

CSS – Cascading Style Sheets

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CSS - Cascading Style Sheet 

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CSS – Cascading Style Sheet

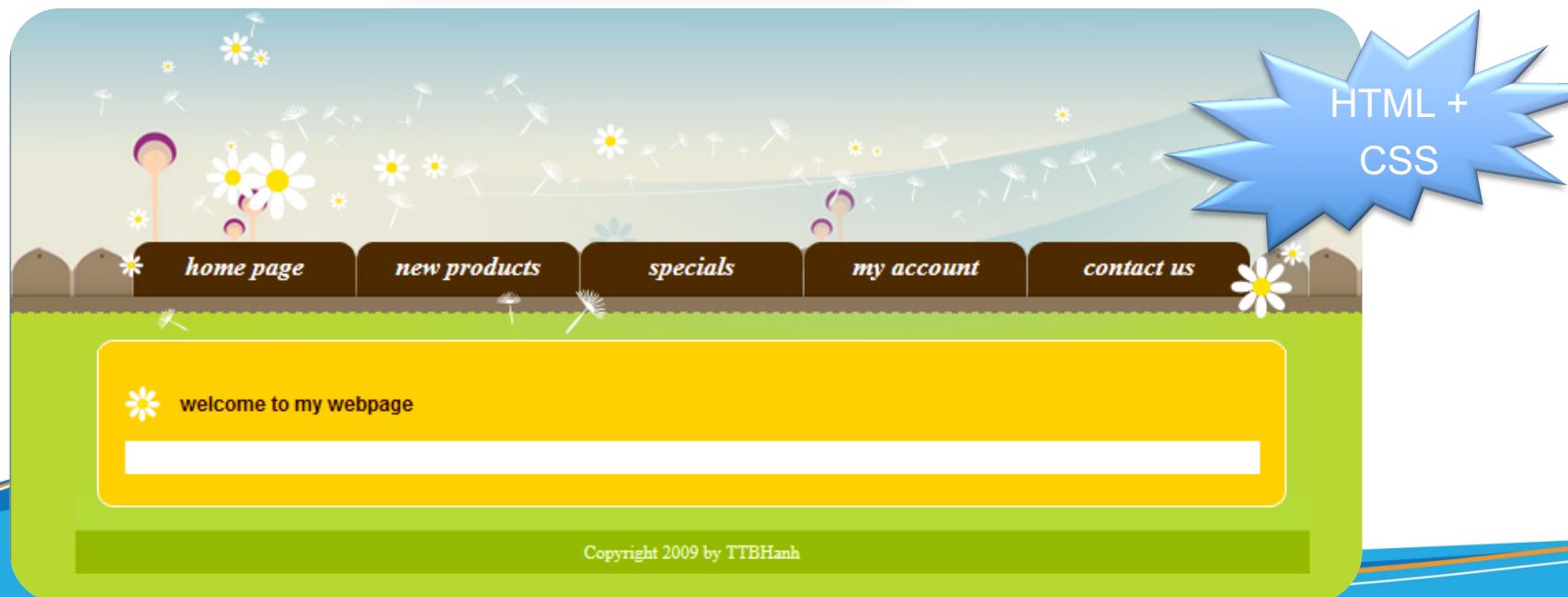
INTRODUCTION **CSS**



CSS – Example

[home page](#)
[new products](#)
[specials](#)
[my account](#)
[contact us](#)
 welcome to my webpage
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HTML only



Introduction to CSS

- Cascading Style Sheets
- Describe how HTML elements are to be displayed on screen, paper, or in other media
- Separate contents (HTML) from presentation (Style)
- Control the layout of multiple web pages all at once





CSS Syntax

Selector

h1

Declaration

{ color:blue; font-size:12px; }

Declaration

Property

Value

Property

Value

- The selector points to the HTML element you want to style



CSS Comment

- Like C++
 - /* your comment here */

- Example :

```
SelectorName {  
    property1:value1; /* comment 1 */  
    property2:value2; /* comment 2 */  
    .....  
    propertyN:valueN; }
```

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CSS – Cascading Style Sheet

HOW TO CSS



CSS How to

1. **Inline Style Sheet**
2. **Internal Style Sheet (Embedded Style Sheet)**
3. **External Style Sheet (Linking Style Sheet)**



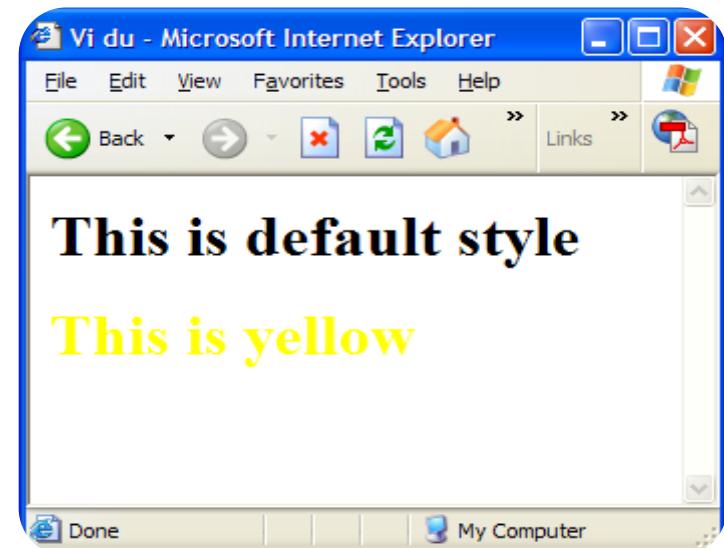
Inline Style Sheet

- Apply a unique style for a single element

```
<tag style = "property1:value1;...propertyN:valueN;">  
...  
</tag>
```

- Ex:

```
<h1 style="color: yellow">  
    This is yellow  
</h1>
```





Internal Style Sheet

- Embedding Style Sheet
- Apply the styles for the page (one page)

```
<head>
  <style type="text/css" media="all | print | screen" >
    <!--
      SelectorName {
        property1:value1;
        property2:value2;
        .....
        propertyN:valueN; }

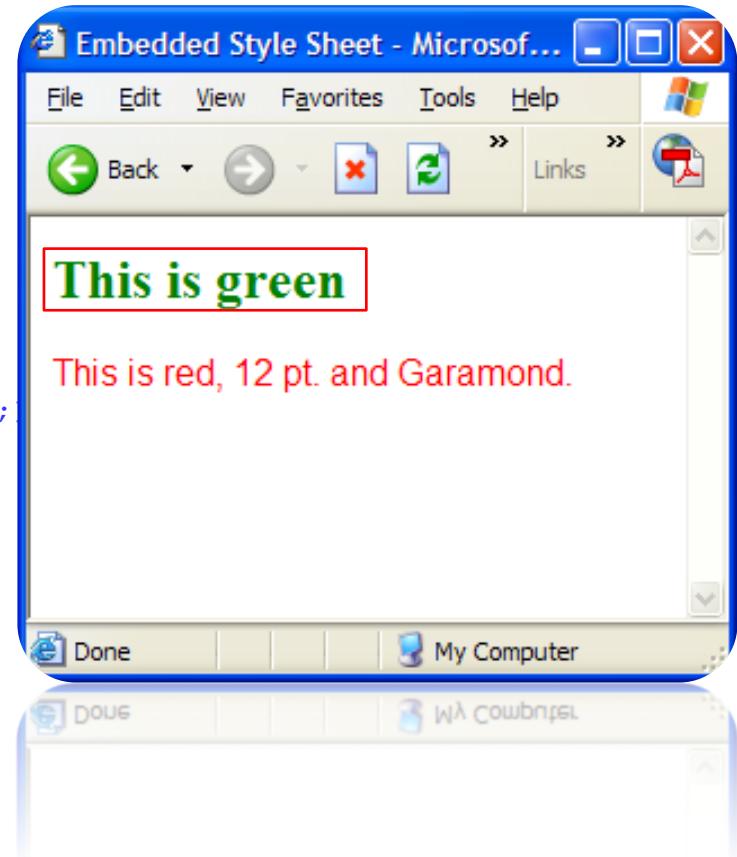
    -->
  </style>
</head>
```



Internal Style Sheet – Ex

```
<HTML>
<HEAD>
    <TITLE>
        Embedded Style Sheet
    </TITLE>

    <STYLE TYPE="text/css">
        <!--
            P {color: red;
                font-size: 12pt;
                font-family: Garamond;}
            H2 {color: green;}
        -->
    </STYLE>
</HEAD>
<BODY BGCOLOR="#FFFFFF">
    <H2>This is green</H2>
    <P>This is red, 12 pt. and
        Garamond.</P>
</BODY>
</HTML>
```





External Style Sheet

- Linking Style Sheet
- The style sheet file must be saved with a **.css** extension
- Apply the styles for an entire website (multiple pages)

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

```
<head>
<style type="text/css" media="all | print | screen" >
    @import url(URL);
</style>
</head>
```



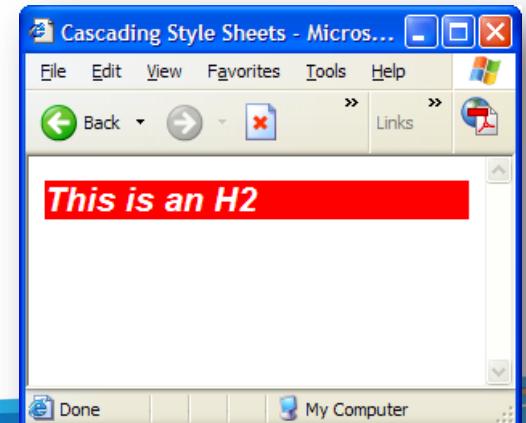
External Style Sheet – Ex

MyStyle.CSS

```
H2  
{  
    FONT-WEIGHT: bold;  
    FONT-SIZE: 16pt;  
    COLOR: white;  
    FONT-STYLE: italic;  
    FONT-FAMILY: Arial;  
    BACKGROUND-COLOR: red;  
}
```

demo.htm

```
<html>  
    <head>  
        <title>Cass.....</title>  
        <link HREF="MyStyle.css"  
            REL="stylesheet" >  
    </head>  
    <body>  
        <h2>This is an H2 </h2>  
    </body>  
</html>
```



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CSS – Cascading Style Sheet

SELECTORS TRONG CSS



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CSS Selectors

- CSS selectors are used to select HTML elements to be applied styles by using:
 - HTML element name
 - Id
 - Class
 - Attribute
 - ...

Ex:

```
.TieuDe1 {  
color: red;  
font-family: Verdana, sans-serif; }
```

```
<h1 class="TieuDe1"> DHKHTN </h1>
```

CSS Selectors

Selector	Example	Description
Universal	*	Select all HTML elements
Element	div	Select all <div> elements
#id	#itemid	Select an element with id="itemid"
.class	.classname	Select all elements with class="classname"
Element.class	div.classname	Select all <div> elements with class="classname"
Grouping	div, span	Select all <div> and elements
Descendant	div span	Select all elements inside <div> elements
Pseudo Class Pseudo Element	a:hover div:first-letter	Style all <a> elements when a user mouses over it Style the first letter of all <div> elements
Child & adjacent sibling	div > span div + span	Select all elements that are immediate children of a <div> element Select all elements that are placed immediately after <div> elements
Attribute	a[attr] a[attr='x'] a[class~='x'] a[lang]='en'	Select all <a> elements that contain "attr" attribute Select all <a> elements with attr='x' attribute Select all <a> elements with the class attribute that contains "x" Select all <a> elements with the lang attribute value that begins with 'en'

The Element Selector

- Select elements based on element name
- Syntax:

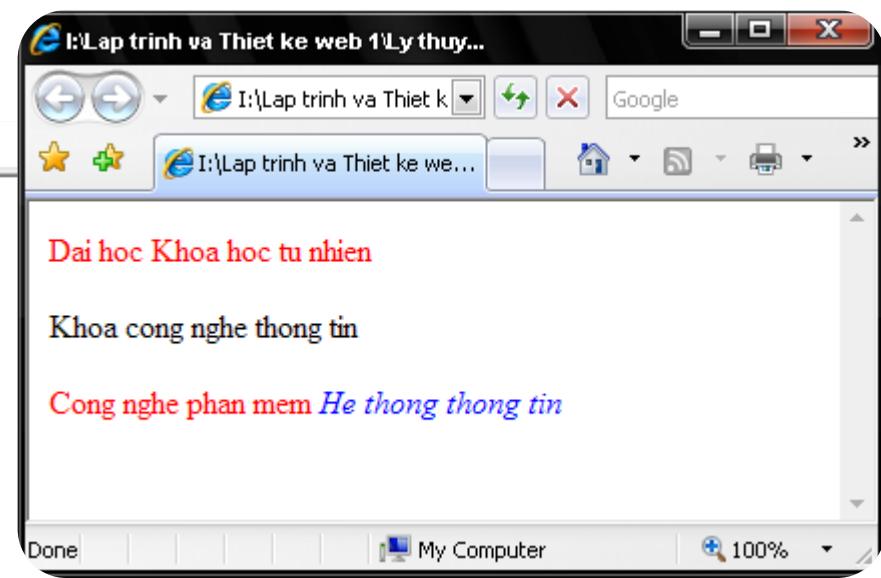
tag { attribute:value; ... }

- Ex:

```
<html>
  <head>
    <style type="text/css">
      p {color:red}
      Em {color:blue}
    </style>
  </head>
  <body>
    <p> Truong Dai hoc Khoa hoc tu nhien </p>

    <div>Khoa cong nghe thong tin</div>

    <p> Cong nghe phan mem <em> He thong thong tin </em> </p>
  </body>
</html>
```



The id Selector

- Used to select one unique element with a specific **id** attribute value
- Syntax: **#id {attribute : value; ...}**
- Ex:



The screenshot illustrates the use of the id selector. On the left, a code editor shows an HTML file named 'Test.htm' with the following content:

```
<html>
  <head>
    <style type="text/css">
      #id001{color:red}
      #id002{color:blue}
    </style>
  </head>
  <body>
    <p id="id001"> Truong Dai hoc Khoa hoc tu nhien
    <p>Khoa cong nghe thong tin</p>
    <div id="id002">Cong nghe phan mem< p id="id001">He thong thong tin</p></div>
  </body>
</html>
```

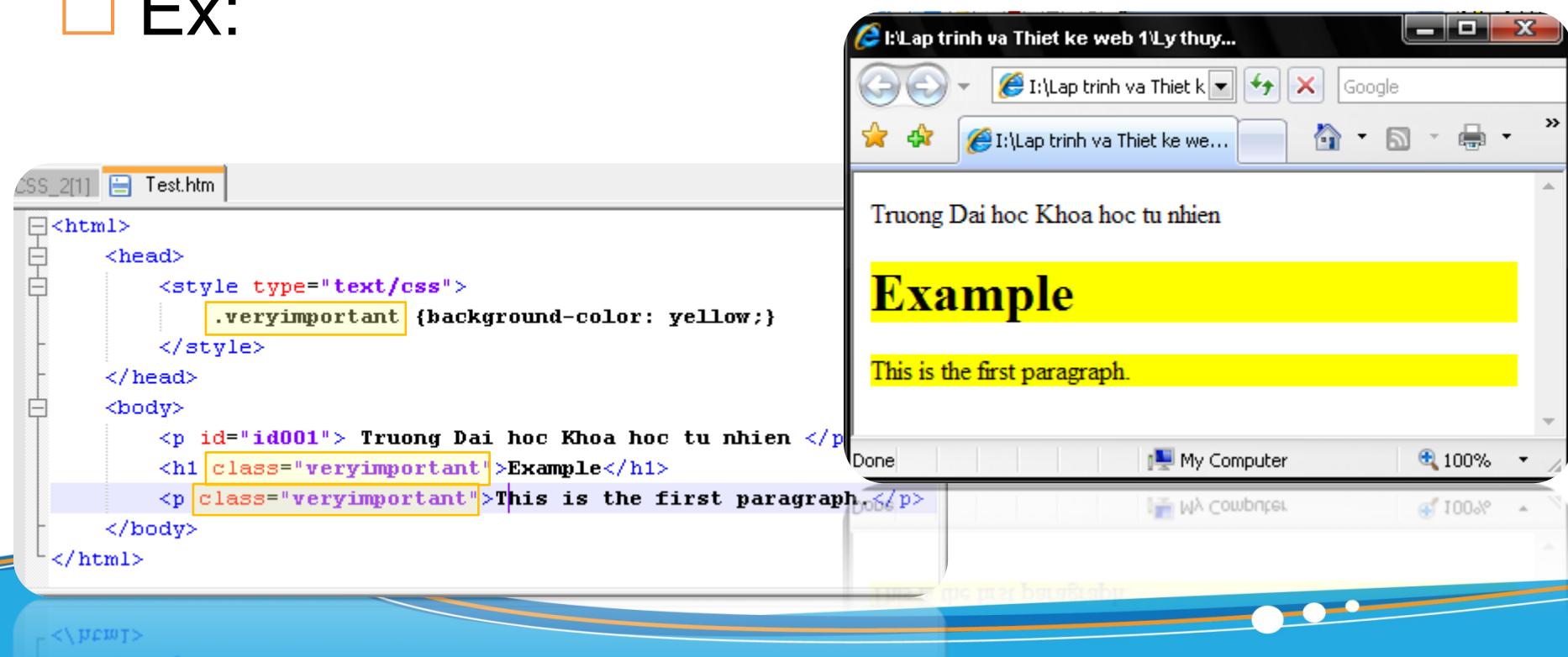
The code uses two CSS rules: `#id001{color:red}` and `#id002{color:blue}`. In the browser window on the right, the output is as follows:

- The first paragraph ('Truong Dai hoc Khoa hoc tu nhien') is displayed in red.
- The second paragraph ('Khoa cong nghe thong tin') is displayed in blue.
- The third paragraph ('Cong nghe phan mem') is displayed in red.
- The fourth paragraph ('He thong thong tin') is displayed in red.

This demonstrates that the id selector applies the specified styles to the unique elements with the id 'id001' and 'id002' respectively.

The Class Selector

- Select elements with a specific **class** attribute value
- Syntax: `.classname { attribute:value; ... }`
- Ex:



The image shows a computer screen with two windows side-by-side. On the left is a code editor window titled "CSS_2[1]" containing the following HTML and CSS code:

```
<html>
  <head>
    <style type="text/css">
      .veryimportant {background-color: yellow;}
    </style>
  </head>
  <body>
    <p id="id001"> Truong Dai hoc Khoa hoc tu nhien </p>
    <h1 class="veryimportant">Example</h1>
    <p class="veryimportant">This is the first paragraph.</p>
  </body>
</html>
```

The class ".veryimportant" is highlighted with a yellow box in the code editor. In the browser window on the right, the page title is "I:\Lap trinh va Thiet ke web 1\Ly thuy...". The content of the page is:

Truong Dai hoc Khoa hoc tu nhien

Example

This is the first paragraph.

The word "Example" is displayed in a yellow box, and the entire paragraph below it is also in a yellow box, demonstrating the application of the CSS class.

The Class Selector

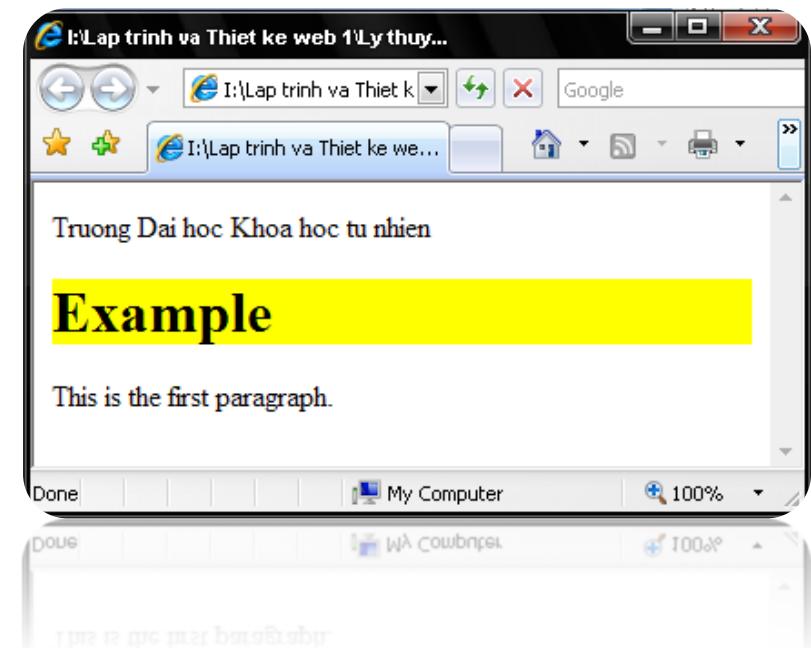
- You can specify that only specific HTML elements should be affected by a class

SS_2[1] Test.htm

```

<html>
  <head>
    <style type="text/css">
      h1.veryimportant {background-color: yellow;}
    </style>
  </head>
  <body>
    <p id="id001"> Truong Dai hoc Khoa hoc tu nhien </p>
    <h1 class="veryimportant">Example</h1>
    <p class="veryimportant">This is the first paragraph.</p>
  </body>
</html>

```



The Class Selector

- HTML elements can also refer to more than one class

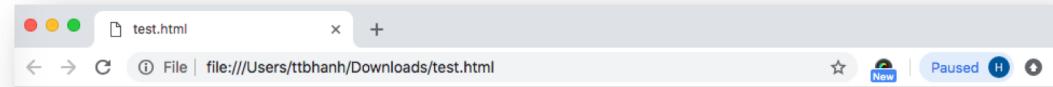
```
<!DOCTYPE HTML>
<html>
<head>
<style>
  .center {
    text-align: center;
    color: red;
  }

  .large {
    font-size: 300%;

  }
</style>
</head>
<body>

  <p class="center large">This paragraph
  will be red, center-aligned, and in a
  large font-size.</p>

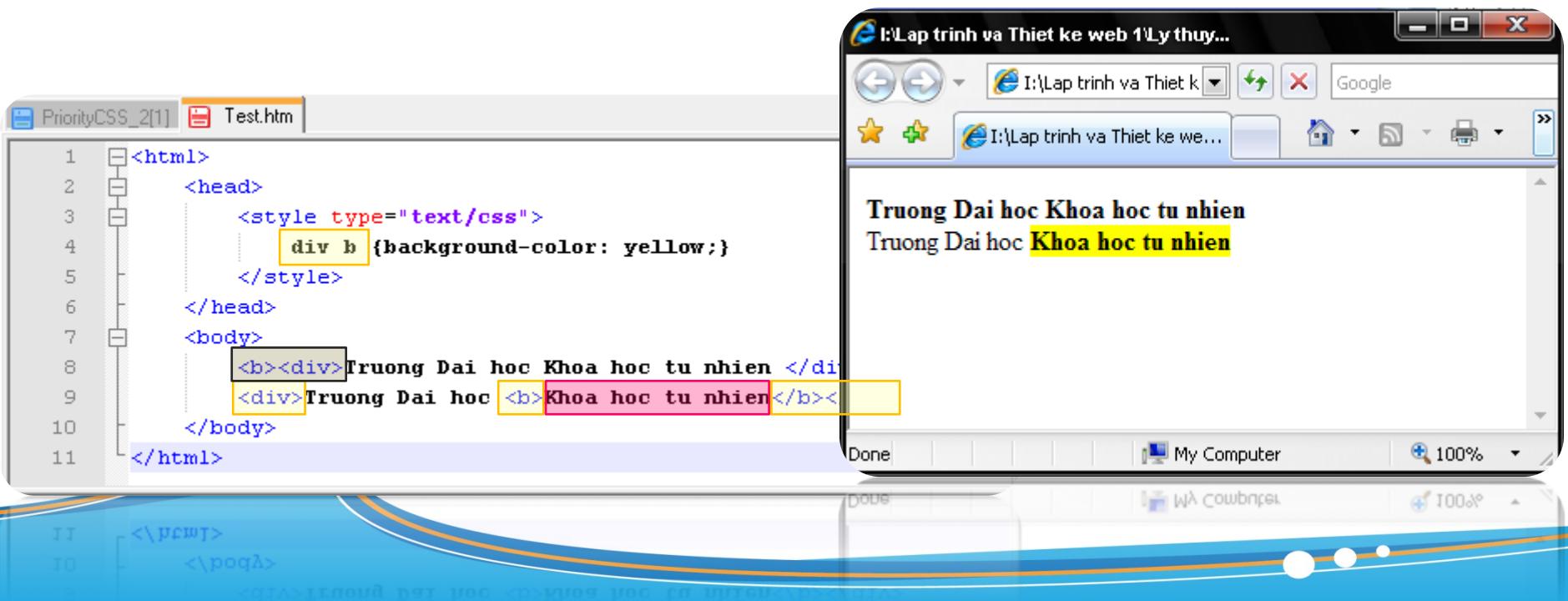
</body>
</html>
```



This paragraph will be red, center-aligned, and in a large font-size.

Descendant Selector

- Matches all elements that are descendants of a specified element
- Syntax: selector1 selector2 ... { }
- Ex:



The screenshot illustrates the application of a descendant selector. On the left, a code editor displays an HTML file named 'Test.htm' with the following content:

```

<html>
  <head>
    <style type="text/css">
      div b {background-color: yellow;}
    </style>
  </head>
  <body>
    <b><div>Truong Dai hoc Khoa hoc tu nhien </div></b>
    <div>Truong Dai hoc <b>Khoa hoc tu nhien</b></div>
  </body>
</html>

```

The CSS rule `div b {background-color: yellow;}` targets any **element that is a child of a

element.**

On the right, a web browser window shows the rendered output. The first **element is highlighted with a yellow background, demonstrating the selector's effect on the first-level children of the

. The second **element is highlighted with a pink background, showing it is not affected by the selector because it is a child of a different

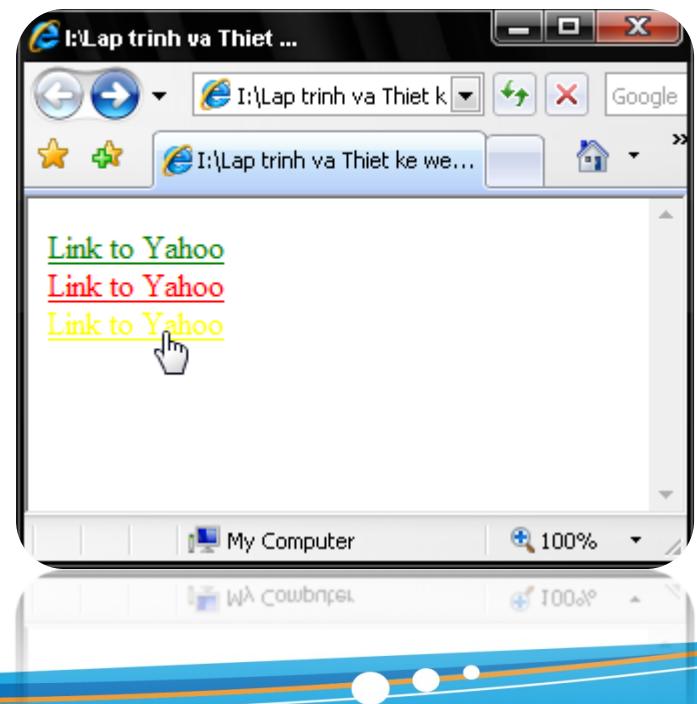
.****

Pseudo-Class Selector

- A pseudo-class is used to define a special state of an element
- tag:`link`, tag:`visited`, tag:`active`, tag:`hover`



```
PriorityCSS_2[1] Test.htm
1 <html>
2   <head>
3     <style type="text/css">
4       a:link {color:red}
5       a:visited {color:green}
6       a:active {color:yellow }
7     </style>
8   </head>
9   <body>
10    <a href="http://www.yahoo.com">Link to Yahoo</a>
11    <br>
12    <a href="http://www.google.com">Link to Yahoo</a>
13    <br>
14    <a href="http://www.msn.com">Link to Yahoo</a>
15    <br>
16  </body>
17 </html>
```

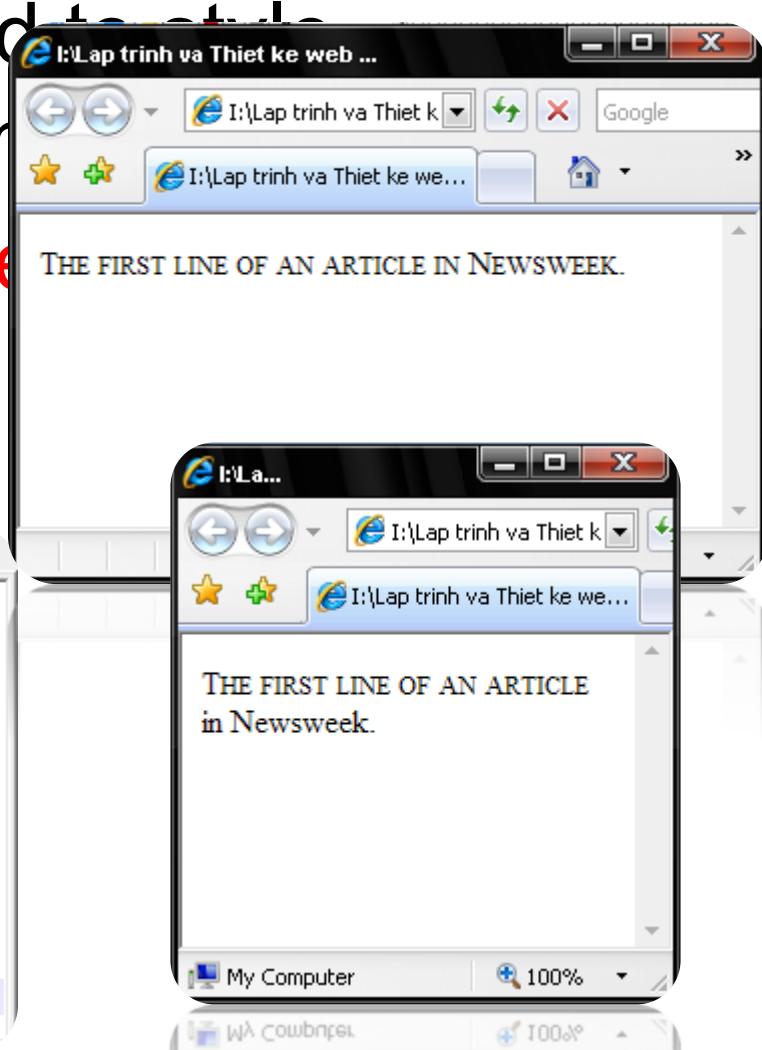




Pseudo-element Selector

- A pseudo-element is used to style specified parts of an element.
- **tag:first-letter, tag:first-line**

```
PriorityCSS_2[1] Test.htm
1 <html>
2   <head>
3     <style type="text/css">
4       div:first-line { font-variant: small-caps }
5     </style>
6   </head>
7   <body>
8
9     <div>The first line of an article in Newsweek.</div>
10
11   </body>
12 </html>
```



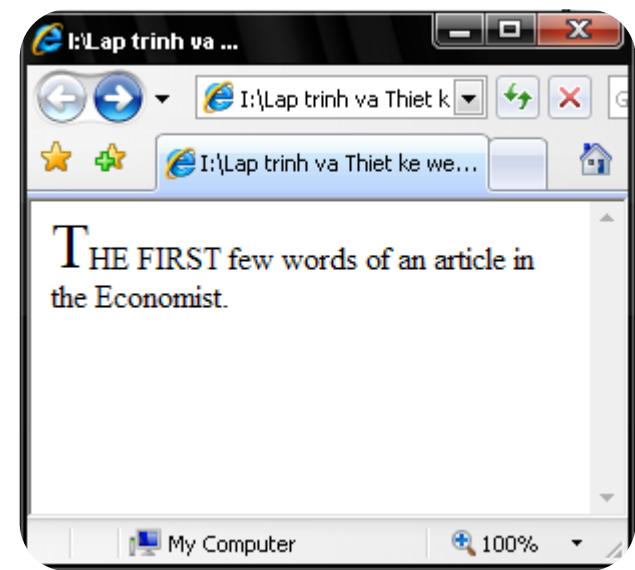


Pseudo-element Selector

The screenshot shows a code editor window titled "PriorityCSS_2[1]" with the file "Test.htm" open. The code demonstrates the use of the :first-letter pseudo-element:

```
1 <html>
2   <head>
3     <style type="text/css">
4       P {font-size: 12pt; line-height: 12pt }
5       P:first-letter {font-size: 200%; float: left }
6       SPAN {text-transform: uppercase }
7     </style>
8   </head>
9   <body>
10
11   <P>
12     <SPAN>
13       <P>T</P>he first
14     </SPAN>
15     few words of an article in the Economist.
16   </P>
17
18 </body>
19 </html>
```

The CSS rule `P:first-letter {font-size: 200%; float: left }` is highlighted with a blue box. The rendered output in the browser window shows the letter 'T' enlarged and positioned to the left of the word 'he'.



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CSS – Cascading Style Sheet

SPECIFICITY CSS



Cascading Order

- All the styles in a page will “cascade” in following order (number one has the highest priority) :

1. Inline Style Sheet
2. Internal & Import Style Sheet
3. Linking Style Sheet
4. Browser Default



PriorityCSS.css

```
1 .MyExColor {  
2     color : Red;  
3 }  
4  
5 div{  
6     font-size:36px;  
7 }
```

PriorityCSS.htm

```
1 <html>  
2     <head>  
3         <link rel="stylesheet" href="PriorityCSS.css" />  
4  
5             <style type="text/css">  
6                 .MyEmColor{  
7                     color:blue;  
8                 }  
9                 div{  
10                     font-size:20px;  
11                 }  
12             </style>  
13     </head>  
14  
15     <body>  
16         <div style="color:pink"> Inline Style Sheet </div>  
17         <div class="MyEmColor"> Embedding Style Sheet </div>  
18         <div class="MyExColor"> External Style Sheet </div>  
19         <hr>  
20         <p>  
21             <font style="font-size:14px">Font size = 14 </font> |  
22             <font style="font-size:20px">Font size = 20 </font> |  
23             <font style="font-size:36px">Font size = 36</font>  
24         <hr>  
25         <div style="color:blue">  
26             <div class="MyExColor"> External Color or Document color ? </div>  
27         </div>  
28  
29         <div> Font size = Embedding or External ? </div>  
30         <div style="font-size:14px"> Font Size = Inline or Embedding ? </div>  
31     </body>  
32 </html>
```

I:\Lap trinh va Thiet ke web 1\Ly thuyet\anh Vu\B...

Inline Style Sheet
Embedding Style Sheet
External Style Sheet

Font size = 14 | Font size = 20 | Font size = 36

External Color or Document color ?
Font size = Embedding or External ?
Font Size = Inline or Embedding ?

Done My Computer 100%



CSS Specificity

□ Specificity ABCD

- A = count(style)
- B = count(ID in selector)
- C = count(class, attribute & pseudo class in selector)
- D = count(element & pseudo element in selector)



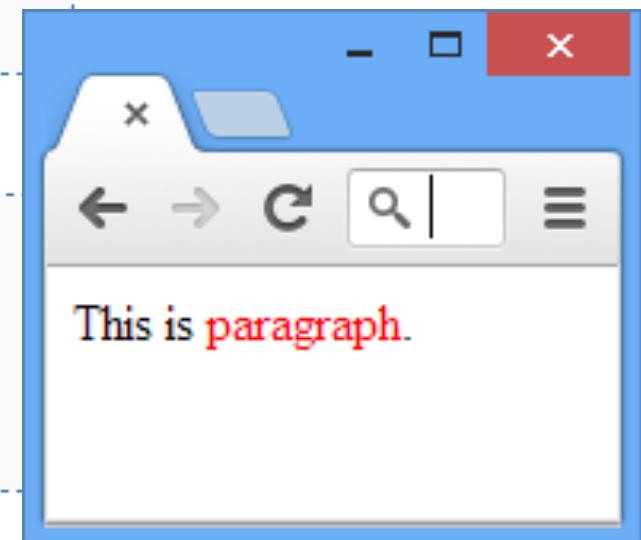
Selector Specificity – Ex.

[index.html]

```
<body>
  <article>
    <p>This is <span id="red">paragraph</span>.</p>
  </article>
</body>
```

[style.css]

```
article p span{
  color: blue;
}
#red{
  color: red;
}
```



	A (style)	B (ID)	C (class, pseudo class & attribute)	D (element & pseudo element)	ABCD
article p span	0	0	0	3	0003
#red	0	1	0	0	0100

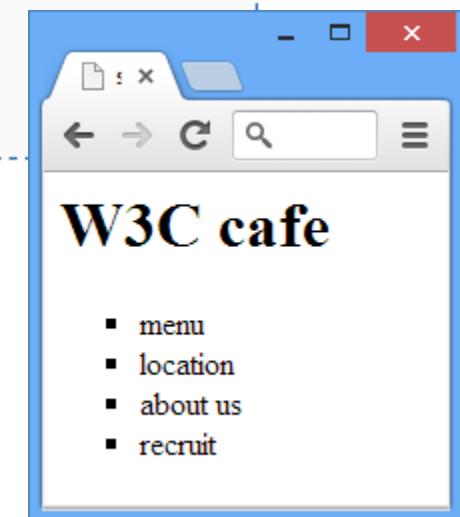
Selector Specificity – Ex.

[index.html]

```
<body>
<div id="wrapper">
  <header id="top">
    <h1>W3C cafe</h1>
    <div id="hright">
      <nav>
        <ul id="gnavi">
          <li>menu</li>
          <li>location</li>
          <li>about us</li>
          <li>recruit</li>
        </ul>
      </nav>
    </div>
  </header>
</div>
</body>
```

[style.css]

```
#wrapper header div nav #gnavi{
  list-style-type: none;
}
#top #hright #gnavi{
  list-style-type: square;
}
```



	A (style)	B (ID)	C (class, pseudo class & attribute)	D (element & pseudo element)	ABCD
#wrapper header div nav #gnavi	0	2	0	3	0203
#top #hright #gnavi	0	3	0	0	0300



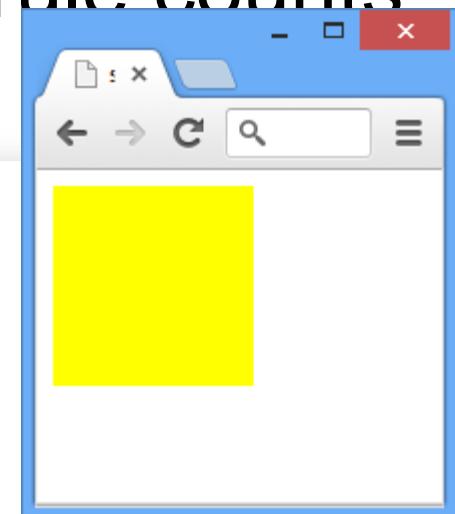
Selector Specificity – Ex.

	A (style)	B (ID)	C (class, pseudo class & attribute, class)	D (element & pseudo element)	ABCD
* {}	0	0	0	0	0000
li {}	0	0	0	1	0001
li:first-line {}	0	0	0	2	0002
ul li {}	0	0	0	2	
ul ol li.red {}	0	0	1	3	
li.red.level {}	0	0	2	1	
#x34y {}	0	1	0	0	
style=""	1	0	0	0	

Selector Specificity – Ex.

- Equal specificity: the lastest rule counts

```
<html>
  <head>
    <style>
      div {background-color:blue;}
      .maDiv {background-color:red;}
      .maDiv {background-color:yellow;}
    </style>
  </head>
  <body>
    <div class="maDiv" style="width:100px; height:100px;"></div>
  </body>
</html>
```



!important

```
CSS: #example p {  
    color: blue !important;  
}
```

```
HTML: <div id="example">  
    <p style="color:green;">This paragraph has an inline style</p>  
</div>
```



Summary

- CSS = Cascading Style Sheet
- CSS How to
 - Inline CSS

```
<tag style="attribute:value;...>
```
 - Internal CSS

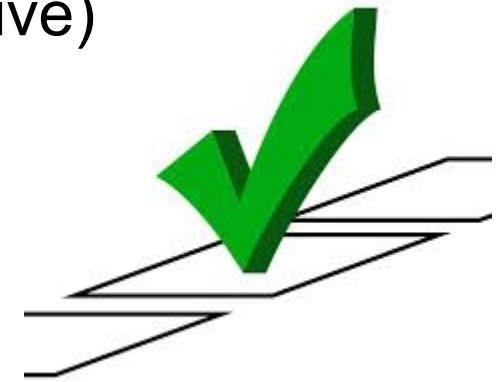
```
<head>
  <style type="text/css">
    selectors { attribute: value;... }
  </style>
</head>
```
 - External CSS

```
<head>
  <link rel="stylesheet" href="url">
</head>
```



Summary

- Selector
 - <Tag>
 - #ID
 - .Class
 - Pseudo Class (a:link, a:visited, a.active)
- Specificity
 - Inline > Internal > Linking > Default
 - ABCD
 - A = count(style)
 - B = count(ID in selector)
 - C = count(class, attribute & pseudo class in selector)
 - D = count(element & pseudo element in selector)
 - !important



References

- <https://www.w3schools.com/css/default.asp>