NexTGen Web

Session: 5

Introduction to CSS3

Objectives

- Identify the new functions of CSS3

- Explain the different types of selectors

- Explain nested tags

- Define Classes and IDs for applying styles

- Explain the process to apply styles to hyperlink

Introduction

- Cascading Style Sheet (CSS) is a style sheet language.

- It informs the browser how to present a document.

- It uses a markup language for describing the presentation semantics of a document.

- It defines how HTML elements are to be displayed.

Cascading Style Sheet 3 (CSS3)

- Used for adding style such as fonts, colors, and spacing to Web documents.

- Has multiple levels and profiles.

- Updates levels of the earlier versions (CSS1, CSS2) by adding new features.

- Is divided into multiple documents called "modules" . Each modules have new capabilities or extends the features present in CSS2.

Modules 1-2

- As CSS3 is available as modules and is still evolving, there are many modules having different stability and status.

- Modules are in recommendation stage are as follows

Modules are released
CSS Color Level 3
CSS Namespaces
Selectors Level 3

Modules are stable
Media Queries
CSS Style Attributes

Modules are testing phase
CSS Backgrounds & Borders Level 3
CSS Image Values & Replaced Content Level 3
CSS Marquee
CSS Multi-column Layout
CSS Speech
CSS Mobile Profile 2.0

Modules

- Modules that are in working draft are as follows:

Modules are rewriting
CSS Line Layout Level 3
CSS Ruby
CSS Syntax Level 3

Modules are refining phase
CSS Transforms
CSS Transitions
CSS Values & Units Level3
CSS Print Profile

Modules are revising phase
CSS Animations
CSS Flexible Box Layout
CSS Fonts Level3
CSS Text Level3
CSS Basic User Interface Level3
CSS Writing Modes Level3

Modules are exploring phase
CSS Cascading & Inheritance Level3
CSS Conditional Rules Level3
CSS Basic Grid Layout
CSS Basic Line Grid

Modules are abandoned phase
Behavior Extensions to CSS
CSS Hyperlink Presentation

CSS Syntax

- Syntax of CSS consists of three parts: selector, property, and value

- **Selector** is an HTML element for which you want to specify the style or the formatting instruction.

- **Property** specifies the type of the style to be applied to the selector.

- **Value** refers to the value of the CSS property. A CSS property can have multiple values.

- Property and the value for a selector are separated with a colon (:). They are enclosed within the curly brackets ({})

- You can specify multiple property-value pairs for a selector, which are separated by a semicolon (;) within the declaration block.

Length measurement units   1-3

- CSS uses various units of measurements for specifying size of the font, width and height of margins...

- The two measurement units namely, relative and absolute.

- Relative length specifies the length units related to other length property that are calculated in comparison to a current value.

Relative Length	Description
em	Specifies the font size (height) of a particular font. The em unit is relative to the value of the font-size property of the selector.
ex	Specifies the 'x-height' of a particular font. The 'x-height' value is approximately half the font size or the height of the lowercase letter 'x'.
px	Specifies the size in pixels, which is relative to the screen of the device.

Length measurement units   2-3

- **Absolute lengths** are specified when the web designer is aware of the physical properties of the output device are specific and fixed values.

Absolute Length	Description
in	Specifies the size in inches, where 1 inch = 2.54 cm
cm	Specifies the size in centimeters
mm	Specifies the size in millimeters
pt	Specifies the size in points, 1 point = 1/72th of an inch
pc	Specifies the size in picas, where 1 pica = 12 points

- Percentage allows specifying the length of the content, which is relative to another value.

```
H1
 {
     font-size: 120%;
     line-height: 200%;
 }
```

Types of style sheets

- Three types of style sheet: inline, internal/embedded, and external.

- An **inline** style sheet uses the **style** attribute within an HTML element to specify the style for HTML elements.

- An **internal** style sheet is also included within the HTML document and is defined using the **style** element.

Inline Styles

- Are placed directly inside an HTML element

- Cannot reuse at any point of time in a web page

- Web designer cannot use the style builder to create an inline style

- Example:

<p style=”font-size:14px; color:purple;” > </p>
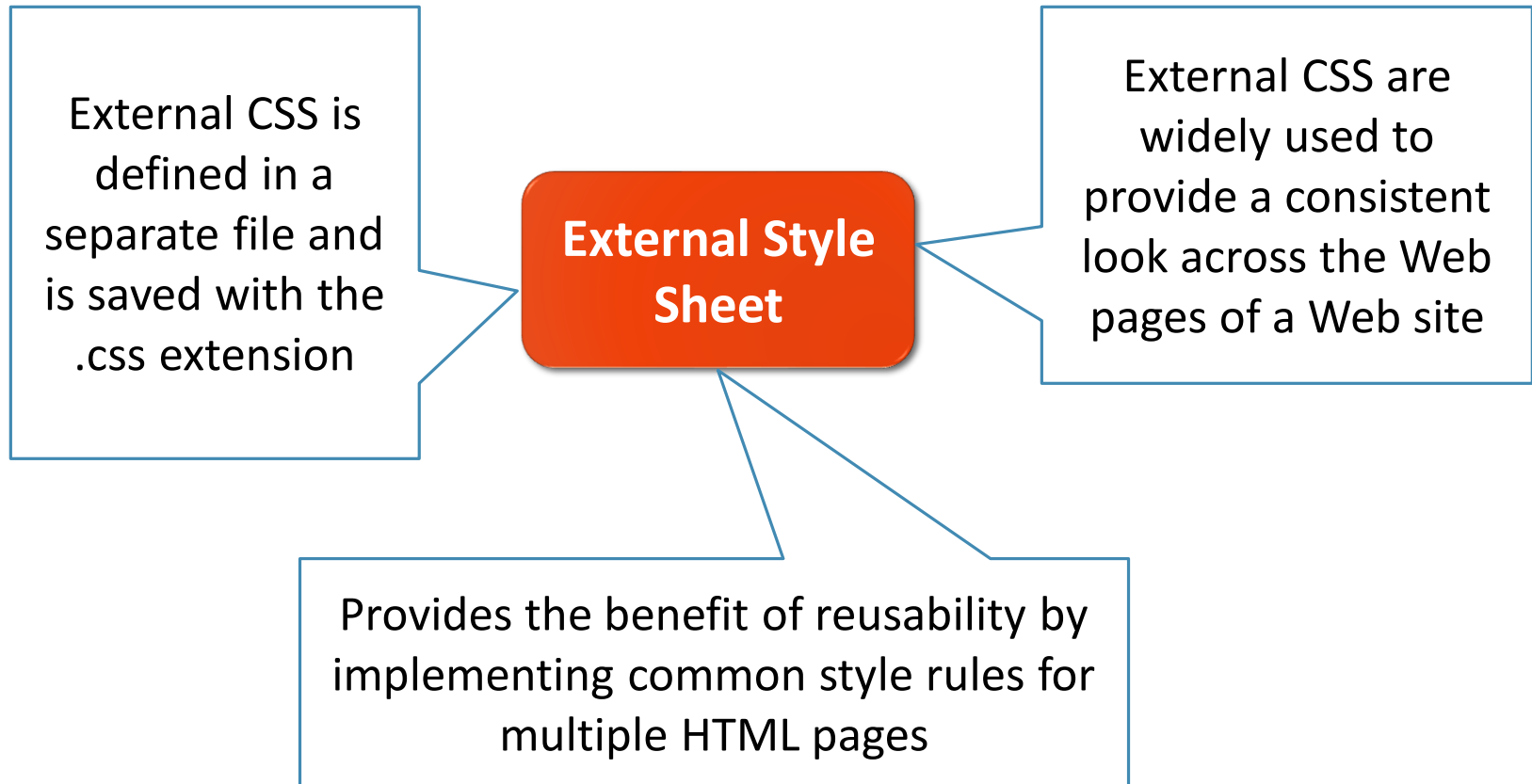
Internal/Embedded styles

- Placed inside the **head** section of a Web page.

- **Type** attribute of the **style** element specifies the content type, which is **text/css**

- Style rules appear in a declaration block for each HTML element under the style element

- Styles can be re-used in the same Web page in which they are placed

```
<head>
  <style>
      h1, h2 {
          margin:0px;
          font-size:1.5em;
      }
      footer{
          background-color:#999;
          text-align:center;
      }
  </style>
</head>
```

External style sheet 1-2

External CSS is defined in a separate file and is saved with the .css extension

External Style Sheet

External CSS are widely used to provide a consistent look across the Web pages of a Web site

Provides the benefit of reusability by implementing common style rules for multiple HTML pages

External Style Sheet   2-2

- Content of an file body.CSS:

```
BODY {
        background-color: gray;
        font-family: arial;
        font-style: italic;
}
```
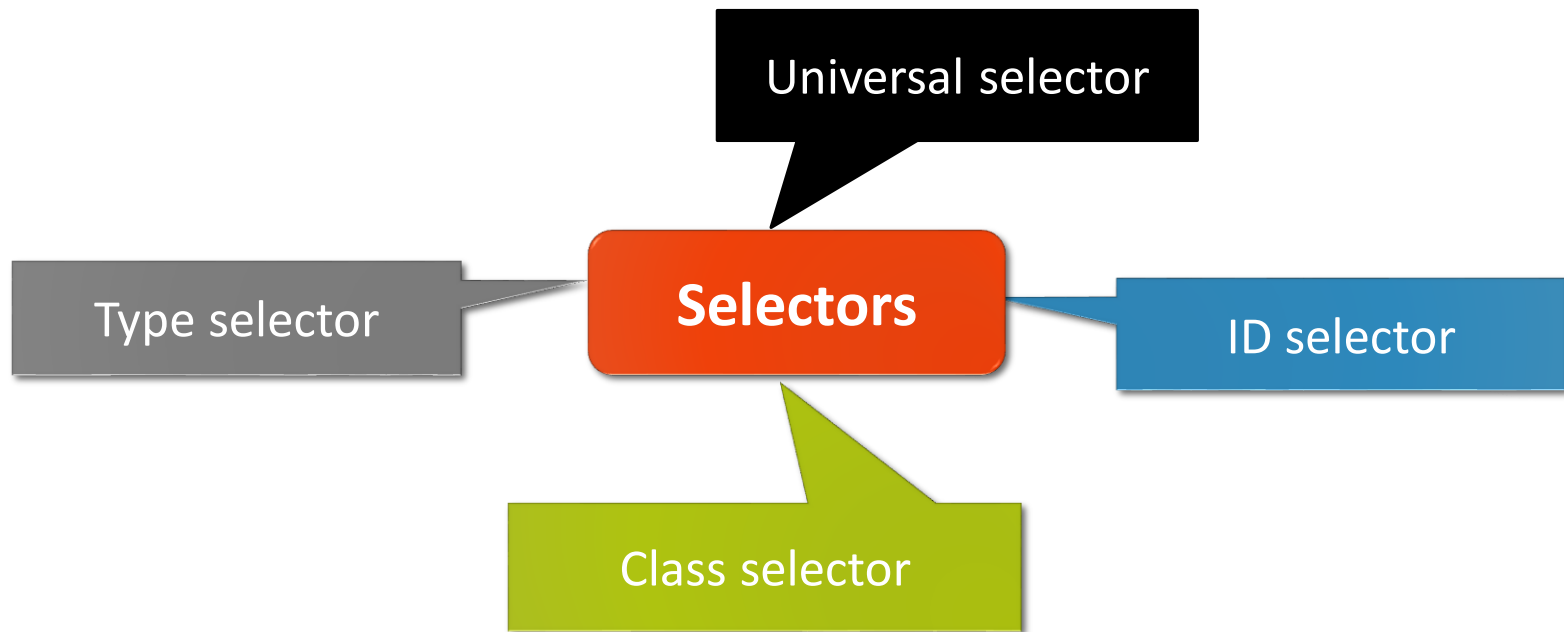
```
<!DOCTYPE html>
<html>
<head>
    <LINK rel="stylesheet" href="body.css"/>
</head>

<body>
    This is the fastest web server..!!
</body>
</html>
```
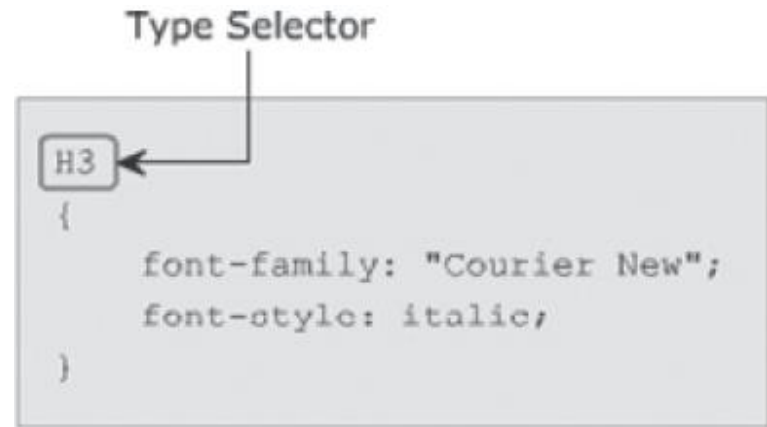
Selectors

- Selectors refer to the HTML elements with the styles that the users want to apply to them.

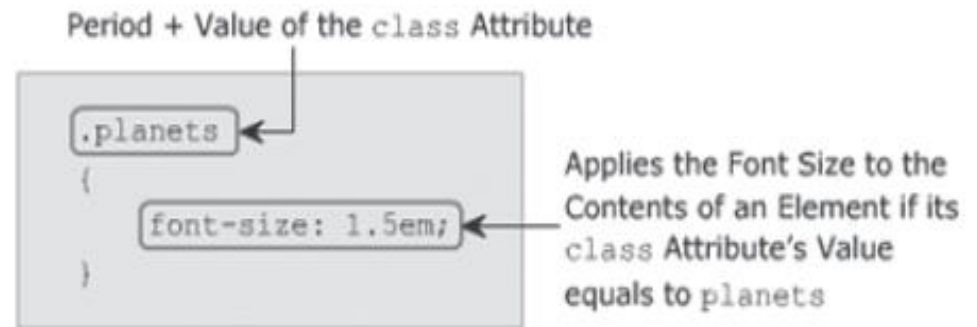- The four different types of CSS selectors are as follows:

Universal selector

Type selector

Selectors

ID selector

Class selector

Type Selector

Type Selector

```
H3 ←
{
    font-family: "Courier New";
    font-style: italic;
}
```

Specifies the element name along with the styles to be applied to that element

Styles are specified only once for an HTML element

applies the specified styles to all the occurrence of that element in a Web page

Class selector

Period + Value of the `class` Attribute

`.planets`
{

`font-size: 1.5em;`

}

Applies the Font Size to the Contents of an Element if its `class` Attribute's Value equals to `planets`
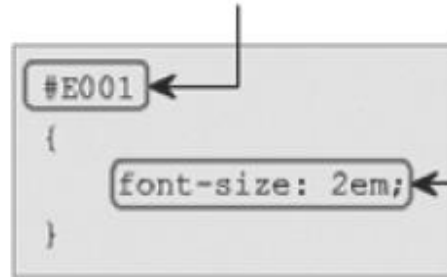
- Class selector starts with a period (.) followed by the value of the class attribute

- Matches elements, whose class attribute is set in an HTML page

- Applies styles to the content of all those elements having the same class attribute

ID selector

Hash + Value of the `id` Attribute

```
#E001
{
    font-size: 2em;
}
```

Applies the Font Size to the Contents of an Element if its `id` Attribute's Value equals to `E001`

- ID selector starts with the hash symbol (**#**) followed by the id attribute's value and the declaration block

- Matches an element whose id attribute is set in an HTML page

- Applies styles to the content of all those elements

Universal selector

```
*  {

    font-family: Verdana, Calibri, sans-serif;

}
```
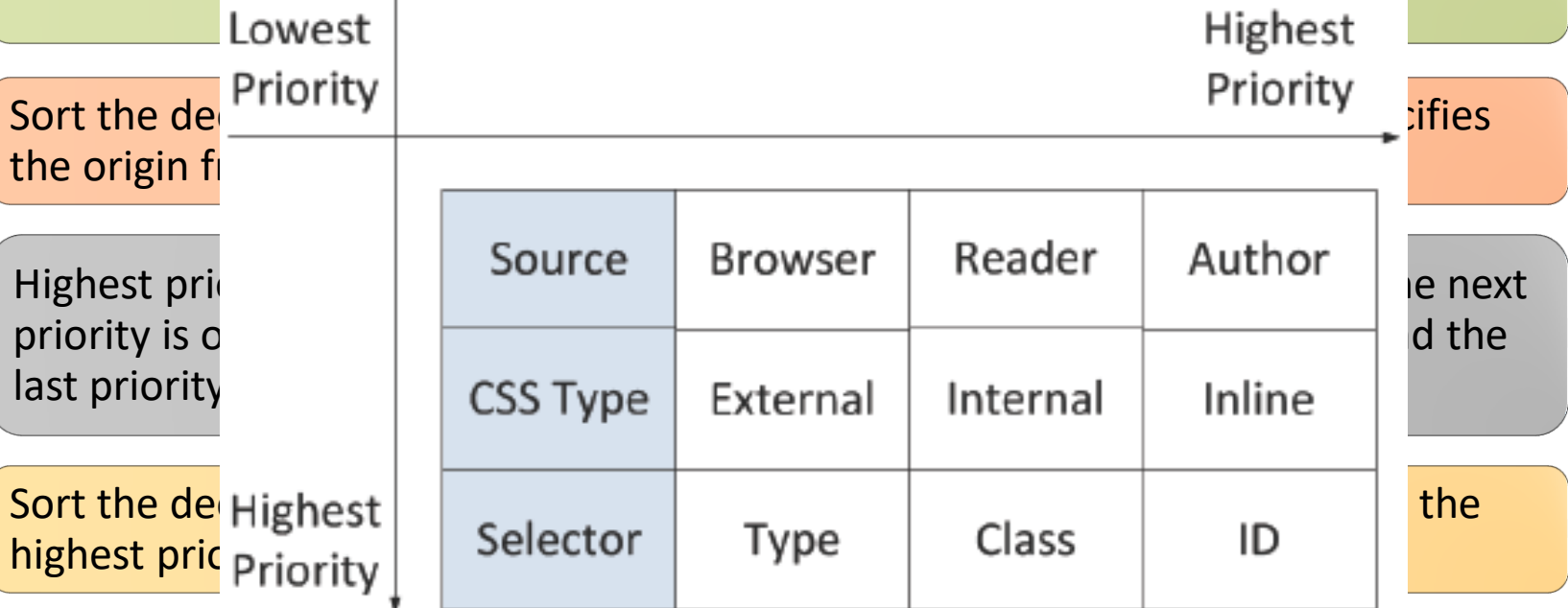
- Represented by an asterisk (*) sign

- Applies the specified styles to the content of all the elements in the document
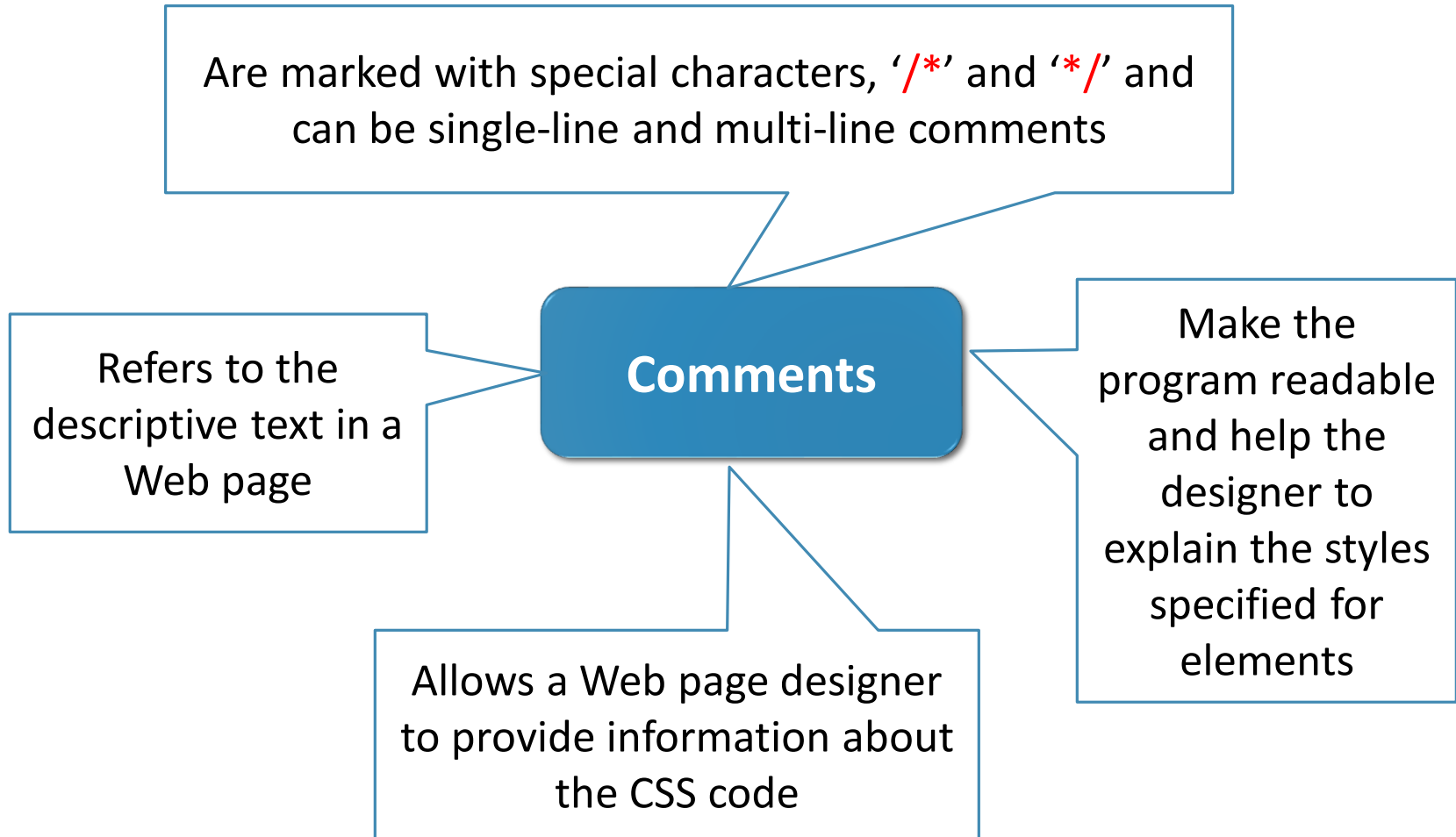
Generic cascading order

- Rules for applying styles to an HTML element defined by W3C are:

Gather all the styles that are to be applied to an element

Sort the declaration ... the origin fr... cifies

Highest pri... priority is o... last priority ... e next ... d the

Sort the de... highest pric... the

Sort the declaration according to the specified order.

	Lowest Priority		Highest Priority
Source	Browser	Reader	Author
CSS Type	External	Internal	Inline
Selector	Type	Class	ID

Lowest Priority → Highest Priority

Highest Priority

Comments

Are marked with special characters, '/*' and '*/' and can be single-line and multi-line comments

Comments

Refers to the descriptive text in a Web page

Make the program readable and help the designer to explain the styles specified for elements

Allows a Web page designer to provide information about the CSS code

Pseudo classes

- specify the styles to be applied on an element depending on its state.

- In CSS3, a selector can contain multiple pseudo-classes.

- These pseudo-classes should not be mutually exclusive.

```
a:link {
        color: white;
        background-color: black;
        border: 2px solid white;
}
a:visited {
        color: white;
        background-color: brown;
        border: 2px solid white;
}
a:hover {
        color: black;
        background-color: white;
        border: 2px solid black;
}
```

Specifies the styles for an unvisited link

Specifies the styles for a visited link

Specifies the styles when a mouse hovers over it

Pseudo classes 2/2

Selector Name	Description
:link	Is used for selecting all unvisited links
:active	Is used for selecting the active link
:hover	is used for selecting links on mouse over
:visited	Is used for selecting all visited links
:focus	Is used for selecting the input element which has focus
:first-letter	Is used for selecting the first letter of every <p> element
:first-line	Is used for selecting the first line of every <p> element
:first-child	Is used for selecting every <p> elements that is the first child of its parent
:before	Is used for inserting content before every <p> element
:after	Is used for inserting content after every <p> element

Styles to hyperlink

- CSS can be used to change the appearance and behavior of hyperlinks.

- There are two other ways to assign hyperlink styles namely, div specific or link class.

- **Div specific hyperlink** styles can be created and assigned to a specific div and will have all the hyperlinks present within the div to follow the specified rules.

- **Class specific hyperlink** styles generally uses a class than an id. A point to note that an id can only be used once on a page whereas a class can be used multiple times as required.

Summary

- CSS is a mechanism for adding style such as fonts, colors, and spacing to Web documents. CSS has multiple levels and profiles.

- The general syntax of CSS consists of three parts namely, selector, property, and value.

- Selectors refer to the HTML elements with the styles that are applied to them and they can be Type, Class, ID, or Universal selectors.

- A comment refers to the descriptive text that allows a Web page designer to provide information about the CSS code.

- Pseudo classes allow the users to apply different styles to the elements such as buttons, hyperlinks, and so on.

- Pseudo elements allow the developer to apply styles to a specific part of a content such as first letter or first line.

- A hyperlink style can be assigned either through DIV or through link class.