

# Web Programming Technologies

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# Session-3

# Topics to be covered.....

- Introduction to CSS
- Inserting CSS in an HTML Document
  - Internal Style Sheet
  - External Style Sheet
  - Inline Style Sheet
- CSS Selectors
- Pseudo Class & elements
- The CSS Box Model
- Font Properties
- Text Properties
- Position
- Background and border properties
- Display properties
- CSS Float

Cascading Style Sheets (CSS) form the presentation layer of the user interface.



CSS was introduced to keep the **presentation** information **separate** from **HTML** markup (content).

Tells the browser agent *how the* element is to be presented to the user.

# Before CSS

Initially Designers used presentation tags like (FONT, B, BR, **TABLE** etc.) to control the design of web pages.

Any **modification** in the design of websites was a very **difficult** and **boring** task, as it evolves **manually editing** every HTML page.



```
<font size="14px">
```

My First Header

```
</font>
```

```
<font size="12px" color="red"
face="Verdana">
```

My information 1 goes here.

```
</font>
```

```
<font size="14px">
```

My Second Header

```
</font>
```

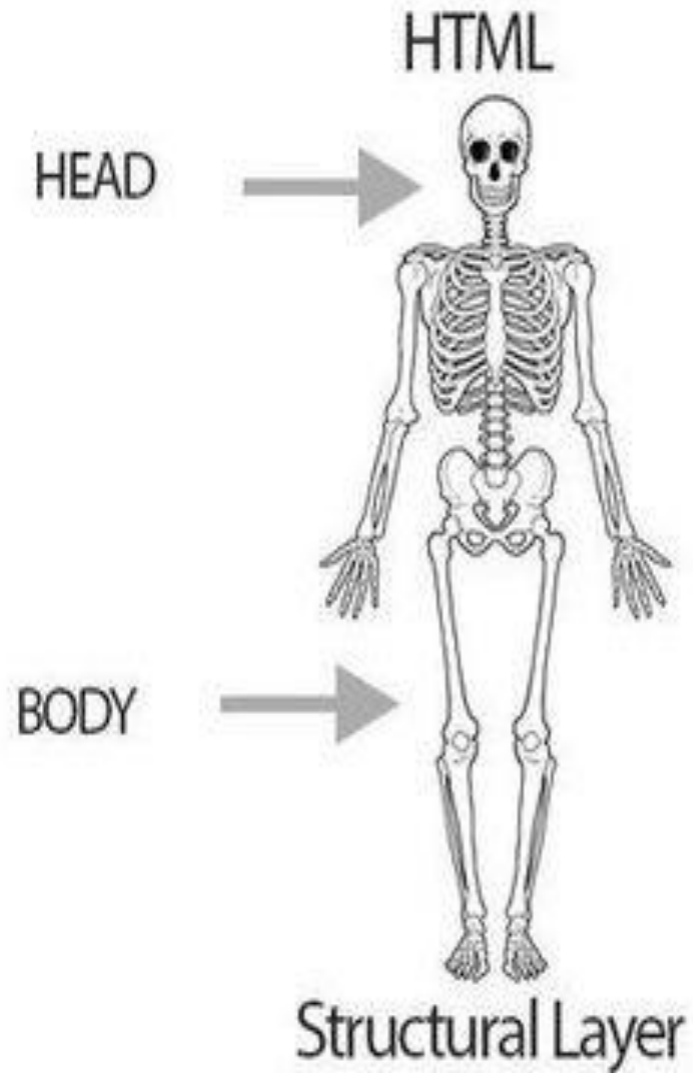
```
<font size="12px" color="red"
face="Verdana">
```

Different information goes here.

```
</font>
```

*"HTML without CSS is like a piece of candy without a pretty wrapper."*

- What can we do with CSS that we can't do with HTML?
  - Control of backgrounds.
  - Set font size to the exact height you want.
  - Highlight words, entire paragraphs, headings or even individual letters with background colors.
  - Overlap words and make logo-type headers without making images.
  - Precise positioning.
  - Linked style sheets to control the look of a whole website from one single location.
  - And more.



# CSS Rule Structure

A CSS RULE is made up of a selector and a declaration. A declaration consists of property and value.

selector {property: value;}

declaration

```
what {
is : CSS ;
}
```

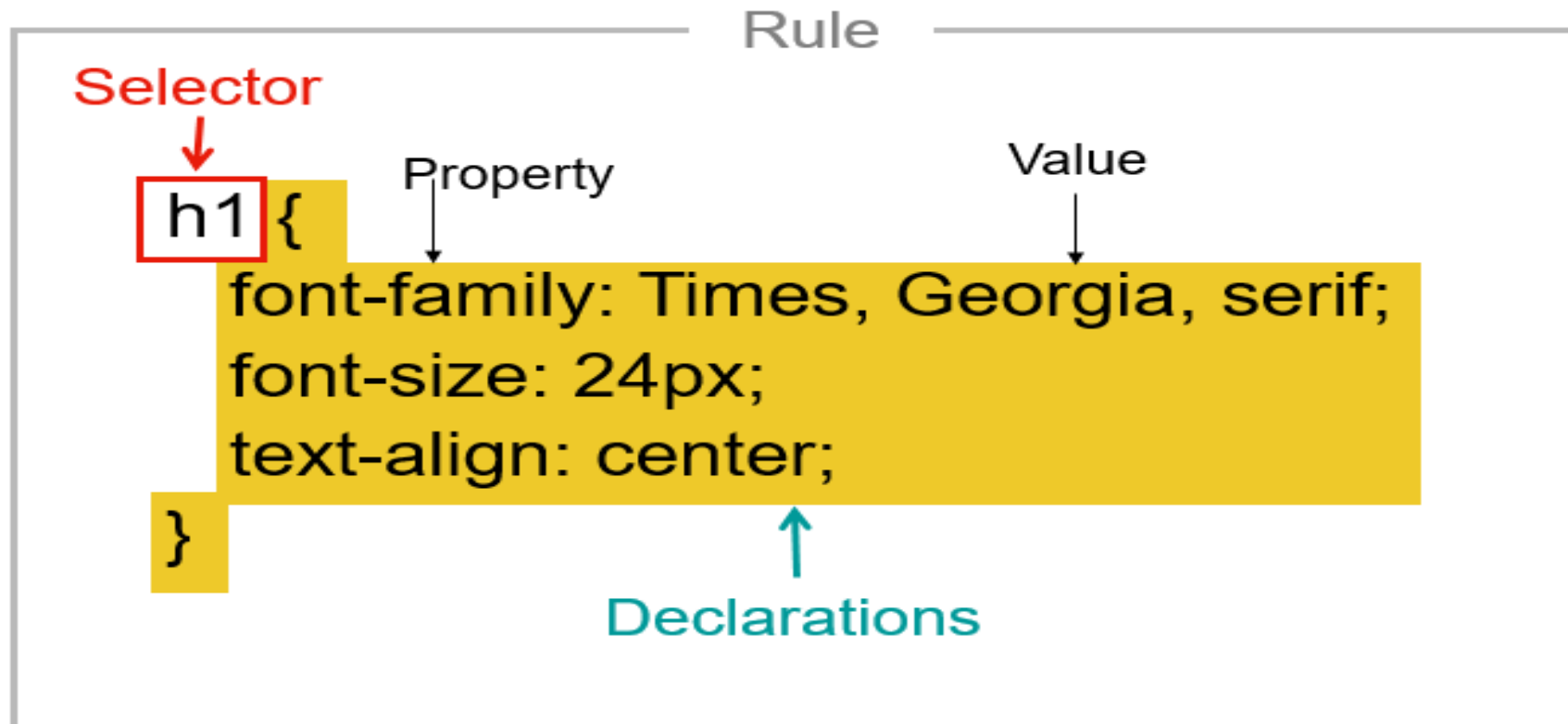


**Selector:** A selector is an HTML tag at which style will be applied.

**Declaration:** enclosed within { }.

Declaration has two sections separated by colon(:).

Properties and values tell an HTML element how to display.



# 3 Ways of using CSS

- 1) Local (Inline Stylesheet )
- 2) Global (Embedded/Internal Stylesheet )
- 3) Linked (External Stylesheet )
  - a) Linking to External Stylesheet
  - b) Importing to External Stylesheet

- **Inline** style sheet.
- Placed inside tags.
- Specific to a single instance of an html tag on a page.
- It is implemented by using style attributes with the HTML tag.

Example:

```
<p style="font-size: 10pt; color: red; font-weight: bold; font-family: Arial, Helvetica, sans-serif">
```

This is a local stylesheet declaration. </p>

On the browser:

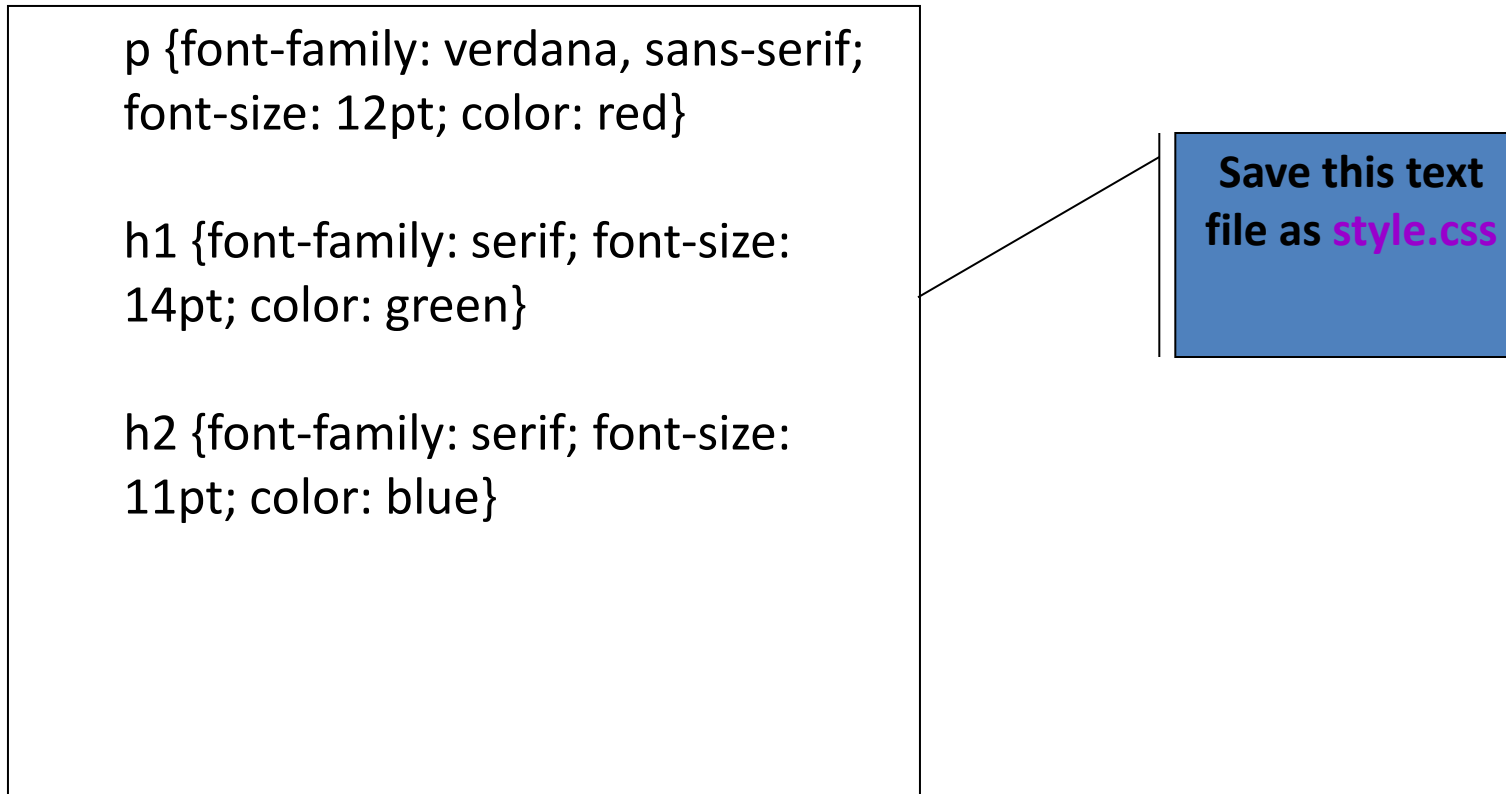


**This is a local stylesheet declaration.**

- **Embedded** or **internal** style sheet
- Applicable to an entire document
- **Internal styling** is defined in the **<head>** section of an HTML page, within a **<style>** element.

```
<html>
<head>
  <style type="text/css">
    h1 {
      background-color:green;
      color:yellow;
    }
  </style>
</head>
<body>
  <h1> Infoway Technologies, PUNE </h1>
</body>
</html>
```

- **External** style sheet
- Styles are saved in a separate file, with the extension **.css**
- This single stylesheet can be used to define the look of multiple pages.



To apply the stylesheet “*style.css*” to an HTML document, call it in from the header:

```
<head>  
  <link rel="stylesheet" href="style.css"  
    type="text/css">  
</head>
```

# Importing to an External Stylesheet

The @import rule is another way of loading an external style sheet. The @import statement instructs the browser to load an external style sheet and use its styles.

```
<head>
<style>
    @import "style.css";
</style>
</head>
<Body>
    <p>this example shows the Importing to an external stylesheet</p>
</body>
```

We can use the @import rule to import a style sheet within another style sheet.

```
@import url("css/layout.css");
@import url("css/color.css");
body {
    color: blue;
    font-size: 14px;
```

# Selector



Universal selectors are used to select any element.

```
* {  
color: blue;  
}
```

- Tag (Tag name)

## HTML

```
<div>
  Text
</div>
<div>
  <span>some text </span>
</div>
<span>some other text </span>
```

## CSS

```
DIV {
  width: 200px;
}
SPAN {
  font-size:130%;
}
```

ID selectors should be used with **single** elements.

## HTML

```
<div id="content">
  Text
</div>
```

## CSS

```
#content {
  width: 200px;
}
```

# Class based selector (.)

Class based styles can be used by **multiple HTML elements**.

## HTML

```
<div class="big">
  Text
</div>
<div>
  <span class="big">some text </span>
</div>
```

## CSS

```
.content {
  width: 200px;
}
```

# IDs vs Classes

The most important difference between IDs and classes is that there can be only one ID on a page, but multiple classes.

An ID is more specific than a class.

An element can have both an ID and multiple classes.



**ID: #344-34-4344**

**Class: Male**

**Class: Employee**



**ID: #123-54-9877**

**Class: Female**

**Class: Employee**

Group **different selectors with the same declaration** on one line.

```
h1, h2, h3 {color: yellow;}
```

Descendant selectors are used to select elements that are descendants (**not necessarily children**) of **another** element in the document tree.

```
<ul>
  <li>PGDAC</li>
  <li>Infway Courses
    <ol>
      <li>PreDAC</li>
      <li>Certification courses</li>
    </ol>
  </li>
</ul>
```

```
<style>
  ul li{color:blue}
</style>
```

- PGDAC
- Infway Courses
  1. PreDAC
  2. Certification courses

# Child selectors

A child selector is used to select an element that is a direct child of another element (parent). Child selectors will not select all descendants, only direct children.

```
<div>
  <h2>Infoway Technologies</h2>
  <p>Kothrud,Pune.</p>
  <center> <h2>Authorized C-DAC Training Centre in Pune </h2></center>
</div>
```

---

```
<style>
  div>h2{background-color: yellowgreen}
</style>
```

**Infoway Technologies**

Kothrud,Pune.

**Authorized C-DAC Training Centre in Pune**



# Adjacent sibling selectors

Adjacent sibling selectors will select the sibling immediately following an element.

Syntax:

```
element + element {  
    css declarations;  
}
```

The general sibling selector selects all elements that are siblings of a specified element.

Syntax:

```
element ~ element {  
    css declarations;  
}
```

Attribute selectors selects elements based upon the attributes present in the HTML Tags and their value.

```
IMG[src="small.gif"] {  
border: 1px solid #000;  
}
```

will work for

```

```

Syntax:

```
selector:pseudo-class {  
    property: value;  
}
```

```
a:hover {
    color: red;
}
```

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# Pseudo-element Selector

A CSS ***pseudo-element*** is a keyword added to a selector that lets you style a specific part of the selected element(s).

Syntax: `selector::pseudo-element {  
property: value;  
}`

Ex. `::first-line` can be used to change the font of the first line of a paragraph.

```
p::first-line {  
    color: blue;  
    text-transform: uppercase;  
}
```

<code>::after</code>	<code>::before</code>
<code>::first-letter</code>	<code>::first-line</code>
<code>::selection</code>	

# Properties

- **Font-family:** specifies the font for an element.

- **Font-size:** The size of the font

- **Font-weight**

This states whether the text is bold or not.

Commonly used are font-weight: bold or fontweight: normal. In theory it can also be bolder, lighter, 100, 200, 300, 400, 500, 600, 700, 800 or 900

- **Font-style**

font-style: *italic* or

font-style: normal.

- **Text-decoration**

This states whether the text is underlined or not.

- *text-decoration: overline*

- *text-decoration: line-through, strike-through,*

- *text-decoration: underline ( should only be used for links )*

This property is usually used to decorate links, such as specifying no underline with

- *text-decoration: none.*

- ***text-transform***

This will change the case of the text.

text-transform: capitalize

text-transform: uppercase

text-transform: lowercase

text-transform: none

- ***Text spacing***

letter-spacing and word-spacing

line-height

text-align

text-indent

Eg.

```
p {  
  letter-spacing: 2px;  
  word-spacing: 3px;  
  line-height: 4px;  
  text-align: center;  
}
```



# Properties - Background

- Background-Attachment  
-fixed,scroll
- background-color  
color name,hexadecimal number,RGB color code,transparent
- background-image:  
url(path\_to\_image), linear-gradient(),radial-gradient(),  
repeating-linear-gradient(),repeating-radial-gradient()
- background-position  
-top left,top center,top right,center left,center center,center  
right,bottom left,bottom center,bottom right
- Background Repeat  
-no-repeat,Repeat,repeat-x,repeat-y

# Properties - Border

- border-color
- border-style

Text with solid border.

Text with double border.

Text with groove border.

Text with dotted border.

Text with dashed border.

Text with inset border.

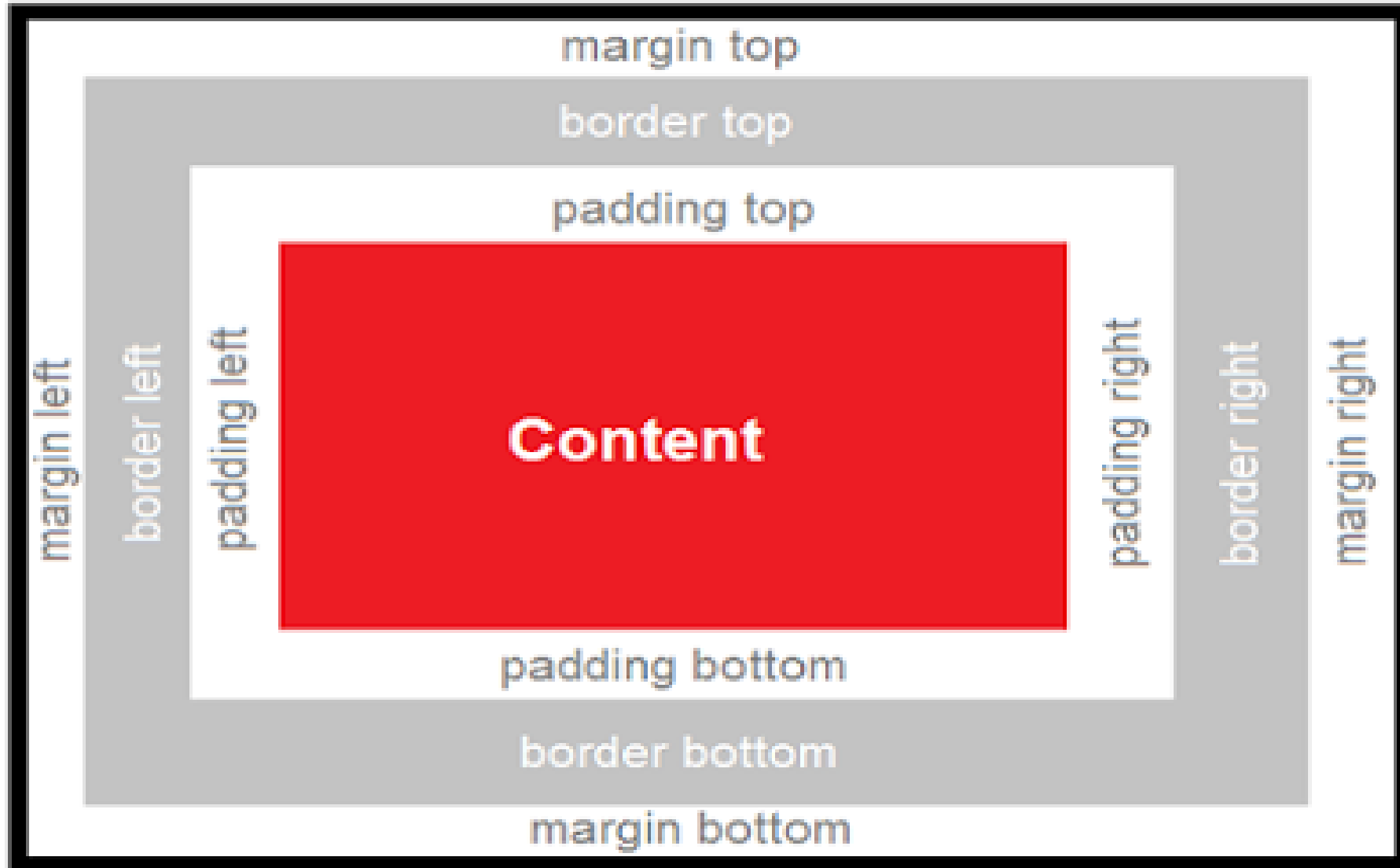
Text with outset border.

Text with ridge border.

Text with hidden border.

- border-width
  - Length,Thin,Medium,Thick
- border-bottom: 1px solid red;
- border-left: 1px solid red;
- border-right: 1px solid red;
- border-top: 1px solid red;
- border-radius
  - length,percentage
- border-collapse
  - separate,collapse

# CSS 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 every HTML element. It consists of: margins, borders, padding, and the actual content.

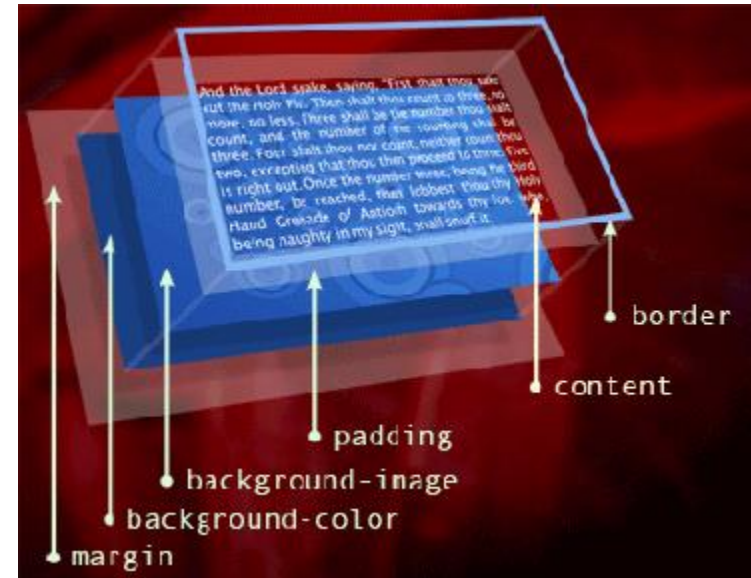
# Margins and Padding

Margins and Padding are the two most commonly used properties for **spacing-out elements**.

A margin is the space **outside of the element**, whereas padding is the space **inside the element**.

Eg:

```
h2 {
  font-size: 10px;
  background-color: #1F488D;
  margin: 10px;
  padding: 5px;
}
```



# Padding

- **#sample { padding: 10px; }**
  - **#sample { padding: 10px 5px }**
  - **#sample { padding: 10px 5px 2px }**
  - **#sample { padding: 10px 5px 2px 5px }**
- 
- one value, such as 10px, to specify equal padding on every side
  - two values, such as 10px 5px, to specify top/bottom (first value) and right/left (second value) padding
  - three values, such as 10px 5px 2px, to specify top (first value), right/left (second value) and bottom (third value) padding
  - four values, such as 10px 5px 2px 1px to specify top, right, bottom and left padding respectively
- 
- **padding-left: 10px;**
  - **padding-right: 10px;**
  - **padding-bottom: 10px;**
  - **padding-top: 10px;**

- **None** : The element will not be displayed.

p {display : none}

- **Block** : The element will be displayed as a blocklevel element, with a line break before and after the element.

p {display : block}

- **Inline** : The element will be displayed as an inline element, with no line break before or after the element.

p {display : inline}



**Visible :** The element is visible (default).



**Hidden :** The element is invisible (but still takes up space)

This is small text and **this is big** *I am Italic*

```
.big {  
    visibility:hidden;  
}
```

This is small text and  *I am Italic*

Float property makes elements float to the right or left of the screen, positioned where they are in the HTML.

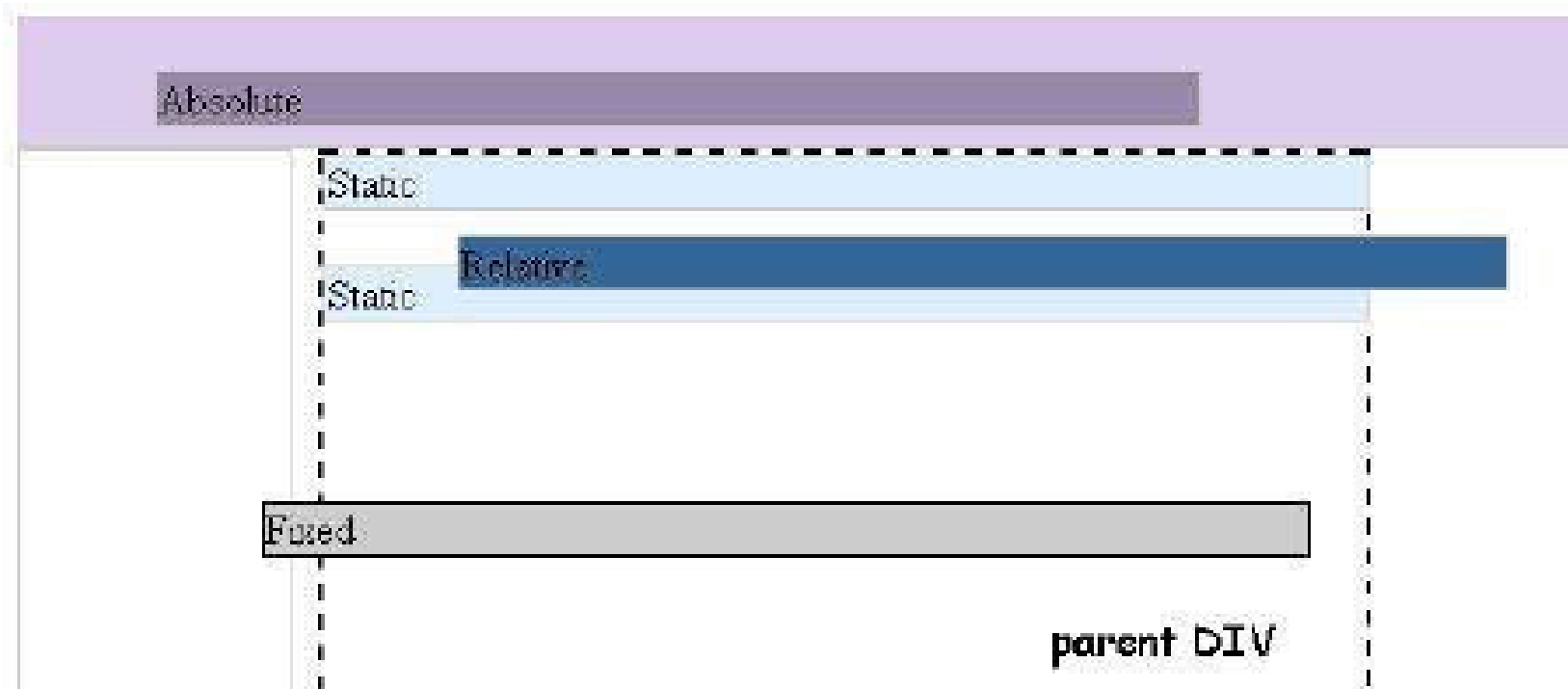
<p>With the increase of laptop computer, traditional Desktop computer are slowly getting removed from the market.</p>  <p>The ease of taking laptop any ware with you is the biggest advantage of the Laptop computers. Laptop computers are still double as costly then desktop computers.</p>	 <pre> IMG { float: left; } </pre>	<p>With the increase of laptop computer, traditional Desktop computer are slowly getting removed from the market. The ease of taking laptop any ware with you is the biggest advantage of the Laptop computers. Laptop computers are still double as costly then desktop computers.</p>
--	---	---

- list-style
  - image,Position,type
- list-style-image: url(path\_to\_image.gif, jpg or png);
- list-style-position: value;
  - inside
 

• Coffee - A brewed drink prepared from roasted coffee beans...
• Tea
• Coca-cola
  - outside
 

• Coffee - A brewed drink prepared from roasted coffee beans...
• Tea
• Coca-cola
- list-style-type: value;
  - disc,Circle,Square,Decimal,lower-roman,upper-roman,lower-alpha,upper-alpha,none

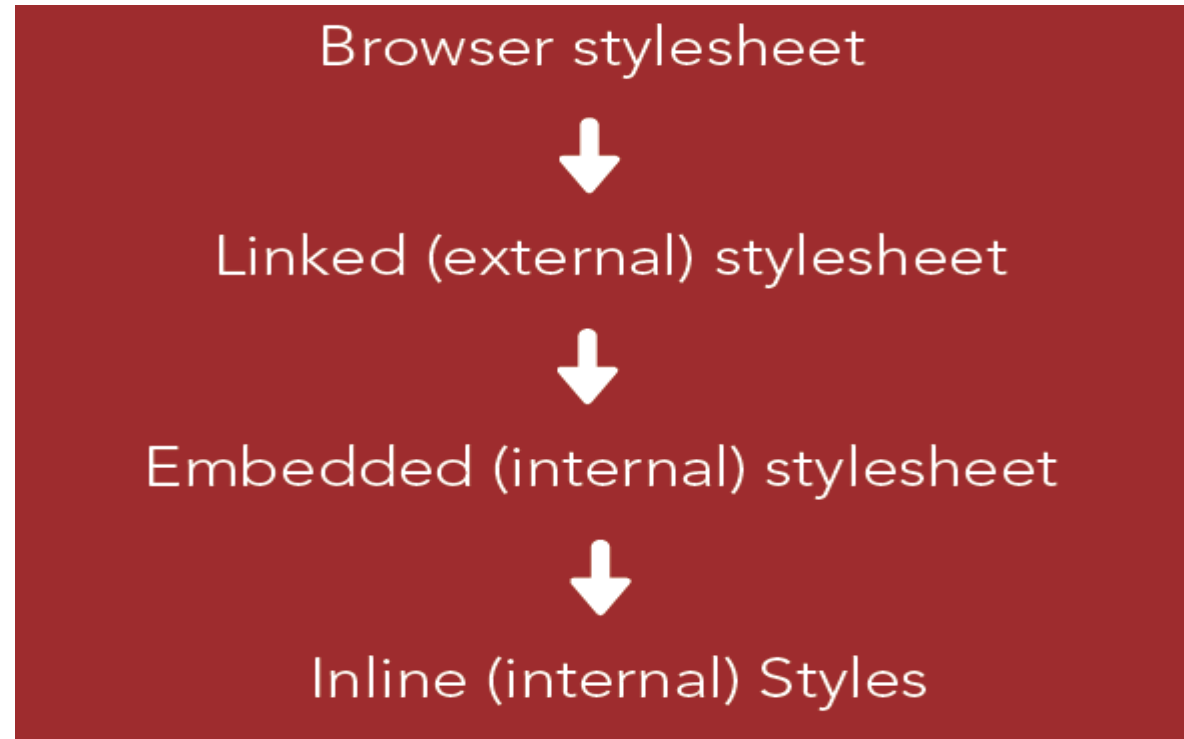
- Static
- Relative
- Absolute
- Fixed



- Static: The value static is the default value for elements and renders the position in the normal order of things as they appear in the html
- Relative: It is much like static, but the element can be offset from its original position with the properties top, right, bottom and *left* .
- Absolute: The absolute element can be placed anywhere on the page using top, right, bottom and *left* .
- Fixed: It behaves like absolute, but fixed elements should stay exactly where they are on the screen even when the page is scrolled.

The “cascade” part of CSS is a set of rules for resolving conflicts with multiple CSS rules applied to the same elements.

For example, if there are two rules defining the color of your h1 elements, the rule that comes last in the cascade order will “trump” the other.



- Inline (local) overrides internal (global)
- Internal (global) overrides external (linked).
- An inline style (inside an HTML element) has the highest priority, which means that it will override every style declared inside the <head> tag, in an external style sheet, and in the browser (default value).

Most elements will inherit many style properties from their parent elements by default.

HTML	relationship
<code>&lt;body&gt;</code>	parent of site
<code>&lt;div&gt;</code>	parent of ul and li, child of body
<code>&lt;ul&gt;</code>	parent of li, child of div and body
<code>&lt;li&gt;&lt;/li&gt;</code>	child of ul, div, and body
<code>&lt;/ul&gt;</code>	
<code>&lt;/div&gt;</code>	
<code>&lt;/body&gt;</code>	



**body**

make the paragraph 16px, Verdana, red

---



**p**

make the paragraph blue

---



16px, Verdana, blue

```
<!DOCTYPE html>
<html>
<head>
  <title></title>
  <meta charset="utf-8" />
  <style>
    div {
      background-color: green !important;
    }
  </style>

</head>
<body>
  <div style="background-color:red">
    <p>This is the example of important property</p>
  </div>
</body>
</html>
```

# Thank You