : center; color : red; }

in a more readable form

```
p
{
    text-align : center;
    Color : black;
    font-family : arial;
}
```

Grouping Selectors

h1,h2,h3,h4,h5,h6

{

   Color : green

}

Including Style statements

- **Within HTML Document**

  Internal styles are defined in the head section by using the

  <style> tag

  <u>Refer to UsingStyleTag.html</u>

- **From an external CSS file**

  Each page must link to the style sheet using the <link> tag.

  The <link> tag goes inside the head section.

  <u>Refer to IncludeExternalFileDemo.html</u>

Exercise

1. Write a style statement within the HMTL document to display the following

   Big Font

   <div align="right">Small Font</div>

2. Write a style statement to display the following (Store in an external CSS file and include it in the HTML document)

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The class Selector

- If we would like to have two types of paragraphs in our document : one right-aligned paragraph, and one center-aligned paragraph, how do we accomplish it with styles ?

    We cannot quite define a general rule that all paragraphs must be right aligned or all paragraphs must be center aligned in our document.

- With the class selector you can define different styles for the same type of HTML element.

- It gives us the flexibility of defining multiple styles and choosing the one of our preference for that particular page or context.

The class Selector

- This is how we can do it

  Refer to SelectorClassDemo.html

- We can also generalize styles for various tags using the same attribute

  Refer to OmitTagName.html

- We can, in general, give a name or an ID to a tag and refer to it by using 'id' keyword
  Refer to **UseOfID.html**

- **CSS Comments**

  A CSS comment begins with "/*", and ends with "*/", like this :

  ```
  /* This is a comment */

  p
  {
          text-align : center;
          /* This is another comment */
          color : black;
          font-family : arial

  }
  ```

CSS Properties

- CSS Properties define how we can manipulate the various HTML tags in our style sheets.

- Let us take a look at some of the important ones, namely
  - **Background**
  - **Text**
  - **Font**
  - **Border**
  - **Margin**
  - **Padding**
  - **List**
  - **Positioning**

CSS Background

- The background property can be used to define a style for the background of a HTML element.

- Some background related properties
  - **Background**
  - **Background-attachment**
  - **Background-color**
  - **Background-image**
  - **Background-position**
  - **Background-repeat**

CSS Background

Property	Description	Values
Background-color	Sets the background color of an element	color-rgb color-hex color-name
Background-image	Sets an image as the background	url none
Background-attachment	Sets whether a background image is fixed or scrolls with the rest of the page	scroll fixed

CSS Background

Property	Description	Values
Background-repeat	Sets if/how a background image will be repeated	repeat, no-repeat, repeat-x repeat-y
Background-posiiton	Sets the starting position of a background image	top left, top center, top right, center left, center center, center right, bottom left, bottom center, bottom right,
Background	A shorthand property for setting all background properties in one declaration	background-color background-image background-repeat background-attachment background-position

CSS Text

- The CSS text properties allow us to control the appearance of text.

- It is possible to
  - **Change the color of a text**
  - **Increase or decrease the space between characters in a text**
  - **Align a text**
  - **Decorate a text**
  - **Indent the first line in a text**

CSS Text

Property	Description	Values
Color	Sets the colour of the text	color-rgb, color-hex, color-name
Direction	Sets the text direction	ltr rtl
Letter-spacing	Increase or decrease the space between characters	normal length
Text-align	Aligns the text in an element	Left, right, center
Text-decoration	Adds decoration to text	None, underline, overline, line-through, blink – (browser specific)
Text-indent	Indents the first line of text in an element	Length (in px, cm, mm, pt etc) %

CSS Text

Property	Description	Values
Text-shadow		none color length
Text-transform	Controls the letters in an element	none capitalize uppercase lowercase
Unicode-bidi*		normal embed bidi-override
White-space*	Sets how white space inside an element is handled	normal pre nowrap
Word-spacing	Increase or decrease the space between words	normal length

CSS Text

Examples

- To align a text

  [Refer to TextAlign.html](#)

- To include spaces in a text

  [Refer to TextSpacingDemo.html](#)

CSS Font

- The CSS Font properties can be used to define a style for the font of a HTML element.

- It is possible to change
  - **Font family**
  - **Size**
  - **Boldness**
  - **Style of Text**

CSS Font

Property	Description	Values
Font-family	A prioritized list of font family names and/or generic family names for an element	family-name generic-family
Font-size	Sets the size of a font	xx-small, x-small, small medium, large, x-large xx-large, length,%
Font-size-adjust*	Specifies an aspect value for an element that will preserve the x-height of the first-choice font	none number
Font-style	Sets the style of the font	normal italic oblique

CSS Font

Property	Description	Values
Font-stretch	Condenses or expands the current font-family	Normal, wider, narrower ultra-condensed, extra-condensed, condensed semi-condensed, semi-expanded, expanded, extra-expanded ultra-expanded (Not supported by IE)
Font-variant	Displays text in a small-caps font or a normal font	normal small-caps
Font-weight	Sets the weight of a font	Normal, bold, bolder, lighter 100, 200, 300, 400, 500, 600 700, 800, 900

CSS Border

- The CSS border properties allow you to specify the style and color of an element's border .

- In HTML we use tables to create borders around a text, but with the CSS border properties we can create borders with good effects, and it can be applied to any element.

CSS Border

Property	Description	Values
Border-bottom-color	Sets the color of the bottom border	color
Border-bottom-style	Sets the style of the bottom border	None, hidden, dotted dashed, solid, double groove, ridge, inset, outset
Border-bottom-width	Sets the width of the bottom border	Thin, medium, thick, length
Border-bottom	A shorthand property for setting all of the properties for the bottom border in one declaration	border-bottom-width border-bottom-style border-bottom-color
Border-top-color	Sets the color of the top border	color
Border-top-style	Sets the style of the top border	None, hidden, dotted dashed, solid, double groove, ridge, inset, outset

CSS Border

Property	Description	Values
Border-top-width	Sets the width of the top border	Thin, medium, thick, length
Border-top	A shorthand property for setting all of the properties for the top border in one declaration	border-top-width border-top-style border-top-color
Border-right-width	Sets the width of the right border	Thin, medium, thick length
Border-right-color	Sets the color of the right border	color
Border-right-style	Sets the style of the right border	None, hidden, dotted dashed, solid, double groove, ridge, inset, outset
Border-right	A shorthand property for setting all of the properties for the right border in one declaration	border-right-width border-right-style border-right-color

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CSS Border

Property	Description	Values
Border-left-color	Sets the color of the top border	border-color
Border-left-style	Sets the style of the top border	Border-style
Border-left-width	Sets the width of the top border	Thin, medium, thick, length
Border-left	A shorthand property for setting all of the properties for the left border in one declaration	border-left-width border-left-style border-left-color
Border-color	Sets the color of the four borders, can have from one to four colors	color
Border-style	Sets the style of the four borders, can have from one to four styles	None, hidden, dotted dashed, solid, double groove, ridge, inset, outset
Border-width	A shorthand property for setting the width of the four borders in one declaration, can have from one to four values	Thin, medium, thick, length

- The CSS margin properties define the space around elements.

- It is possible to use negative values to overlap content.

- We can change
  The top, right, bottom, and left margin independently using separate properties.

- It can also be accomplished using a single command

CSS Margin

Property	Description	Values
Margin-bottom	Sets the bottom margin of an element	auto length %
Margin-left	Sets the left margin of an element	auto length %
Margin-right	Sets the right margin of an element	auto length %
Margin-top	Sets the top margin of an element	auto length %
Margin	A shorthand property for setting all the margin properties in one declaration	margin-top margin-right margin-bottom margin-left

CSS Padding

- The CSS padding properties define the space between the element border and the element content.

- Negative values are not allowed.

- We can change

  The top, right, bottom, and left padding

  independently using separate properties.

- A shorthand padding property is also available to control multiple sides at once.

CSS Padding

Property	Description	Values
padding-bottom	Sets the bottom padding of an element	length %
padding-left	Sets the left padding of an element	length %
padding-right	Sets the right padding of an element	length %
padding-top	Sets the top padding of an element	length %
padding	A shorthand property for setting all the padding properties in one declaration	padding-top padding-right padding-bottom padding-left

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CSS List

The CSS list properties allows us to

- **Place the list-item marker**

- **Change between different list-item markers**

- **Set an image as the list-item marker**

CSS List

Property	Description	Values
List-style-type	Sets the type of the list-item marker	None, disc, circle, square, decimal decimal-leading-zero, lower-roman, upper-roman, lower-alpha, upper-alpha, lower-greek, lower-latin, upper-latin
List-style-position	Sets where the list-item marker is placed in the list	inside outside
List-style-image	Sets an image as the list-item marker	None url
List-style	A shorthand property for setting all of the properties for a list in one declaration	list-style-type list-style-position list-style-image
Marker-offset*		auto length

CSS Positioning

Property	Description	Values
bottom	Sets how far the bottom edge of an element is above/below the bottom edge of the parent element	auto length %
clip	Sets the shape of an element. The element is clipped into this shape, and displayed	auto shape
left	Sets how far the left edge of an element is to the right/left of the left edge of the parent element	auto length %
overflow	Sets what happens if the content of an element overflow its area	auto scroll visible hidden
position	Places an element in a static, relative, absolute or fixed position	static relative absolute fixed

CSS Positioning

Property	Description	Values
right	Sets how far the right edge of an element is to the left/right of the right edge of the parent element	auto length %
top	Sets how far the top edge of an element is above/below the top edge of the parent element	auto length %
vertical-align	Sets the vertical alignment of an element	Baseline, sub, super, top, text-top, middle, bottom, text-bottom, length, %
z-index	Sets the stack order of an element	auto number

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- The scenario before CSS was developed

- About Style sheets

- Advantages of using Style Sheets

- Selector and Id classes

- CSS Properties, namely,
  - **Background properties**
  - **Text properties**
  - **Font**
  - **Border**
  - **Margin**
  - **Padding**
  - **List**
  - **Positioning**

Question time

Please try to limit the questions to the topics discussed during the session. Thank you.