



Cascading Style Sheet (CSS)

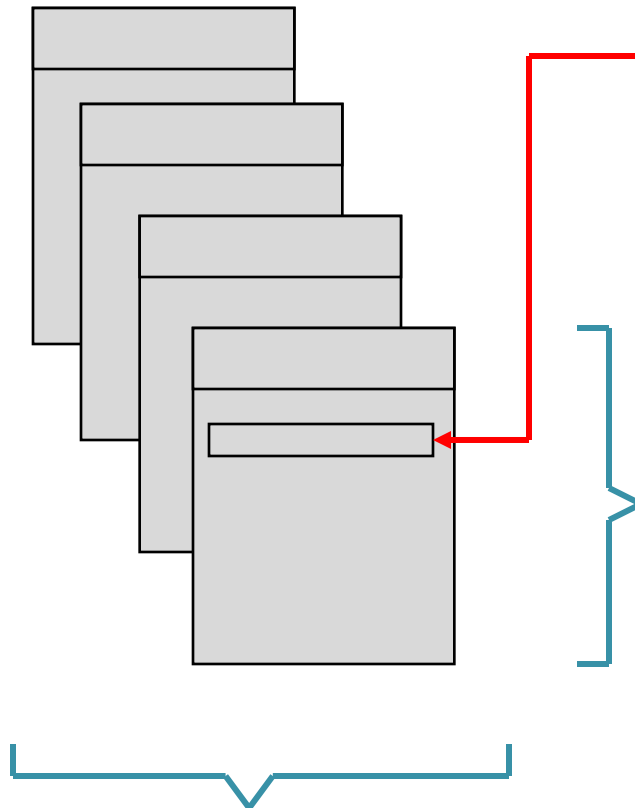
Cascading Style Sheet (CSS)

- Recommended by W3C
- The Characteristics of CSS
 - The layout of the page can be flexibly
 - It can specify the font name and size precisely
 - It can specify margin and indent
 - It can specify the position of the text and image
 - The page and web layout can be managed collectively
 - The changes can be done easily
- To validate your style sheet
 - <http://jigsaw.w3.org/css-validator/validator-uri.html>

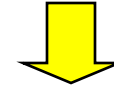
Implementation of CSS

- **Methods of Implementation**
 - Following are the 4 methods of implementing the css.
 - **Inline Style sheet** (Specify style directly by using the style attributes)
 - **Embedded style sheet** (Define style in advance to STYLE element, then apply)
 - **Linking style sheet** (By using LINK elements link the external file where style has been defined)
 - **Import style sheet** (By using STYLE element, specify the external file (define style) to be imported)

Case by case example



When you want to specify style only at this position



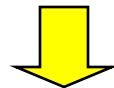
Specify style directly with **[Inline style sheet]**

When you want to specify the common style only on this page



Define and apply style with **[Embedded style sheet]**

When you want to specify the common style on all the pages



Define and apply style in external file **[Linking/Import]**

Inline Style Sheet

- Specify style directly by using **STYLE** attributes toward each element.

```
<BODY>
```

```
<Tag STYLE="property:value"> - </Tag>
```

```
</BODY>
```

```
<BODY>
```

```
<H1 STYLE="color: red">Red heading 1 </H1>
```

```
<P STYLE="color: blue; FONT-size:20px"> Blue Paragraph</P>
```

```
⋮
```

```
</BODY>
```

Separator

- Use for each element **within the BODY**
- At **STYLE attribute**, specify the style to use
- **Multiple styles** can be defined, **separated with semi-colon**.
- The are where the style is applied is different depending on the element

Embedded Style Sheet

- Define the style within the HEAD, then apply the style in the BODY, style is defined with the form of [Rule]

<HEAD>

<STYLE TYPE="TEXT/CSS">

</STYLE>

Selector {Property:value}

<HEAD>

Selector: Tie up the HTML element and style defined by definition part

Property: Specify the property toward the specified element in selector

Value: Specify the applied value to the style

<HEAD>

<STYLE TYPE="TEXT/CSS">

H1{color:red; font-size:20px}

</STYLE>

</HEAD>

<BODY>

<H1>Heading</H1>

⋮

</BODY>

Definition

Applied

Linking Style Sheet

- Link the style and the external file which defines the style within the HEAD.
- File Extension is **.CSS**

```
<HEAD>
```

```
<LINK REL="stylesheet" TYPE="text/css" HREF="url">
```

```
</HEAD>
```

```
<HEAD>
```

```
<TITLE>title</TITLE>
```

```
<LINK REL="stylesheet" TYPE="text/css" HREF="style.css">
```

```
</HEAD>
```

```
<BODY>
```

```
<H1>Heading</H1>
```

```
</BODY>
```

Style file defining style

style.css - Notepad

File Edit Format View Help

```
H1{font-family:"Times New Roman";  
font-size:36px}
```

Linking Style Sheet ...

- In REL attribute, specify the relationship with the file linked.
- In TYPE attribute, specify the MIME type of style file
- In HREF attribute, specify the style **file location and name.** (file extension is .css)
- Both absolute path and relative path can be specified for the style file name
- Define only the [rules] in style file
- Applied **in BODY part**

Import Style Sheet

- Import the external file where the style has been defined **in HEAD part.**

```
<HEAD>  
<STYLE TYPE="TEXT/CSS">  
    @import url (file name or URL);  
</STYLE>  
</HEAD>
```

The Priority among 4 Implementation Methods

- When multiple styles are specified in the document, the following priority order shall be applied.



- Define the general style of the Web by [Style sheet by external files]
- Define the style of whole page by [Embedded style sheet]
- Define individual style by [Inline style sheet]

The Selector

- If a element is used in selector, then **all style are applied in that element.**
- Styles can be specified in details using the following **5 methods.**
 - **Element Selector**
 - Always specify common style toward the element
 - **Class Selector**
 - Create and define optional name to the specify style, then apply it.
 - **ID Selector**
 - Create and define the optional name towards the specify style, and apply it at one place in a document
 - **Group Selector**
 - Apply the common style to multiple elements
 - **Context Selector**
 - Apply style only specified part where multiple elements are all specified.

I. Element Selector

- The **common style can be applied to an element at all time**
- In Selector, **specify the element name** to apply the style

```
<HEAD>
  <STYLE TYPE="text/css">
    H1{color:red}
    H2{color:blue}
  </STYLE>
</HEAD>
<BODY>
  <H1>Heading 1</H1>
  <H2>Item 1</H2>

  <H1>Heading 2</H1>
  <H2>Item 2</H2>
</BODY>
```

```
<HEAD>
  <STYLE TYPE="text/css">
    Element {Property:Value}
  </STYLE>
</HEAD>
```

Definition

Applied

2. Class Selector

- In TYPE attribute, specify the MIME type of the style definition part.
- **Class name starts with a period (.)**
- In **Selector**, specify the name created for the define style
- When **applying the CLASS**, remove the period (.)

```
<HEAD>
  <STYLE TYPE="text/css">
    .red{color:#FF0000}
    .blue{color:#0000FF}
  </STYLE>
</HEAD>
<BODY>
  <H1 CLASS="red">Heading 1</H1>
  <H2 CLASS="blue">Item 1</H2>

  <H1>Heading 2</H1>
  <P CLASS="red"> Paragraph </P>
</BODY>
```

```
<HEAD>
```

```
  <STYLE TYPE="text/css">
```

```
    .Class name {Property:Value}
```

```
  </STYLE>
```

```
</HEAD>
```

Define

Applied

Do not Apply

Applied

3. ID Selector

- Define and name a specific style, and apply it by specifying the name.
- However it cannot be called twice but some browsers can use it like the class selector for more than twice (using function)

```
<HEAD>
    <STYLE TYPE="text/css">
        #ID {Property:Value}
    </STYLE>
</HEAD>
```

Define

```
<HEAD>
    <STYLE TYPE="text/css">
        #id123{color:red}
    </STYLE>
</HEAD>
<BODY>
    <H1 ID="id123">Heading 1</H1>
    <P>Content 1</P>
</BODY>
```

When ID is specified, the "sharp" will be removed

Applied

4. Grouped Selector

- By grouping multiple elements, **separated with comma (,)**, common style can be applied.

```
<HEAD>
  <STYLE TYPE="text/css">
    Element 1, Element 2,... {Property:Value}
  </STYLE>
</HEAD>
```

```
<HEAD>
  <STYLE TYPE="text/css">
    H1,H2,H3 {font:24px;
              color:blue}
  </STYLE>
</HEAD>
<BODY>
  <H1>Heading 1</H1>
  <H2>Heading 1</H2>
  <H3>Heading 1</H3>
</BODY>
```

Define

Applied

5. Context Selector

- A specific style can be applied only when **multiple elements are specified simultaneously**.
- In Selector, list the **elements separated with blank**

```
<HEAD>
```

```
<STYLE TYPE="text/css">
```

```
Element 1 Element 2 .... {Property:Value}
```

```
</STYLE>
```

```
</HEAD>
```

```
<HEAD>
```

```
<STYLE TYPE="text/css">
```

```
H1 | {color: red}
```

```
</STYLE>
```

```
</HEAD>
```

```
<BODY>
```

```
<H1>Heading 1
```

```
<|> 1</|>
```

```
</H1>
```

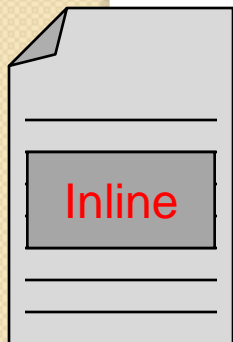
```
</BODY>
```

Define

Applied

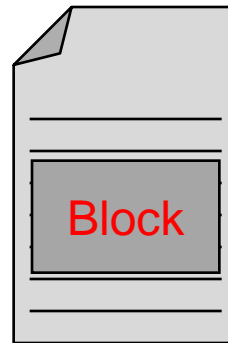
SPAN Element and DIV Element

- When the style sheet is applied only to the part of the document, it is convenient to use the following elements.
 - **SPAN** element specifies the range of inline level.
 - **DIV** element does the range of block level
- Inside DIV element can be applied SPAN element



```
<SPAN STYLE =color:red>  
Inline level is red  
</SPAN>
```

```
<SPAN CLASS =red>  
Inline level is red  
</SPAN>
```



```
<DIV STYLE =color:blue>  
Block level is blue  
</DIV>
```

```
<DIV CLASS =blue>  
Block level is blue  
</DIV>
```

`<H1 style="color:red"> Hello I am Samantha </H1>`

`<H1 style="color:red"> Hello I am Samantha</H1>`

`<H1 style="color:red"> Hello I am <DIV style="color:blue">Samantha</DIV></H1>`

Use of the float property

```
<html>
<head>
<style type="text/css">
img {
float:right
}
</style>
</head>
<body>
<p>In the paragraph below, we have added an image with style
    <b>float:right</b>.The result is that the image will float to the
    right in the paragraph.</p>
<p>
```

Border-style

```
<style type="text/css">
p.dotted {border-style: dotted}
p.dashed {border-style: dashed}
p.solid {border-style: solid}
p.double {border-style: double}
p.groove {border-style: groove}
p.ridge {border-style: ridge}
p.inset {border-style: inset}
p.outset {border-style: outset}
</style>
```

```
<body>
<p class="dotted">A dotted border</p>
<p class="dashed">A dashed border</p>
<p class="solid">A solid border</p>
<p class="double">A double border</p>
<p class="groove">A groove border</p>
<p class="ridge">A ridge border</p>
<p class="inset">An inset border</p>
<p class="outset">An outset border</p>
</body>
```



Div element with float

```
<style type="text/css">
div
{
float:right;
width:120px;
margin:0 0 15px 20px;
padding:15px;
border:1px solid black;
text-align:center;
}
</style>
<body>
<div>
<br />
CSS is fun!
</div>
<p>
This is some text.This is some text.This is some text.
This is some text.This is some text.This is some text.
</p>
<p>
In the paragraph above, the div element is 120 pixels wide and it contains the image.
The div element will float to the right.
Margins are added to the div to push the text away from the div.
Borders and padding are added to the div to frame in the picture and the caption.
</p>
```

Float with Menu

```
<head>
<style type="text/css">
ul
{
float:left;
width:100%;
padding:0;
margin:0;
list-style-type:none;
}
a
{
float:left;
width:6em;
text-decoration:none;
color:white;
background-color:purple;
padding:0.2em 0.6em;
border-right:1px solid white;
}
a:hover {background-color:#ff3300}
li {display:inline}
</style>
</head>
<body>
<ul>
<li><a href="#">Link one</a></li>
<li><a href="#">Link two</a></li>
<li><a href="#">Link three</a></li>
<li><a href="#">Link four</a></li>
</ul>
```

CSS Validation

- <http://jigsaw.w3.org/css-validator/>

References

- http://www.w3schools.com/css/css_examples.asp
- <http://www.webcredible.co.uk/>

Alternative Styles

- `<link href="css/default.css" rel="stylesheet" type="text/css" title="Default" />`
- `<link href="css/black.css" rel="alternate stylesheet" type="text/css" title="High Contrast" />`

☐ **rel** = link-types [CI]

- ☐ This attribute describes the relationship from the current document to the anchor specified by the href attribute. The value of this attribute is a space-separated list of link types.
- ☐ This specification allows authors to specify a preferred style sheet as well as alternates that target specific users or media.
- ☐ User agents should give users the opportunity to select from among alternate style sheets or to switch off style sheets altogether.