WhatisCSS?

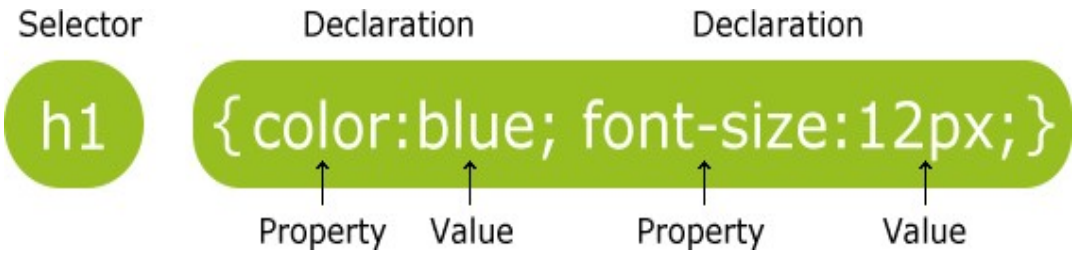
- CSSstandsforCascadingStyleSheets
- StylesdefinehowtodisplayHTMLelements
- ExternalStyleSheetscansavealotofwork
- ExternalStyleSheetsarestoredinCSSfiles

Importanceof CSS

- CSSdefinesHOWHTMLelementsaretobe displayed.
- Stylesarenormallysavedinexternal.cssfiles.Externalstylesheetsenableyoutochangethe appearance and layout of all the pages in a Web site, just by editing one single file.

CSSSyntax

- ACSSrulehastwomainparts:aselector,andoneormoredeclarations:



- TheselectorisnormallytheHTMLelementyouwanttostyle.
- Eachdeclarationconsistsofapropertyandavalue.
- Thepropertyisthestyleattributeyouwanttochange.Eachpropertyhasavalue.

Whatisthedifferencebetweenclassandid?

TheidSelector

- Theidselectorisusedtospecifyastyleforasingle,unique element.
- TheidselectorusestheidattributeoftheHTMLelement,andisdefinedwitha"#".
- Thestylerulebelowwillbeappliedtotheelementwithid="para1":

#para1
{text-align:center;color:red;}

TheclassSelector

- The class selector is used to specify a style for a group of elements. Unlike the id selector, the class selector is most often used on several elements.
- ThisallowsyoutosetaparticularstyleformanyHTMLelementswiththesameclass.
- TheclassselectorusestheHTMLclassattribute,andisdefinedwitha"."
- Intheexamplebelow,allHTMLelementswithclass="center"willbecenter-aligned:

  .center{text-align:center;}

- Wecanusemorethanoneclassinasingleelement

  <aclass=”Centerbolditalic”>

Explaindifferentwaystowritethe CSS./ExplainCSSwithalltypes./Enlist and explain methods of using CSS in web page.

- Therearethreewaysofinsertingastylesheet:
  - Externalstylesheet
  - Internal/Embeddedstylesheet
  - Inlinestyle

1. ExternalStyleSheet

- WhenusingCSSitispreferabletokeeptheCSSseparatefromyour HTML.
- Placing CSS in a separate file allows the web designer to completely differentiate betweencontent (HTML) and design (CSS).
- ExternalCSSisafilethatcontainsonlyCSScodeandissavedwitha".css"fileextension.
- ThisCSSfileisthenreferencedinyourHTMLusingthe<link>insteadof<style>.

FileCreation

- Openupnotepad.exe,oranyotherplaintexteditorandtypethefollowingCSScode.

  body{background-color:gray;}p{color:blue;}h3{color:white;}

- SavethefileasaCSS(.css)file.
- Name the file "test.css" (without the quotes). Now create a new HTML file and fill it with the following code.

```
<html><head>
<linkrel="stylesheet"type="text/css"href="test.css"/></head>
<body>
<h3>AWhiteHeader</h3>
<p>Thisparagraphhasablue font.
Thebackgroundcolorofthispageisgraybecausewechangeditwithcss!</p>
</body></html>
```

WhyUseExternalCSS?

- Itkeepsyourwebsitedesignandcontent separate.

- It's much easier to reuse your CSS code if you have it in a separate file. Instead of typing the same CSS code on every web page you have, simply have many pages refer to a single CSS file with the "link" tag.
- You can make drastic changes to your web pages with just a few changes in a single CSS file.

2. Internal/EmbeddedCSS

- ThistypeofCSSisonlyforSinglePage.
- WhenusinginternalCSS,wemustaddanewtag,<style>,insidethe<head>tag.The HTML code below contains an example of <style>'s usage.

```
<html><head>
<styletype="text/css"></style>
</head><body>
<p>Yourpage'scontent!</p></body>
</html>
```

CreatingInternalCSSCode

- BelowisanexampleofsimpleCSScode.

```
<html><head>
<styletype="text/css">
p {color: white; }
body{background-color:black;}
</style></head><body>
<p>Whitetextonablackbackground!</p></body>
</html>
```

3. InlineCSS

- ItispossibletoplaceCSSrightinyourHTMLcode,andthismethodofCSSusageis referred to as inline css.
- InlineCSShasthehighestpriorityoutofexternal,internal,andinlineCSS.
- This means that you can override styles that are defined in external or internal by usinginline CSS.
- If you want to add a style inside an HTML element all you have to do is specify the desired CSS properties with the style HTML attribute.

```
<html><head>
<linkrel="stylesheet"type="text/css"href="test.css"/></head>
<body>
<p style="background: blue; color: white;">A new background andfont color with
inline CSS</p></body>
</html>
```

ExplainCSSBackgroundwithallitsattributes

- CSSbackgroundpropertiesareusedtodefinethebackgroundeffectsofanelement.

1. CSSBackgroundColor

- Thebackground-colorpropertyspecifiesthebackgroundcolorofan element.

- Thebackgroundcolorofapageisdefinedinthebodyselector:
- BelowisexampleofCSSbackgrounds

body{background-color:#b0c4de;}

2. CSSBackgroundImage

- Thebackground-imagepropertyspecifiesanimagetouseasthebackgroundofan element.

body{background-image:url('paper.gif');}

3. BackgroundImageRepeat

- You can have a background image repeat vertically (y-axis), horizontally (x-axis), in bothdirections, or in neither direction.

p{background-image:url(smallPic.jpg);background-repeat:repeat;}
h4{background-image:url(smallPic.jpg);background-repeat:repeat-y;} ol
{background-image: url(smallPic.jpg); background-repeat: repeat-x; }
ul{background-image:url(smallPic.jpg);background-repeat:no-repeat; }

4. CSSFixedBackgroundImage

- The background-attachment property sets whether a background image is fixed or scrolls with the rest of the page.

textarea.noScroll{background-image:url(smallPic.jpg);background-attachment:fixed;}
textarea {
background-image:url(smallPic.jpg);
background-attachment: scroll; }

5. CSSBackgroundImagePositioning

- Thebackground-positionpropertysetsthestartingpositionofabackgroundimage.

p {background-image: url(smallPic.jpg); background-position: 20px 10px;}
h4 {background-image: url(smallPic.jpg); background-position: 30% 30%;}
ol{background-image:url(smallPic.jpg);background-position:topcenter;}

ExplainCSSFontwithallitsattributes

- CSSfontpropertiesdefinethefontfamily,boldness,size,andthestyleofatext.

1. CSSFontColor

- Setthetext-colorfordifferent elements:

h4{color:red;}
h5{color:#9000A1;}
h6{color:rgb(0,220,98);}

2. CSSFontFamily

- Thefontfamilyofatextissetwiththefont-familyproperty.

h4{font-family:sans-serif;}h5{font-family:serif;} h6 {
font-family: arial; }

3. CSSFontSize

- Thefont-sizepropertysetsthesizeofthetext.

p{font-size:120%;}ol{font-size:10px;}ul{font-size:x-large;}

4. CSSFontStyle

- Thefont-stylepropertyismostlyusedtospecifyitalic text.
- Thispropertyhasthreevalues:
  - normal-Thetextisshownnormally
  - italic-Thetextisshowninitalics
  - oblique-Thetextis"leaning"(obliqueisverysimilartoitalic,butless supported)

p{font-style:italic;}h4{font-style:oblique;}

5. CSSFontWeight

- Thefont-weightpropertysetshowthickorthincharactersintextshouldbe displayed.

p{font-weight:100;}ul{font-weight:bolder;}

6. CSSFontVariant

- The font-variant property specifies whether or not a text should be displayed in a small-caps font.

p{font-variant:small-caps;}}

Explain CSS Text with all its attributes.

- While CSS Font covers most of the traditional ways to format your text,CSS Text allows you to control the spacing, decoration, and alignment of your text.

1. Text Decoration

- The text-decoration property is used to set or remove decorations from text.
- The text-decoration property is mostly used to remove underlines from links for design purposes.

h4{text-decoration:line-through;}
h5{ text-decoration: overline; }
h6{text-decoration:underline;} a
{ text-decoration: none; }

2. Text Indent

- The text-indentation property is used to specify the indentation of the first line of a text.

p{text-indent:20px;}h5{text-indent:30%;}

3. Text Align

- The text-align property is used to set the horizontal alignment of a text.

p { text-align: right; }
h5{text-align:justify;}

4. Text Transform

- Thetext-transformpropertyisusedtospecifyuppercaseandlowercaselettersinatext.

p{text-transform:capitalize;}h5{text-transform:uppercase;}

5. CSS White Space

- Thewhite-spaceattributeallowsyoutopreventtextfromwrappinguntilyouplacea break
 into your text.

p{white-space:nowrap;}

6. CSS Word Spacing

- With the CSS attribute word-spacing you are able to specify the exact value of the spacing between your words. Word-spacing should be defined with exact values.

p{word-spacing:10px;}

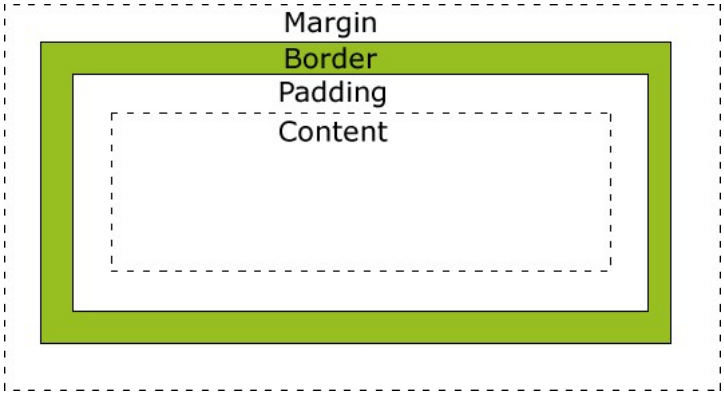
7. CSS Letter Spacing

- With the CSS attribute letter-spacing you are able to specify the exact value of the spacing between your letters. Letter-spacing should be defined with exact values.

p{letter-spacing:3px;}

Explain BOX MODEL.

- All HTML elements can be considered as boxes. In CSS, the term "box model" is used when talking about design and layout.
- The CSS box model is essentially a box that wraps around HTMLelements,and it consists of: margins, borders, padding, and the actual content.
- The box model allows us to place a border around elements and space elements in relation to other elements.



- Explanation of the different parts:
  - **Margin**- Clears an area around the border. The margin does not have a background color, it is completely transparent
  - **Border**- A border that goes around the padding and content. The border is affected by the background color of the box
  - **Padding** –Clears an area around the content. The padding is affected by the background color of the box
  - **Content**-The content of the box, where text and images appear

Explain CSSPadding.

- TheCSSpaddingpropertiesdefinethespacebetweentheelementborderandtheelement content.

  p{padding:15px;border:1pxsolidblack;

- The top, right, bottom, and left padding can be changed independently using separate properties. A shorthand padding property can also be used, to change all puddings at once.

1. PossibleValues

Value	Descriptions
length	Defines a fixed padding(in pixels,pt,em, etc.)
%	Defines a padding in% of the containing element.

padding-top:25px;

padding-bottom:25px;

padding-right:50px;

padding-left:50px;

2. Padding-Shorthandproperty

- To shorten the code,it is possible to specify all the padding properties in one property. This is called a shorthand property.

  padding:25px50px;

ExplainCSSMargin.

- The CSS margin properties define the space around elements.

  p{margin:5px;border:1pxsolidblack;}

- The top,right,bottom,and leftmargin can be changed independently using separate properties.A shorthand margin property can also be used, to change all margins at once.

Value	Descriptions
auto	The browser calculates a margin
length	Specifies a margin in px,pt,cm,etc.Defaultvalueis 0px
%	Specifies a margin in percent of thewidthof the Containing element
inherit	Specifies that the margin should be inherited from the Parent element

1. Margin-Individualsides

- In CSS, it is possible to specify different margins for different sides:

  margin-top:100px;

  margin-bottom:100px;

  margin-right:50px;

  margin-left:50px;

2. Margin-Shorthandproperty

- To shorten thecode, itis possible to specify all the margin properties in one property.This is called a shorthand property.

margin:100px50px;

Explain CSS Border with all its attributes.

- TheCSSborderpropertiesallowyoutospecifythestyleandcolorofanelement's border.

1. Border StyleTypes

- The border-style property specifies what kind of border to display.

p.solid {border-style: solid; } p.double {border-style: double; } p.groove {border-style: groove; }
p.dotted {border-style: dotted; } p.dashed {border-style: dashed; } p.inset {border-style: inset; }
p.outset {border-style: outset; } p.ridge {border-style: ridge; } p.hidden {border-style: hidden; }

2. BorderWidth

- The border-width property is used to set the width of the border.

table { border-width: 7px; border-style: outset; }
td{border-width:medium;border-style:outset;} p {
border-width: thick; border-style: solid; }

3. BorderColor

- The border-color property is used to set the color of the border.
- Border colors can be any color defined by RGB, hexa decimal,or keyterms.Belowisan example of each of these types.

table{border-color:rgb(100,100,255);border-style:dashed;} td {
border-color: #FFBD32; border-style: ridge; }
p{border-color:blue;border-style:solid;}

4. Border:border-(direction)

- If you would like to place a border on only one side of an HTML element,or maybe have a unique look for each side of the border, then use border-(direction).
- The direction choices are of course: top, right, bottom, and left. CSS allows you to treat each side of a border separately from the other three sides.
- Each side can have its own color , width ,and style set, as shown below.

p{border-bottom-style:dashed;border-bottom-color:yellow;border-bottom-width:5px;} h4 {
border-top-style: double; border-top-color: purple; border-top-width: thick; }

Explain CSS Lists with all list attributes

- The CSS list properties allow you to:
  - Set different list item markers for ordered lists
  - Set different list item markers for unordered lists
  - Set an image as the list item marker

1. CSS ListStyle Type

- Specify all the list properties in one declaration.
  - Unorderedlist styles:square,circle,disc(default),andnone
  - Orderedliststyles:upper-alpha,lower-alpha,upper-roman,lower-roman,decimal (default), and none

```
ol{list-style-type:upper-roman;} ul
{ list-style-type: circle; }
```

2. CSS Lists with Images

- Specify an image as the list-item marker in a list:

```
ul { list-style-image: url("listArrow.gif"); }
ol{list-style-image:url("listArrow2.gif");}
```

3. CSS List Position

- With Specify that the the list-item markers should appear inside the content flow (results in an extra indentation)

```
ul { list-style-position: inside; }
ol{list-style-position:outside;}
```

- **Note**:"Outside" is actually the default setting for indentation.

ExplainCSS Links

1. CSS Anchor/LinkStates

- The four links states are:
  - a:link-anormal,unvisitedlink
  - a:visited-alinktheuserhasvisited
  - a:hover-alinkwhentheusermouseoverit
  - a:active-alinkthemomentitisclicked

```
a:link{color:#FF0000;}     /*unvisited link*/
a:visited{color:#00FF00;}/* visited link */
a:hover{color:#FF00FF;}/*mouseoverlink*/
a:active {color:#0000FF;}/* selected link */
```

2. TextDecoration

- The text-decoration property is mostly used to remove underlines from links.

```
a:link {text-decoration:none;}
a:visited {text-decoration:none;}
a:hover{text-decoration:underline;}
a:active{text-decoration:underline;}
```

3. BackgroundColor

- The background-color property specifies the background color for links.

a:link {background-color:#B2FF99;}

a:visited{background-color:#FFFF85;}

a:hover{background-color:#FF704D;}

a:active{background-color:#FF704D;}

Explain CSS Position with example.

- With the knowledge of CSS Positioning we will be able to manipulate the exact position of your HTML elements.

1. Position Relative

- Relative positioning changes the position of the HTML element relative to where it normally appears.
- If we had a header that appears at the top of our page, we could use relative positioningto move it a bit to the right and down a couple of pixels. Below is an example.

h3{position:relative;top:15px;left:150px;} p

{position: relative; left: -10px;}

2. Position Absolute

- With absolute positioning, you define the exact pixel value where the specified HTML element will appear.
- The point of origins the top-left of the browser's view able area, so be sure you are measuring from that point.

h3{position:absolute;top:50px;left:45px;}

p{position: absolute; top: 75px;left: 75px;}

Explain CSS Layers./z-index property

- CSS allows you to control which item will appear on top with the use of layers.
- In CSS, each element is given a priority.
- If there are two overlapping CSS positioned elements, the element with the higher priority will appear on top of the other.
- To manually define a priority, set the z-index value. The larger the value, the higher the priority the element will have.

h4{position:relative;top:30px;left:50px;z-index:2;}

p{position:relative;z-index:1;background-color:#FFCCCC;}

- This paragraph has a z-index of 1, which is less than the header.
- If we had not defined the z-index, by default the paragraph would have been on top of the header because it appears later in our HTML code.

Explain CSS Float property.

- With CSS float,an element can be pushed to the left to right, allowing other elements to wrap around it.
- Wrapping text around an image is easy when using the CSS Float attribute.
- You have a choice to either float the picture to the left or to the right.

img.floatLeft { float: left; margin: 4px;}

img.floatRight{float:right;margin:4px;}

```
<body>
<imgsrc="sunset.gif"class="floatLeft"><p>Theimagesarecontainedwith…</p>
<imgsrc="sunset.gif"class="floatRight"><p>Thissecondparagraphhasan…</p>
</body>
```