

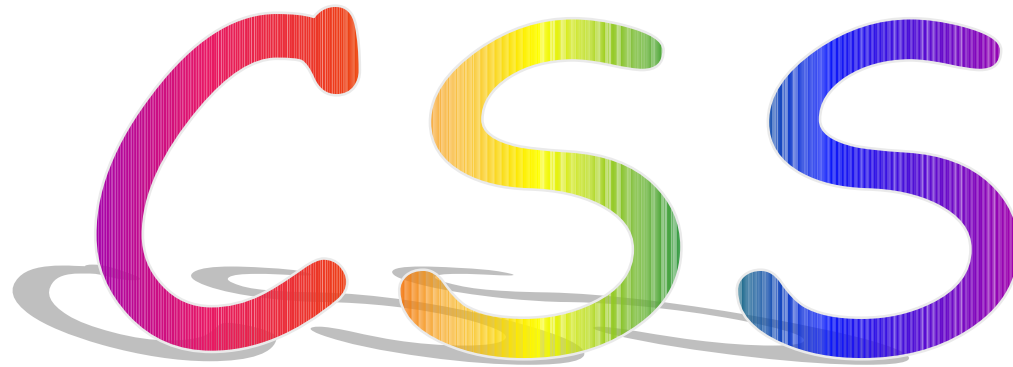
CSC309 Tutorial

CSS & XHTML

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January 27, 2003

CSS



Sampel XML Document

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<?xml-stylesheet type="text/css" href="bookDB.css"?>
<!-- File: bookDB.xml -->
<!DOCTYPE bookDB [<!ATTLIST chap number ID #REQUIRED>]>
<bookDB>
  <count> 1 </count>
  <notes> this database stores computer book info </notes>
  <book isbn="0-13-355592-2">
    <author>Stephen Chen</author>
    <title>XML: for Real Programer</title>
    <content>
      <chap number="1">The Core of XML</chap>
      <chap number="2">DOM and XSL</chap>
      <chap number="3">XLink and XPointer</chap>
      <chap number="4">XML Applications</chap>
    </content>
    <description>
      The web is changing every day. It is not only a place for nifty web pages, but also a communication medium where businesses
      can perform daily routines. Thus the buzz of e-business is everywhere. "e-business" is not about creating a shopping center on te
      web. Rather, it is about how a business can communicate with its partners, customers and supplies. ....
    </description>
  </book>
</bookDB>
```

CSS Language

- n CSS is a declarative language adding formatting information to XML (or HTML) documents.
- n A CSS consists of a set of style rules.
- n A style rule has the form: *selector {property list}*
 - The “selector” is used to specify which element the rule applies to.
 - The “property list” is name-value pairs separated by semicolon (;)
 - e.g.

```
bookDB { display: block }
```

```
book { display: block; font-size: 16pt; font-weight: bold }
```

```
title { display: block; margin-bottom: 10px }
```

```
author { display: block; margin-bottom: 10px }
```

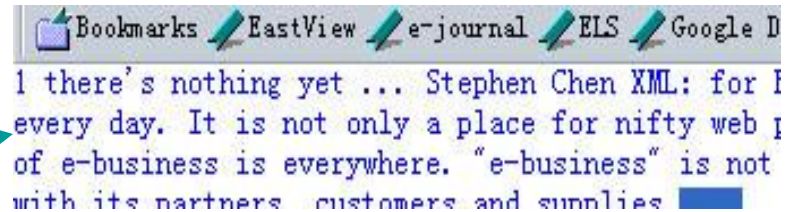
CSS – Selector

n The most common kind of selector is simply the name of an element.

- e.g. `bookDB {display: block}`

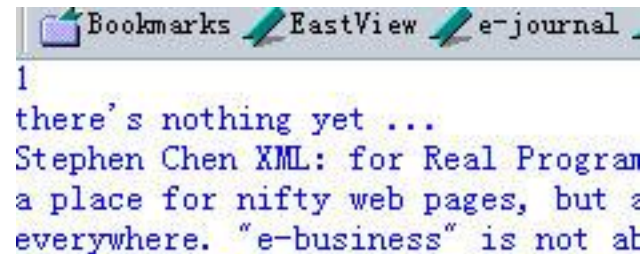
n The universal selector *

- selects all elements in the document
- e.g. `bookDB {display: block}`
* `{font-size: 10pt; color: blue}`



n Grouping the elements using commas

- Apply the same rule to multiple elements
- e.g. `count, notes {display: block}`



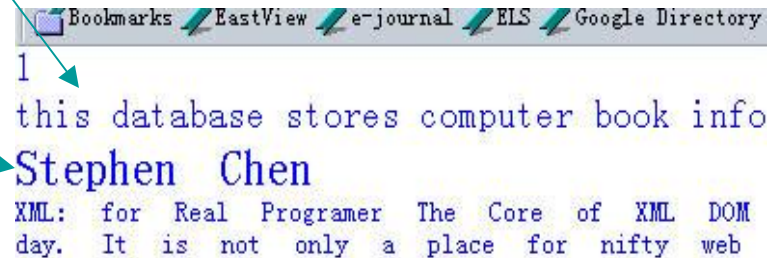
CSS – Selector (Cont'd)

n Child Selector

- A **child selector** uses the right angle bracket > to select an element if and only if it's an child of the specified parent
- e.g. bookDB > count {font-size: 14pt}
bookDB > notes {font-size: 14pt}
- Child selector can be jointed as: grandparent > parent > child {property list}

n Descendant Selector

- A **descendant selector** chooses elements that are children, grandchildren, or other descendants of a specified element.
- e.g.
bookDB author {display: block; font-size: 18pt}



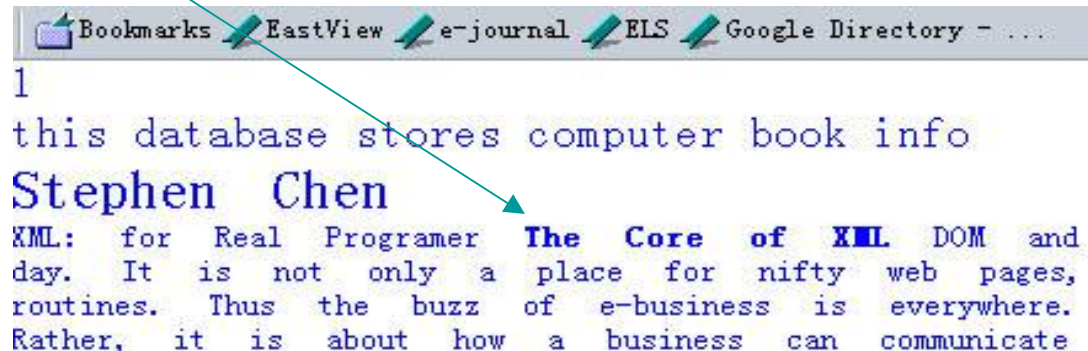
n Attribute selectors

- **Attribute selectors** identify specific element/attribute combinations.
- e.g. book[isbn="0-13-355592-2"] {word-spacing: 10px}
- Use a |= to indicate that the attribute value needs to **begin with** the specified word.
- Use a ~= to indicate that the attribute value needs to **contain** the specified word.

CSS – Selector (Cont'd)

n ID selectors

- Use **ID selector** to apply a rule to exactly one element with ID type attribute.
- In our example, the DTD defines the “chap” element with a ID attribute called “number”.
- We can highlight the first chapter using:
`chap#1 {font-weight: bold}`



n Pseudo-elements

- **Pseudo-elements** address parts of the document that aren't identified as separate elements, but need separate styles.
- The first line of an element
- The first letter of an element
- The position immediately before an element
- The position immediately after an element

CSS – Selector (Cont'd)

n Pseudo-elements (Cont'd)

- Addressing the first letter

e.g.

```
description {display: block}
description:first-letter {
  font-size: 300%;
  float: left;
  vertical-align: text-top;
  margin-right: 12px
}
```

- § Addressing the first line

e.g.

```
description:first-line { font-variant: small-caps }
```



T HE WEB IS CHANGING EVERY
businesses can perform d
creating a shopping cent
partners, customers and suppl

CSS – Selector (Cont'd)

n Pseudo-elements (Cont'd)

- The before and after pseudo-elements select the location immediately before and after the element. The *content* property is used to put data into this location.

- E.g.

`count:before {content: "We have "}`

`count:after {content: "books in the database"}`

`notes:before {content: "Notes: "}`

`notes {margin-bottom:1cm}`

Bookmarks | Back | Forward | Home | Stop | Reload | Search | Google

We have 1 books in the database

Notes: this database stores compute

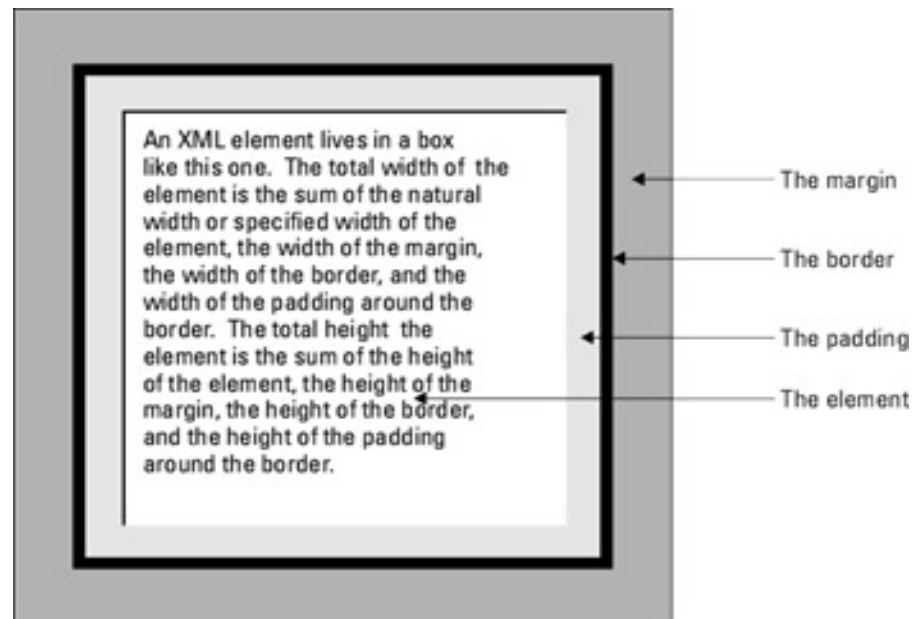
Stephen Chen

XML: for Real Programmer **The Core of X**

THE WEB IS CHANGING EVERY DAY. IT
businesses can perform daily rout:
creating a shopping center on te
partners, customers and supplies.

CSS Layout

- n When a browser renders an XML document, it places the text from the elements on one or more pages.
- n The text on each page is organized into nested boxes.
 - e.g. Each paragraph is a box. Each line in the paragraph is also a box.
 - As well as paragraphs, there may be tables and lists and other items that are formed from boxes and that are subdivided into smaller boxes
- n In CSS, boxes can have different sizes, borders, margins, padding, and positions.



CSS – Box properties – border

- n Most boxes don't have borders. They are invisible rectangles that affect the layout of their contents, but are not seen by the readers.
- n You can make a box visible by drawing lines around it using the **border properties**.
 - Border properties let you specify the style, width, and color of the border.
- n e.g. draw a solid 5-pixel red box around the bookDB (root) element

```
bookDB { border-style: solid;
         border-width: 5px;
         border-color: red }
```
- n Border properties can also be set separately for top, bottom, right and left borders.

CSS – Box properties – margin & padding

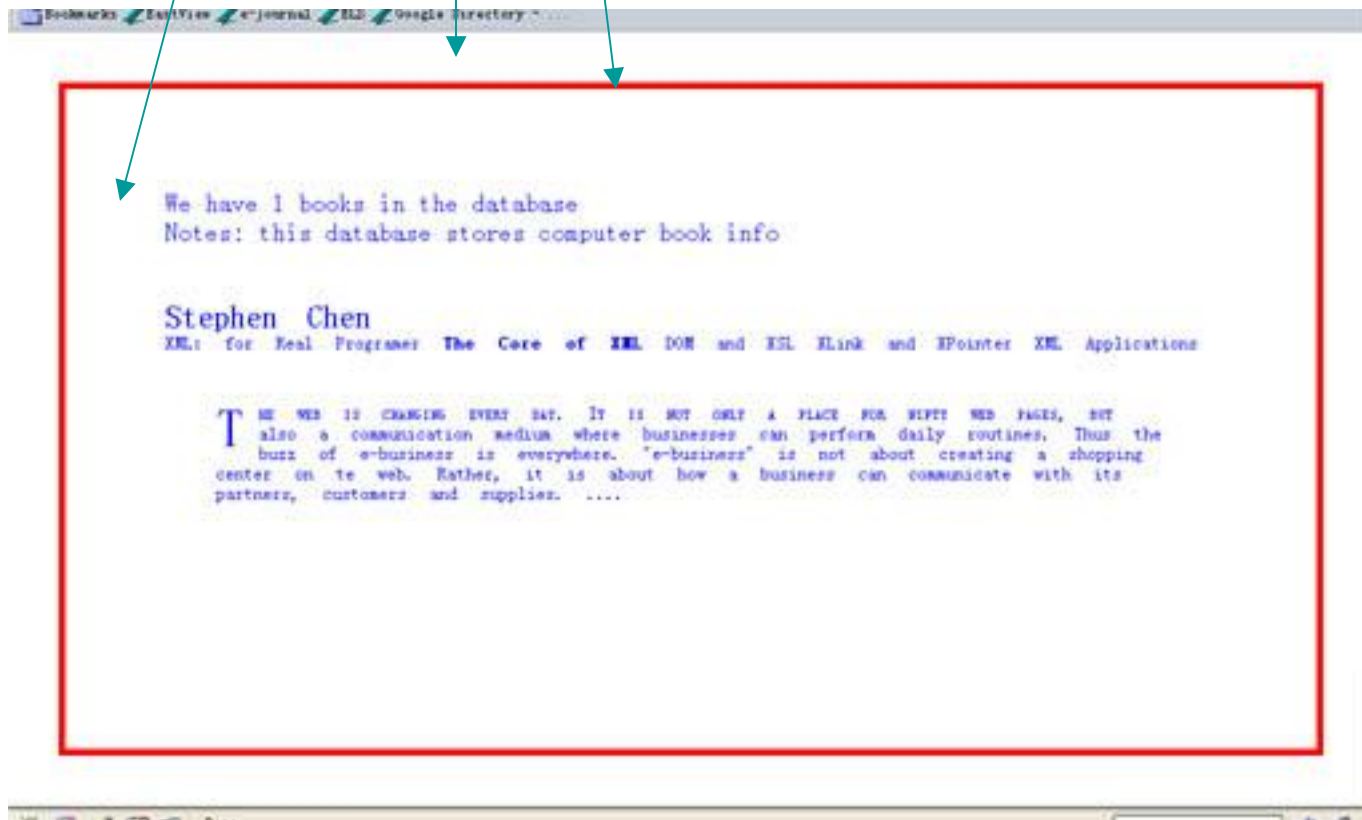
- n **Margin properties** specify the amount of space added to the box outside its border.
- n Margin may be set separately for the top, bottom, right and left margins using the *margin-top*, *margin-bottom*, *margin-right*, and *margin-left* properties.
- n Or can be set using shorthand *margin*.
- n *e.g.* `bookDB { margin: 1cm 1cm 1cm 1cm }`
- n The **padding properties** specify the amount of space on the inside of the border of the box.
- n *E.g.* `bookDB { padding: 2cm 2cm 2cm 2cm }`

CSS – Box properties – result

```
bookDB { border-style: solid; border-width: 5px; border-color: red }
```

```
bookDB { margin: 1cm 1cm 1cm 1cm }
```

```
bookDB { padding: 2cm 2cm 2cm 2cm }
```



CSS – Display property

- n **Display property** can be: none | block | inline | list-item
- n none: Setting display to none hides the element.
- n block:
 - Block-level elements are laid out vertically.
 - The first block is laid out in the top-left corner of the containing block
 - The second block is placed below it.
 - Each block-level element is separated from its sibling and parent elements, generally by placing a line break before and after it.
 - The vertical distance between each block is defined by the individual block's margin and padding properties.
- n Inline: Inline elements are laid out horizontally in a row
- n list-item: same as block with a list-item marker

CSS – Display property (Cont'd)

n e.g.

```
chap#1:before {content: "Chapter One: "}  
chap#2:before {content: "Chapter Two: "}  
chap#3:before {content: "Chapter Three: "}  
chap#4:before {content: "Chapter Four: "}  
chap { display: list-item; list-style-type: disc}  
chap { position: relative; left: 10px; top: 10px }
```

Stephen Chen

XML: for Real Programmer

- **Chapter One: The Core of XML**
- Chapter Two: DOM and XSL
- Chapter Three: XLink and XPointer
- Chapter Four: XML Applications

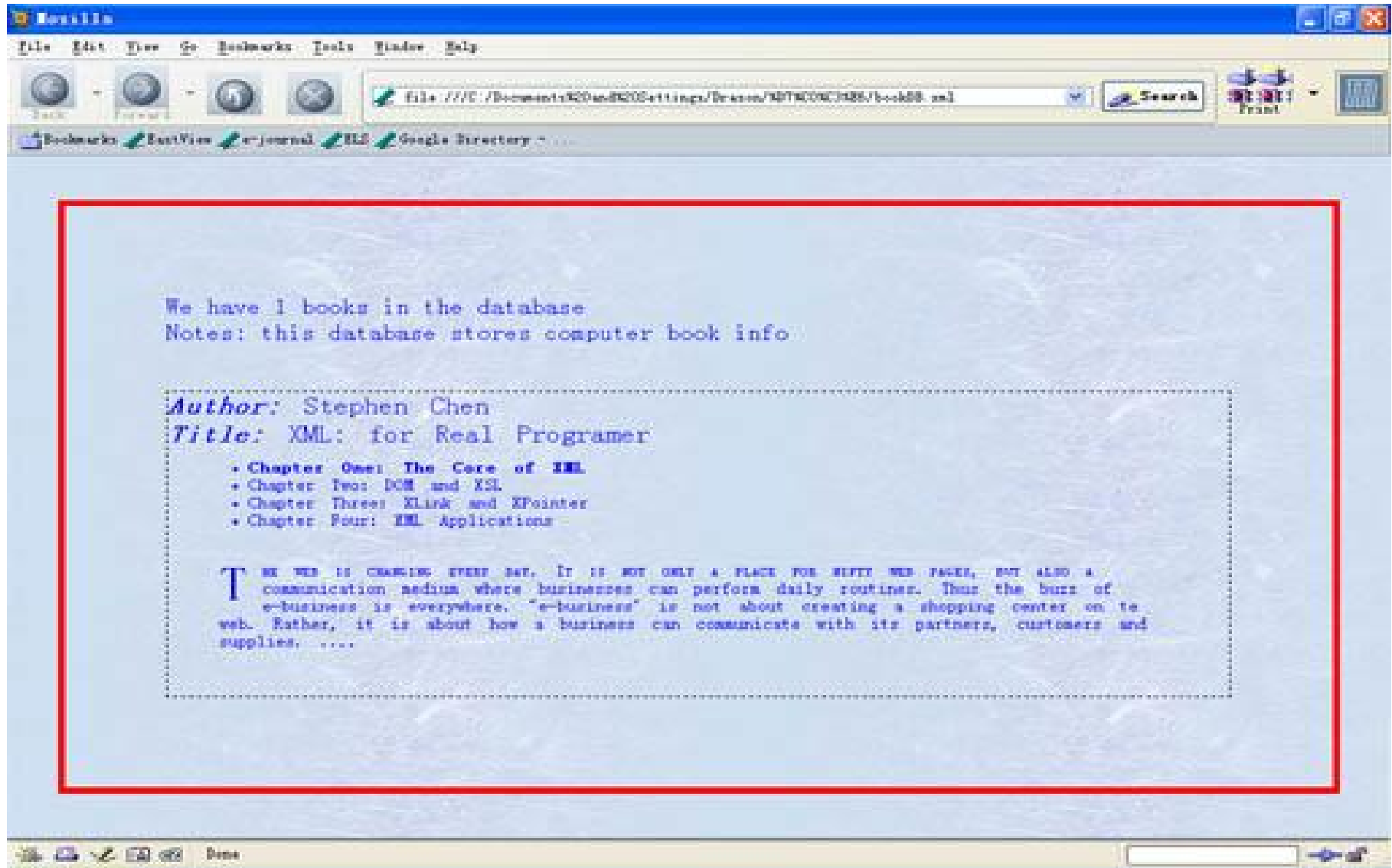
CSS – Font, color and text properties

- n CSS supports 7 basic **font properties**
 - font-family, font-size, font-variant, font-weight, and etc.
- n CSS allows you to assign colors to any element by using **color property**. The value of this color property may be keywords, or an RGB triple in decimal, hexadecimal, or percentages.
 - E.g. bookDB { color: #000000 }
book { color: rgb(0, 0, 0) }
description { color: rgb(0%, 0%, 100%)}
- n CSS also supports 9 **text properties** that affect the appearance of text
 - word-spacing, letter-spacing, text-decoration, vertical-align, and etc.
- n <http://www.w3.org/Style/CSS/> for more details

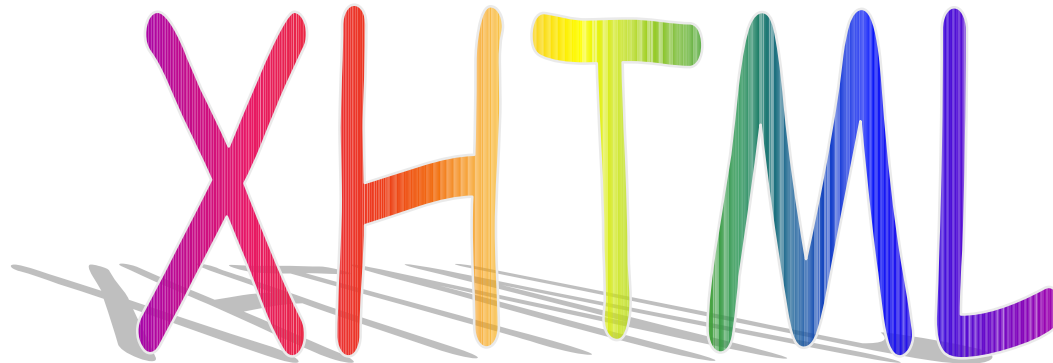
The Complete Example – CSS

```
<!-- File: bookDB.css -->
* {font-size: 10pt; color: blue}
bookDB {display: block; background-image: url(bg_1.jpg)}
bookDB > count {font-size: 14pt}
bookDB > notes {font-size: 14pt}
bookDB author {display: block; font-size: 16pt}
bookDB title {display: block; font-size: 16pt}
bookDB { border-style: solid; border-width: 5px; border-color: red }
bookDB { margin: 1cm 1cm 1cm 1cm }
bookDB { padding: 2cm 2cm 2cm 2cm }
count, notes {display: block}
count:before {content: "We have "}
count:after {content: "books in the database"}
notes:before {content: "Notes: "}
notes {margin-bottom:1cm}
book[isbn="0-13-355592-2"] {word-spacing: 5px}
book {display: block}
book { border-style: dashed; border-width: 1px; border-color: black }
author:before {content: "Author: "; font-weight: bold; font-style: italic}
title:before {content: "Title: "; font-weight: bold; font-style: italic}
chap#1 {font-weight: bold}
chap#1:before {content: "Chapter One: "}
chap#2:before {content: "Chapter Two: "}
chap#3:before {content: "Chapter Three: "}
chap#4:before {content: "Chapter Four: "}
chap { display: list-item; list-style-type: disc}
chap { position: relative; left: 60px; top: 10px }
description {display: block; margin: 1cm}
description:first-letter { font-size: 300%; float: left; vertical-align: text-top; margin-right: 12px}
description:first-line { font-variant: small-caps }
```

The Complete Example – result



XHTML



XHTML

- n XHTML is a stricter and cleaner version of HTML
- n XHTML is an XML application
 - **Each XHTML document is a well-formed and valid XML document**
 - Elements must be properly nested
 - Tag names must be in lowercase
 - All elements must be closed
 - Attribute values must be quoted
 - Empty element tags must end in `</>` instead of just `>`
 - E.g.
 - Wrong: `
`, `<hr>`, `item one`
 - Correct: `
`, `<hr />`, `item one`**

 - Wrong: `<input checked>`
 - Correct: `<input checked="checked" />`**

XHTML – A simple (minimal) XHTML document

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0
Transitional//EN"
http://www.w3.org/TR/xhtml1/DTD/xhtml1-
transitional.dtd">
<html>
  <head>
    <title>simple document</title>
  </head>
  <body>
    <p>a simple paragraph</p>
  </body>
</html>
```

XHTML – Links

`absolute url`

`relative url`

`named anchor `

``

` email address`

` `

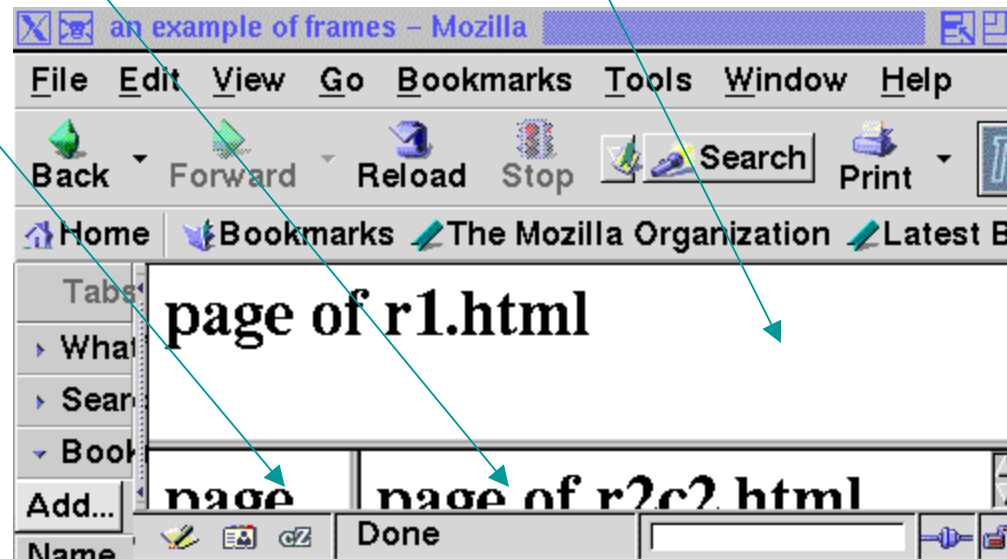
`open a new window`

`link to the top window`

`link to the same window`

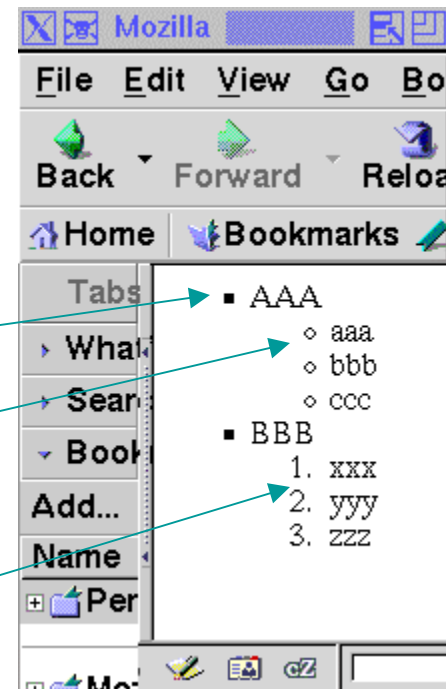
XHTML – Frames

```
<html>  
  <frameset rows="75%,25%">  
    <frame src="r1.html" name="rowone_window" />  
    <frameset cols="100,*">  
      <frame src="r2c1.html" scrolling="no" />  
      <frame src="r2c2.html" scrolling="auto" />  
    </frameset>  
  </frameset>  
</html>
```



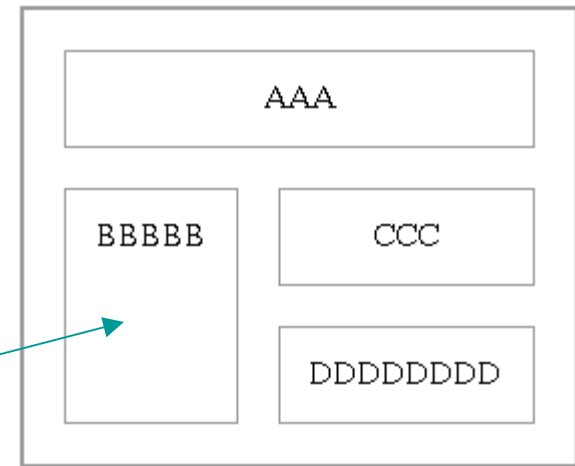
XHTML – Lists

```
<html><head>
<style type="text/css">
  ul.level1 {list-style-type: square}
  ul.level2 {list-style-type: circle}
  ol {list-style-type: decimal}
</style> </head>
<body>
  <ul class="level1">
    <li>AAA</li>
    <ul class="level2">
      <li>aaa</li><li>bbb</li><li>ccc</li>
    </ul>
    <li>BBB</li>
    <ol>
      <li>xxx</li><li>yyy</li><li>zzz</li>
    </ol>
  </ul>
</body></html>
```



XHTML – Tables

```
<html><head>
<style type="text/css">
  td {text-align: center;
      vertical-align: top;
      padding: 15}
</style></head>
<body>
  <table border="2" cellspacing="20">
    <tr> <td colspan="2">AAA</td> </tr>
    <tr> <td rowspan="2">BBBBB</td> <td>CCC</td> </tr>
    <tr> <td>DDDDDDDD</td> </tr>
  </table>
</body>
</html>
```



XHTML – Forms

```
<html><body>
<form name="input" action="formAction.asp">
  Enter your first names:
  <input type="text" name="FirstName" value="John" /><br />
  Enter your last name:
  <input type="text" name="LastName" value="Smith" /><br />
  <input type="submit" value="Submit">
</form>
<p>Click the "Submit" button to send your inputs</p>
</body>
</html>
```

