

# HYPertext Markup Language (HTML)

# Introduction

- Standardized by World Wide Web Consortium (W3C)
- Used to encode WWW documents (web pages)
- Document-layout and hyperlink specification language
- Defines the syntax and placement of various media like text, images etc. to be displayed by the browser
- Marking up means additions of certain commands (in the form of tags) to our document in order to tell the browser how we want the document displayed

# History of HTML and W3C

- 1961 - HTML
- 1994 – HTML 2.0
- 1996 – HTML 3.2
- 1997 – HTML 4.0
- 1999 – HTML 4.01
- Today – XHTML
- See <http://w3c.org/>

# HTML and its Flavors

- HTML – Hyper Text Markup Language
- SGML – Standard Generalized Markup Language
- XML – Extensible Markup Language
- XHTML - Extensible Hypertext Markup Language
- DHTML - Dynamic Hypertext Markup Language

## **HTML Basics (Hierarchical Model)**

- HTML is structured in hierarchical order
- Organized in hierarchical fashion such as File management in computer
- DOM – Document Object Model

# HTML Basics (Structure)

- Basic structure

```
<html>  
<head><title>...</title>...</head>  
<body>...</body>  
</html>
```

- Syntax of the HTML language
  - Behind the scene tags
  - On screen tags

# Elements, Attributes and Tags

- Tags – Commands to do something
- Elements – Set of tags with content in between
- Attributes – Modify the tags

# HTML Basics (Tag Guidelines)

- ❑ All tags are contained within < and >.
- ❑ No spaces between the <, >, and the tag text. Example: <html>
- ❑ No spaces within tag text.
- ❑ Both opening and closing tags should be used (for closed tags).
- ❑ Use the same case for all tag text, preferably lowercase text.
- ❑ Keep horizontal symmetry.

# HTML tags

- HTML comments

```
<!--comment text-->...
```

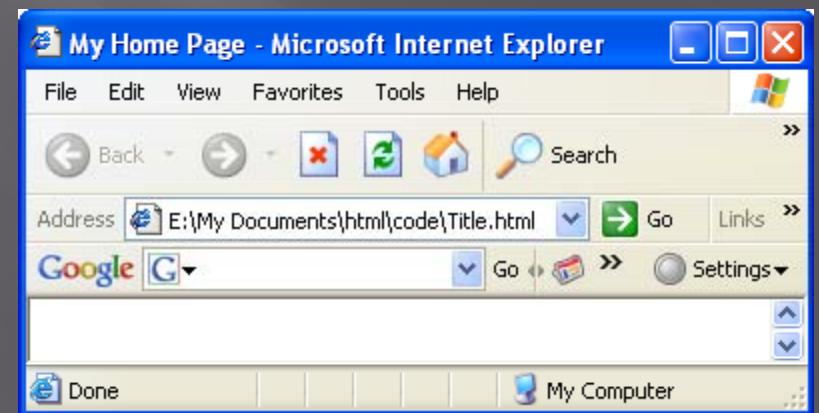
- Inserting a title

- Only one title element is permitted

...

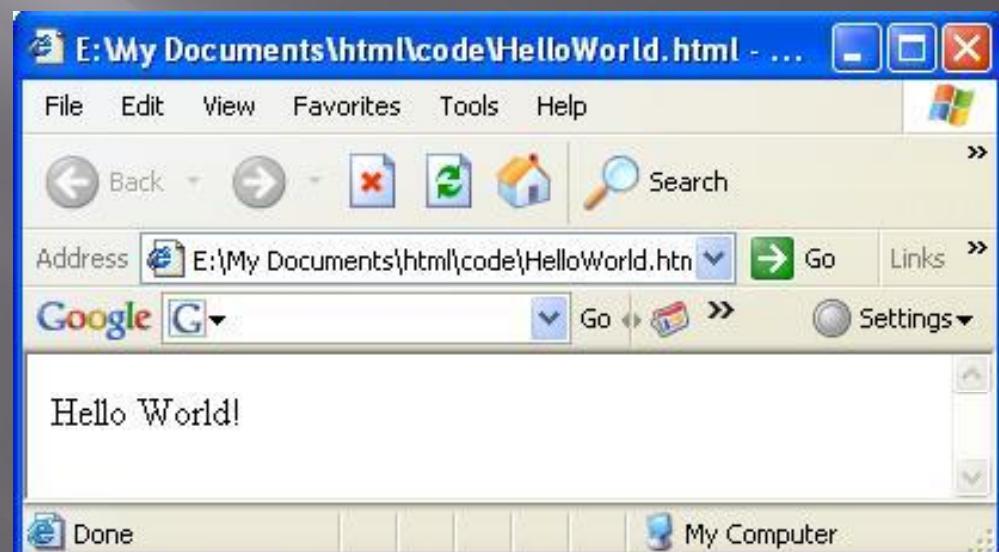
```
<title>My Home Page</title>
```

...



# First HTML page

```
<html>
<head>
<title>My First html
    page</title>
</head>
<body>
Hello World!
</body>
</html>
```



# Working with text

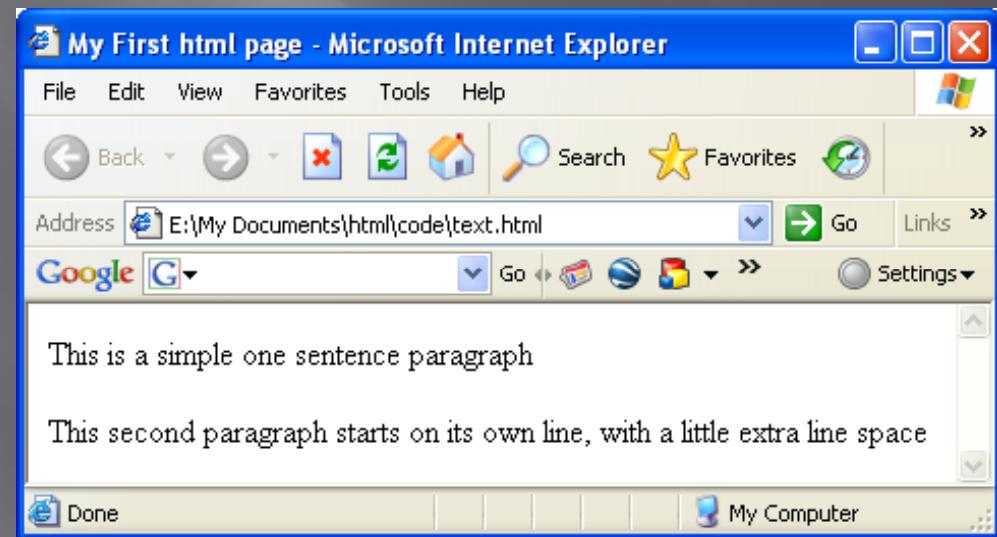
## □ Inserting a paragraph

...

<p>This is a simple one sentence paragraph</p>

<p>This second paragraph starts on its own line, with a  
little extra line space</p>

...



# Working with text

## □ Inserting line breaks

- Browser attempts to display all text in a single continuous line

...

This is first line.<br>

This is second line.

## • Inserting Horizontal line

...

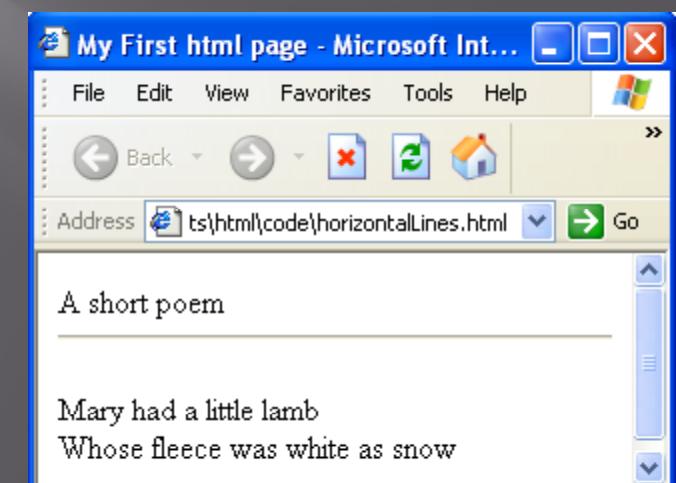
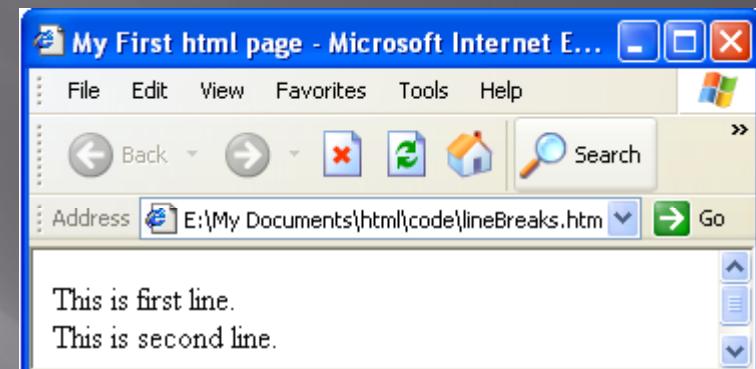
A short poem

<hr>

<p>Mary had a little lamb<br>

Whose fleece was white as snow

...



# Changing text styles

- **b**—boldface, *i*—italics, tt—teletype etc.

...

< p > This product is < b > new < / b > and  
    < b > improved < / b > ! < / p >

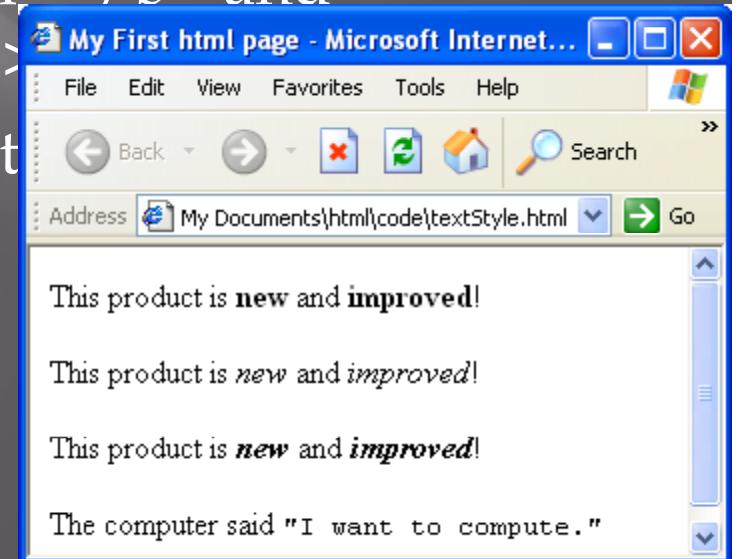
< p > This product is < i > new < / i > and  
    < i > improved < / i > ! < / p >

< p > This product is < b > < i > new < / i > < / b > and  
    < b > < i > improved < / i > < / b > ! < / p >

< p > The computer said < tt > "I want

...

- Elements can be nested



# Headings

- h1- through h6; numbers signify relative importance

...

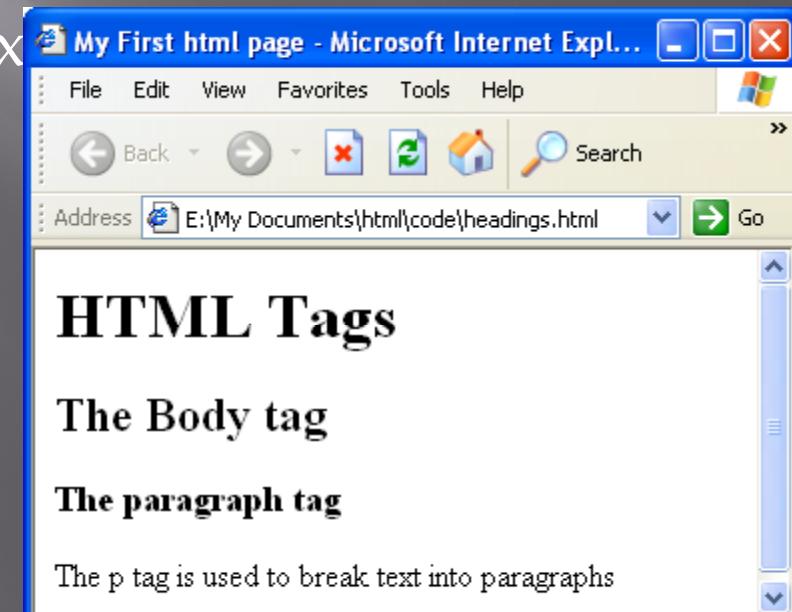
<h1>HTML Tags</h1>

<h2>The Body tag</h2>

<h3>The paragraph tag</h3>

The p tag is used to break tex

...



# Pre-formatting text

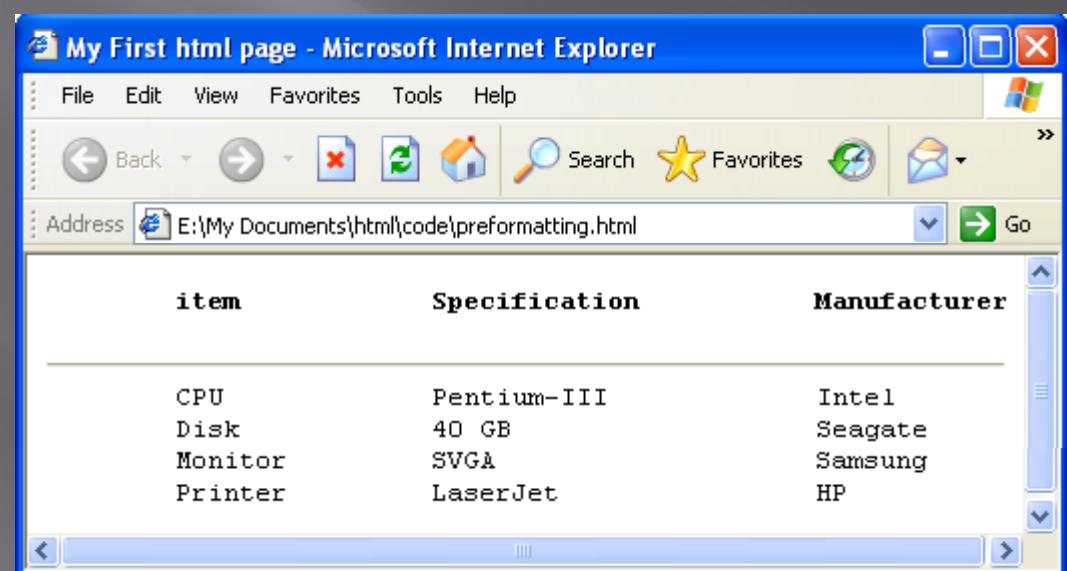
- Preserves white space entered into the source code
- Uses monospace font

```
<pre>
```

<b>item</b>	<b>Specification</b>	<b>Manufacturer</b>
CPU	Pentium-III	Intel
Disk	40 GB	Seagate
Monitor	SVGA	Samsung
Printer	LaserJet	HP

```
<hr>
```

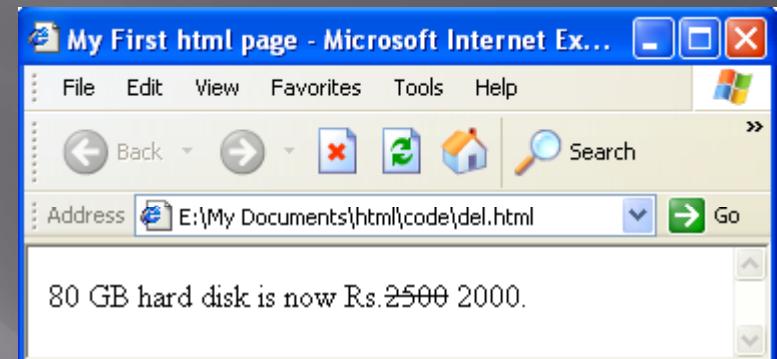
```
</pre>
```



# More text formatting

- Used to create sections

80 GB hard disk is now Rs.<del>2500</del> 2000.</body>



- Indenting text

Thus the story begins -

<blockquote>

Ten thousand years ago...<br>

Men used to

</blockquote>



# HTML symbols

Result	Description	Entity Name	Entity Number
$\forall$	for all	&forall;	&#8704;
$\exists$	exists	&exists;	&#8707;
$\emptyset$	empty	&empty;	&#8709;
$\in$	is in	&isin;	&#8712;
$\ni$	ni	&ni;	&#8715;
$\prod$	prod	&prod;	&#8719;
$\sum$	sum	&sum;	&#8721;
$\leq$	Less or equal	&le;	&#8804;
$\geq$	Greater or equal	&ge;	&#8805;
$\sqrt{}$	square root	&radic;	&#8730;

# HTML Colors

Color Name	Color HEX	Color
AliceBlue	#F0F8FF	
AntiqueWhite	#FAEBD7	
Aqua	#00FFFF	
Aquamarine	#7FFFAD	
Azure	#F0FFFF	
Beige	#F5F5DC	
Bisque	#FFE4C4	
Black	#000000	
BlanchedAlmond	#FFEBCD	
Blue	#0000FF	
BlueViolet	#8A2BE2	
Brown	#A52A2A	

# Creating divisions

- Used to create sections

...

```
<div style="color:red">  
This is first line of section1.<br>  
This is second line of section 1.  
</div>
```

```
<div style="color:blue">  
This is first line of section 2.<br>  
</div>
```

...

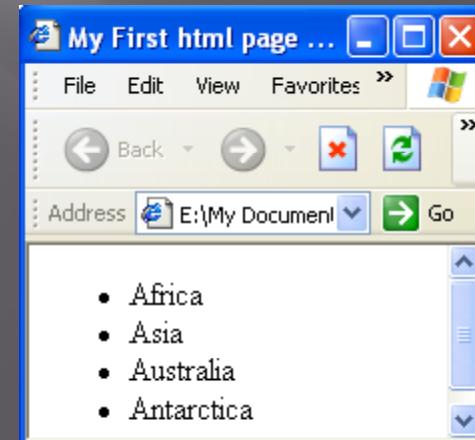


# Unordered list

...

```
<ul>
<li>Africa</li>
<li>Asia</li>
<li>Australia</li>
<li>Antarctica</li>
</ul>
```

...



# Ordered list

...

<ol>

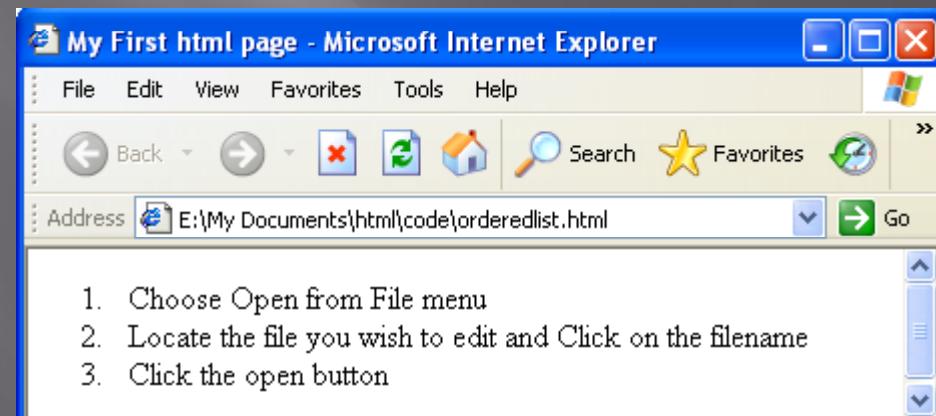
<li>Choose Open from File menu</li>

<li>Locate the file you wish to edit and Click on the filename</li>

<li>Click the open button</li>

</ol>

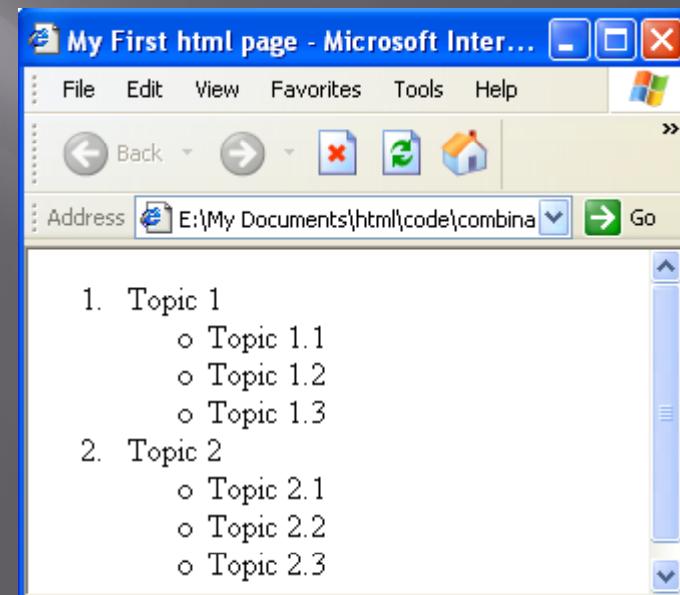
...



# Combination list

```
...
<ol>
  <li>
    Topic 1
    <ul>
      <li>Topic 1.1</li>
      <li>Topic 1.2</li>
      <li>Topic 1.3</li>
    </ul>
  </li>
  <li>
    Topic 2
    <ul>
      <li>Topic 2.1</li>
      <li>Topic 2.2</li>
      <li>Topic 2.3</li>
    </ul>
  </li>
</ol>
...

```



# Definition list

...

<dl>

<dt>Triangle<dd>Three sided figure

<dt>Quadrilateral<dd>Four sided figure

</dl>

...

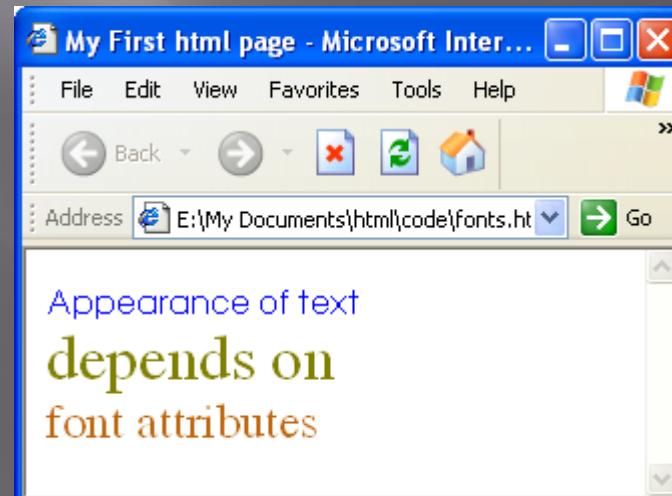


# Displaying different Fonts

...

```
<font face="Century Gothic" color="blue">Appearance of text</font><br>
<font face="Times Roman" color="olive" size="6">depends on</font><br>
<font face="Times Roman" color="#C0660C" size="5">font attributes</font>
```

...



# Working with images

## □ Embedding images

...

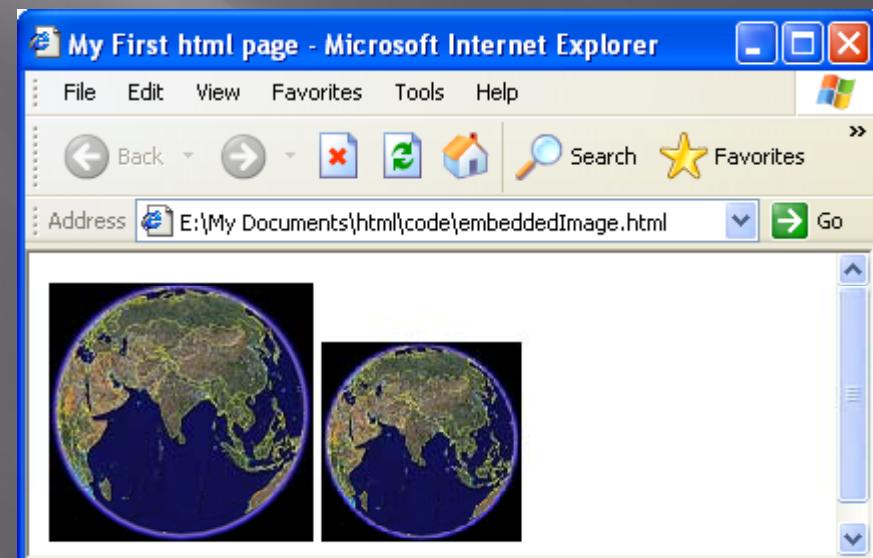
```

```

```

```

...



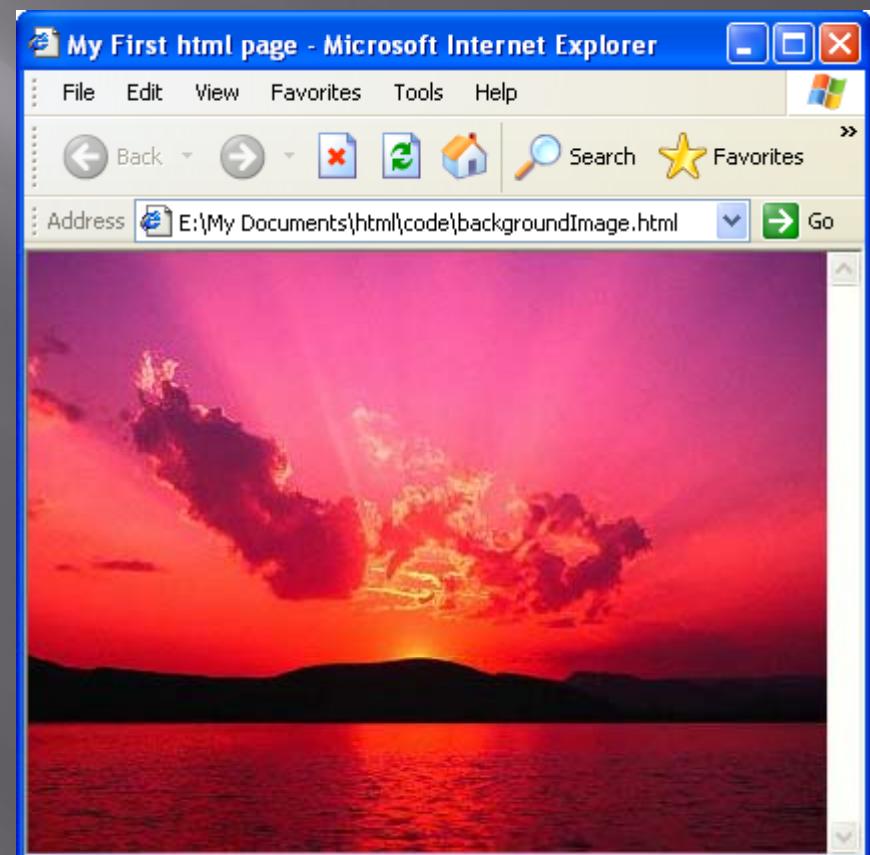
# Background image

...

```
<body background=Sunset.jpg>
```

```
</body>
```

...



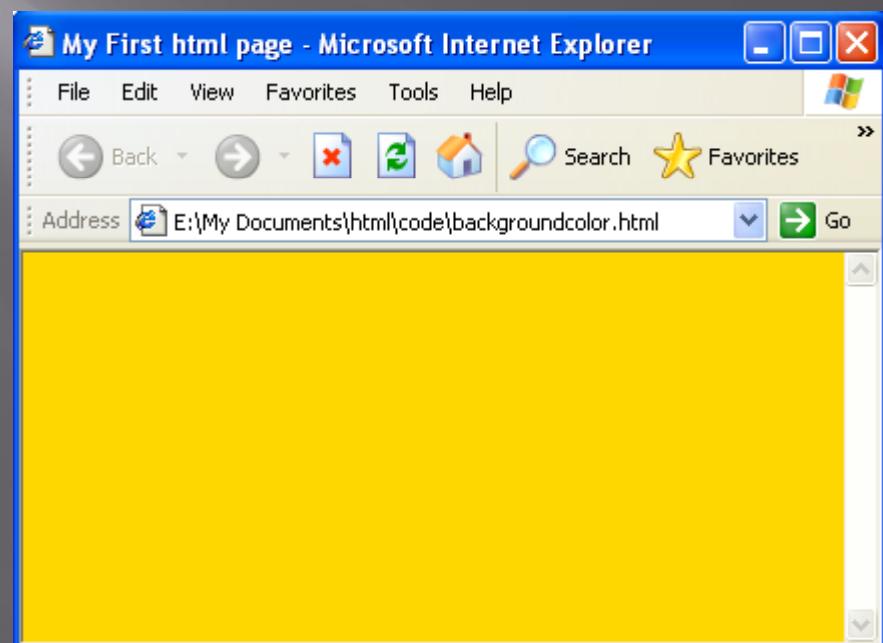
# Background Color

...

```
<body bgcolor="gold">
```

```
</body>
```

...



# Working with Hyperlinks

## □ Creating Hypertext

...

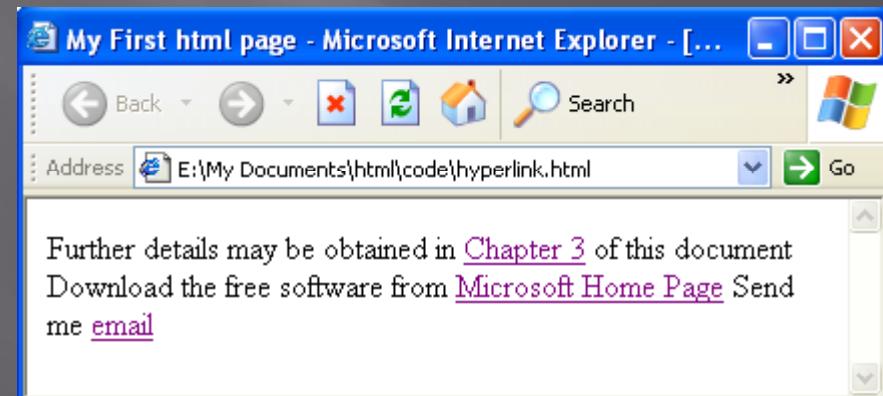
Further details may be obtained in <a href="charter3.html">Chapter 3</a> of this document<br>

Download the free software from <a

href="http://www.microsoft.com">Microsoft Home Page</a>

Send me <a href="mailto:u\_roy@it.jusl.ac.in">email</a>

...



# Creating bookmarks

...

```
<a href="bookmark.html#section3">go</a>
```

```
<a name="section3">Section3</a>
```

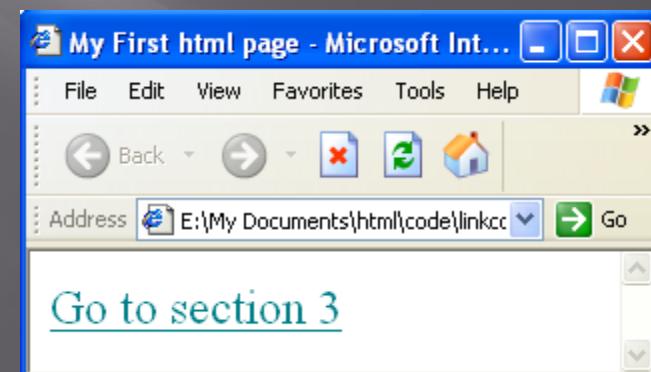
...

# Changing link appearance

...

```
<a href="bookmark.html">  
  <font size=5 color="#008088">  
    Go to section 3  
  </font>  
</a>
```

...



# Hyperlinks

- Hyperlinks with images

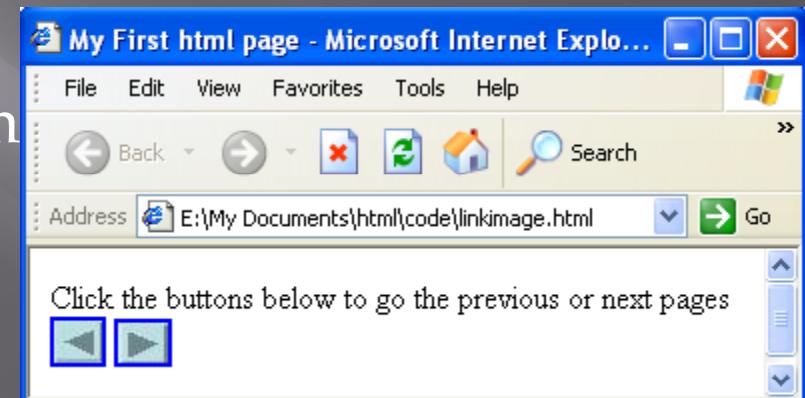
...

Click the buttons below to go the previous or next pages<br>

```
<a href="chapter2.html"></a>
```

```
<a href="chapter4.html"><im
```

...



- Specifying link colors

...

```
<body link="green" alink="red" vlink="gray">
```

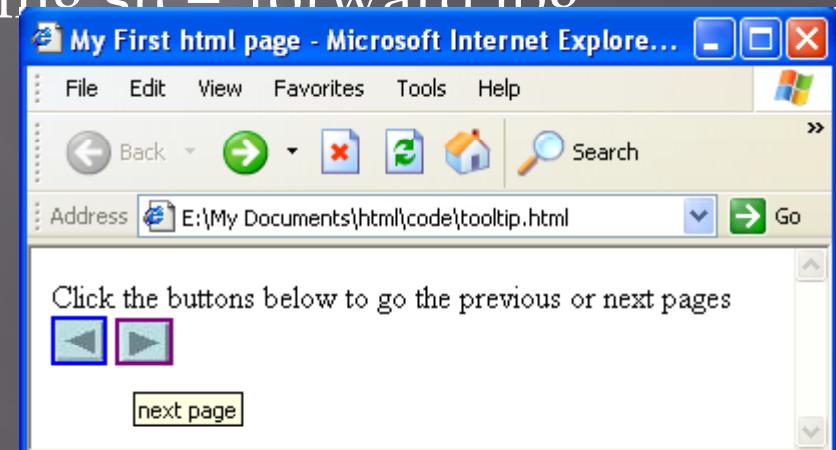
# Creating tool tip label

- Describes textual description for image
- Specifies something about the target document

Click the buttons below to go the previous or next pages<br>

```
<a href="chapter2.html"></a>
```

```
<a href="chapter4.html"></a>
```

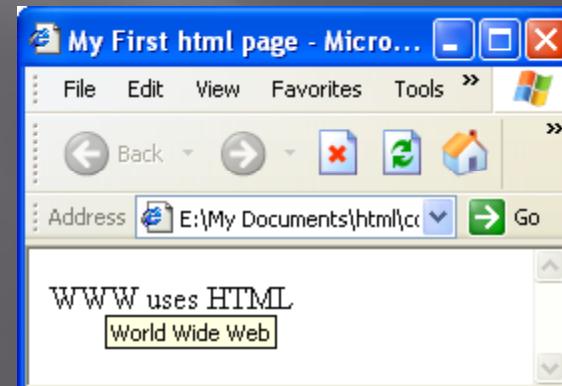


# Creating Acronym

...

<acronym title="World Wide Web">WWW</acronym>  
uses <acronym title="HyperText Markup  
Language">HTML</acronym>

...

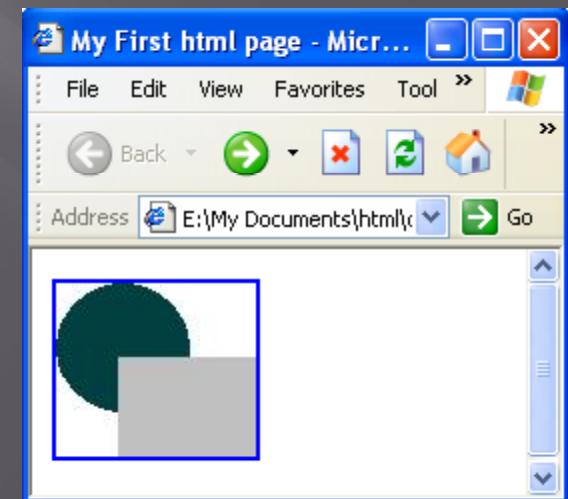


# Image map

- A graphic that can be divided into multiple areas
- Each area can point to a different URL
- Browser loads the URL on clicking the associated area

```

<map name="mainmap">
  <area shape=circle coords="32,32,33" href="circle.html">
  <area shape=rect coords="31,37,100,90" href="rect.html">
```



# Working with head section

- Base tag

- Used to specify base URL for all links in this page

```
<head>
```

```
...
```

```
<base href="e:\My Documents\html\Picture\">
```

```
</head>
```

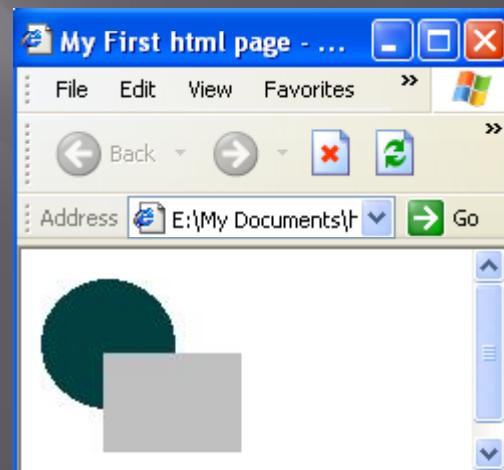
```
<body>
```

```

```

```
</body>
```

```
...
```



# Meta tag

- Keywords for search engines

...

```
<head>
```

```
<title>My First html page</title>
```

```
<meta name="keywords" content="html, JavaScript,  
Xml">
```

```
</body>
```

...

- Redirecting to another page

...

```
<head>
```

```
<meta HTTP-EQUIV="REFRESH" content="0;  
url=http://www.yahoo.com">
```

```
</head>
```

# Advanced tags

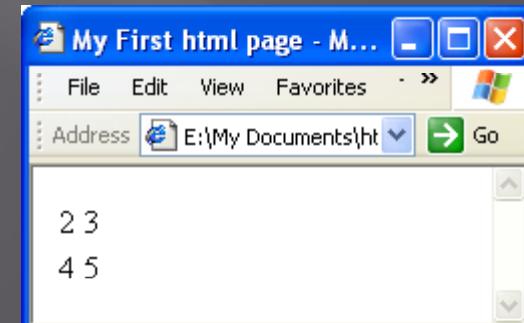
## □ Creating Tables

- table tag
  - tr tag – table row
  - td tag – table column

...

```
<table>  
<tr> <td>2</td> <td>3</td> </tr>  
<tr> <td>4</td> <td>5</td> </tr>  
</table>
```

...



# Creating Tables (contd.)

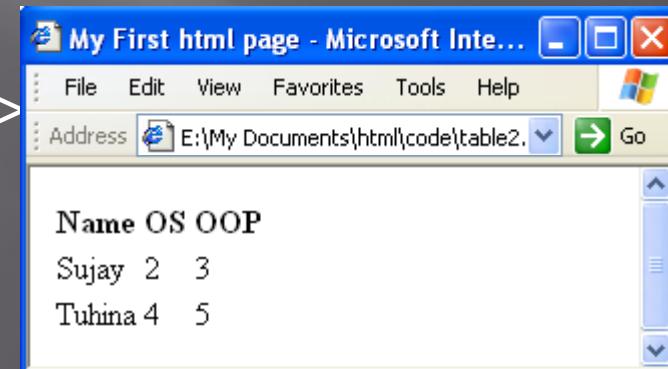
## □ Adding column header

- th tag

...

```
<table>
<tr> <th>Name</th> <th>OS</th>
    <th>OOP</th> </tr>
<tr> <td>Sujay</td> <td>2</td> <td>3</td>
    </tr>
<tr> <td>Tuhina</td> <td>
    </tr>
</table>
```

...



# Creating Tables (contd.)

- Adding a caption

- caption tag

...

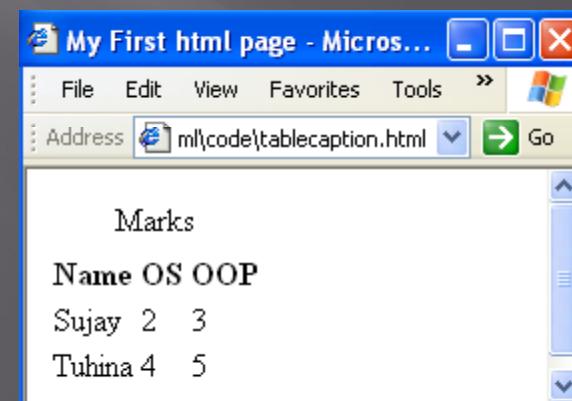
```
<table>
```

```
<caption>Marks</caption>
```

...

```
</table>
```

...



A screenshot of Microsoft Internet Explorer version 6.0. The window title is "My First html page - Microsoft Internet Explorer". The address bar shows the URL "ml\code\tablecaption.html". The page content displays a table with a caption "Marks". The table has two columns: "Name" and "OS OOP". The data rows are "Sujay 2 3" and "Tuhina 4 5".

Marks		
Name	OS	OOP
Sujay	2	3
Tuhina	4	5

# Creating Tables (contd.)

## □ Adding border

- border attribute – default width is 1 pixel

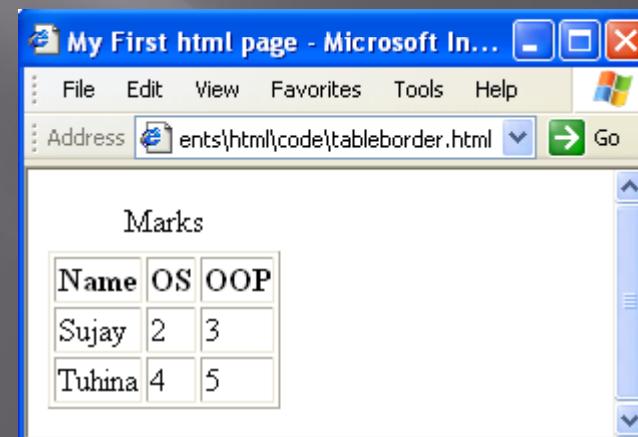
...

<table border>

...

</table>

...



# Creating Tables (contd.)

## □ Adding column header

- rowspan
- Colspan

number of rows caption spans  
number of columns caption spans

...

```
<table border>
```

```
<caption>Marks table</caption>
```

```
<tr><th rowspan=2>Name</th><th  
colspan=2>Marks</th></tr>
```

...

```
</table>
```

...

The screenshot shows a Microsoft Internet Explorer window with the title bar "My First html page - Microsoft I...". The address bar shows the path "E:\My Documents\html\code\tab". The page content displays a table with the following structure:

Name	Marks	
	OS	OOP
Sujay	2	3
Tuhina	4	5

# Creating Tables (contd.)

- Cell spacing and cell padding
  - cellspacing – spacing between cells
  - cellpadding – gap between edge and the content of cell

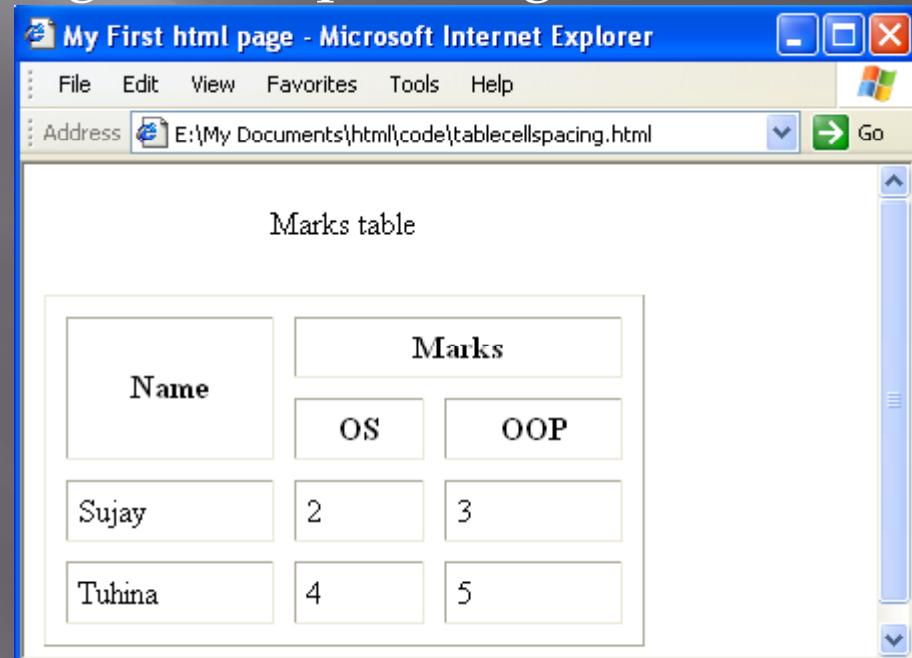
...

```
<table border cellspacing=10 cellpadding=5 width=300>
```

...

```
</table>
```

...



# Creating Tables (contd.)

- Background color
  - bgcolor

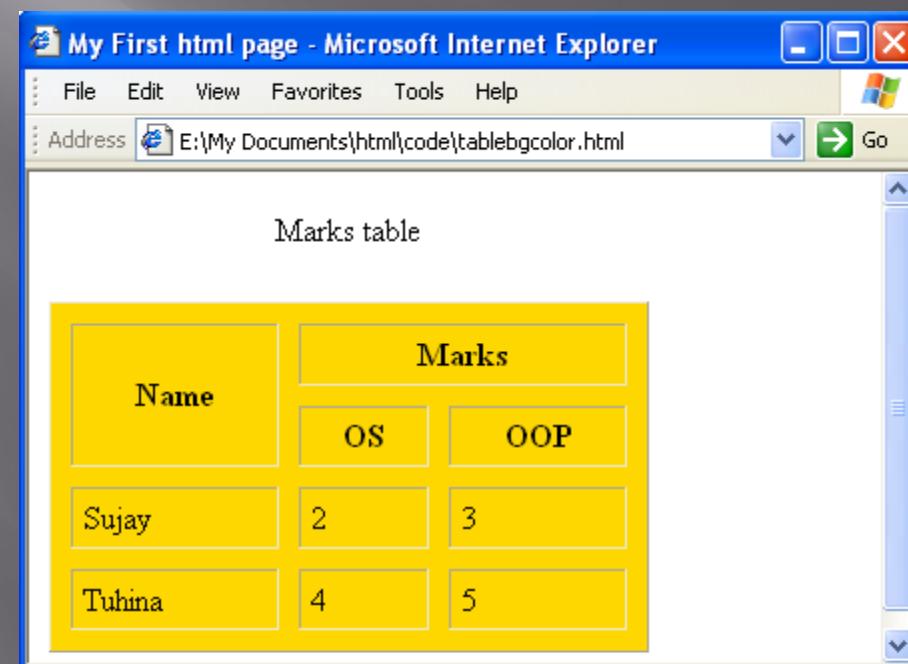
...

```
<table border cellspacing=10 cellpadding=5 width=300  
    bgcolor="gold">
```

...

```
</table>
```

...



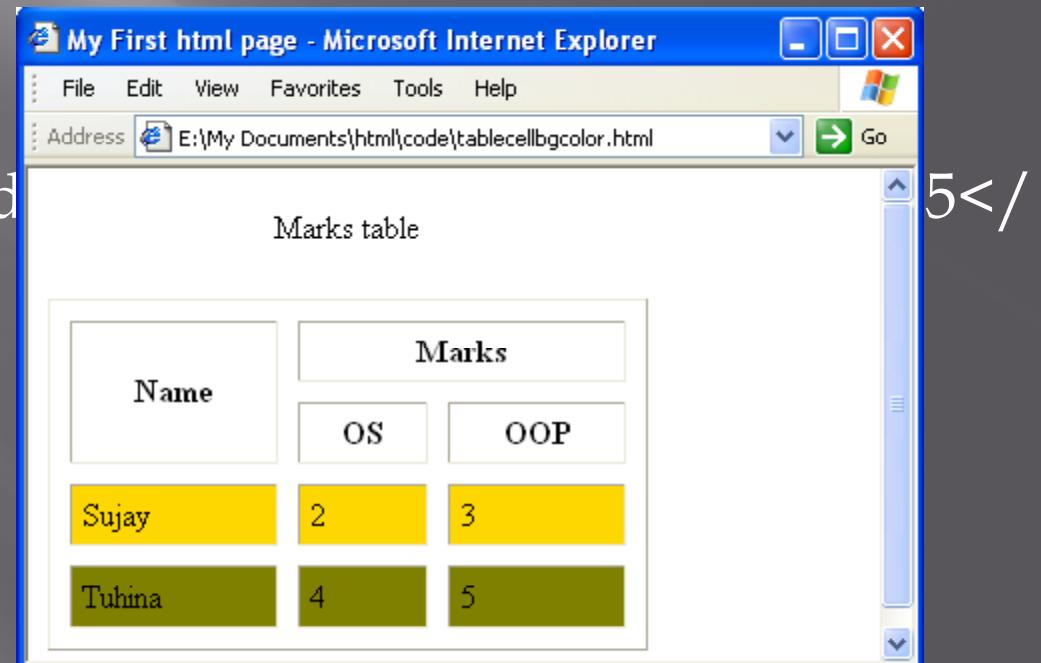
# Creating Tables (contd.)

- Background color of a row/cell
  - bgcolor

...

```
<tr  
    bgcolor="gold"><td>Sujay</td><td>2</td><td>3</td  
></tr>  
  
<tr  
    bgcolor="olive"><td  
    td></tr>
```

...



# Working with forms

- Used to send user supplied data to server program (CGI/JSP/ASP) over the Internet
- Form can contain interface elements such as text fields, buttons, checkboxes, radio buttons and selection lists that let users to enter text and make choices
- Interfaces are defined by INPUT or SELECTION tag
- Elements are defined within FORM tag
- Data can be passed using submit button

# Text fields

- ❑ INPUT tag, type is text
- ❑ Used to specify single line textual data, such as name, email address, login name etc.

...

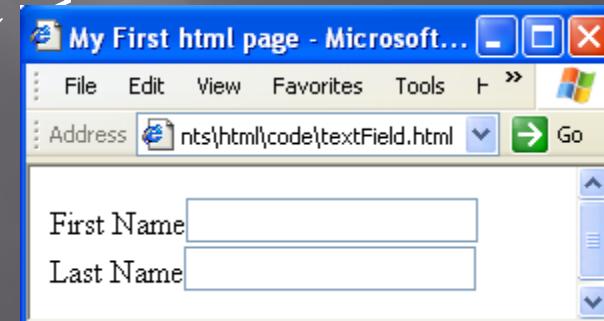
```
<form>
```

```
First Name<input type="text"><br>
```

```
Last Name<input type="text">
```

```
</form>
```

...



# Text fields

## □ Attributes

- size                      number of characters visible
- maxlength                maximum number of characters that can be typed

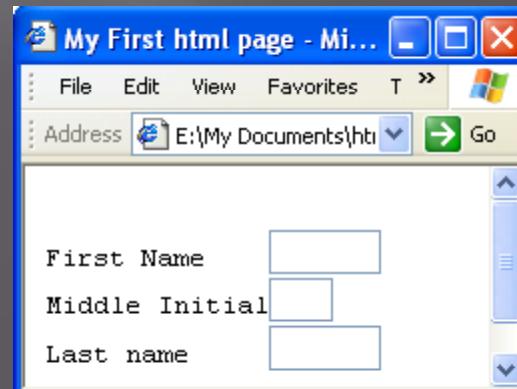
...

First Name <input type="text" size=5 maxlength=10>

Middle Initial<input type="text" size=1>

Last name <input type="text" size=5>

...



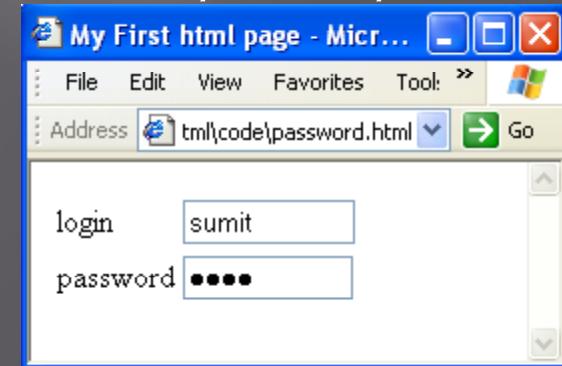
# Password fields

- INPUT tag, type is password

...

```
<form>  
<table>  
<tr><td>login</td>  
<td><input type="text" size=10></td></tr>  
<tr><td>password</td>  
<td><input type="password" size=10></td></tr>  
</table>  
</form>
```

...



# Check box

- Used to specify true/false type options

...

```
<form>
```

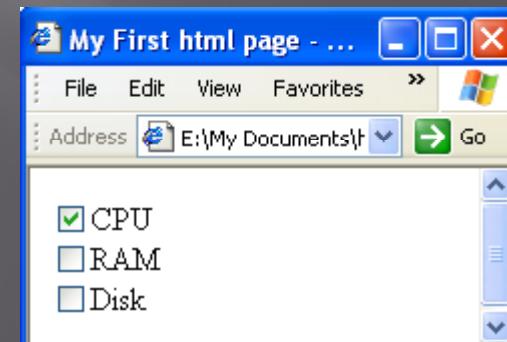
```
  <input type="checkbox" checked>CPU    <br>
```

```
  <input type="checkbox">RAM    <br>
```

```
  <input type="checkbox">Disk
```

```
</form>
```

...



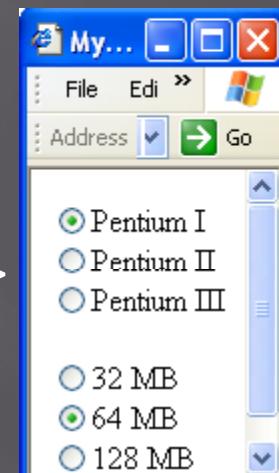
# Radio buttons

- Similar to checkbox, except that only one radio button in a group can be selected at a time
- Group is specified by NAME attribute

...

```
<input type="radio" name="CPU" checked>Pentium I<br>
<input type="radio" name="CPU">Pentium II<br>
<input type="radio" name="CPU">Pentium III<br>
<p>
<input type="radio" name="ram">32 MB<br>
<input type="radio" name="ram" checked>64 MB<br>
<input type="radio" name="ram">128 MB<br>
```

...



# Text area

- Allows users to enter lines of text
- ROWS and COLS attributes fixes the number of rows and column of the visible portion of text area

...

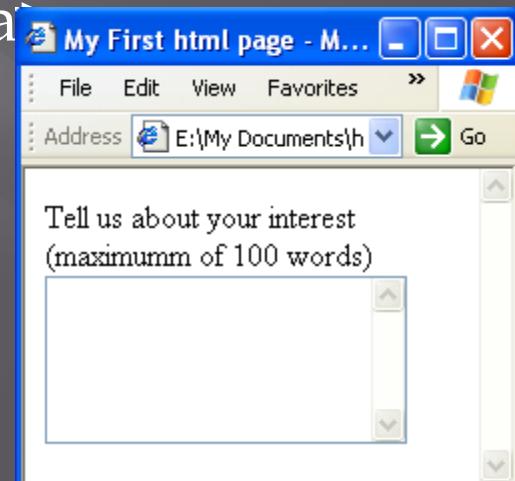
<form>

Tell us about your interest(maximumm of 100 words)

<textarea cols=20 rows=5></textarea>

</form>

...



# Selection list

- Allows users to select an item from pull down menu
- Options are included using OPTION tag
- SIZE determines how many items are visible
- MULTIPLE attribute allows the user to select multiple options at a time by holding down the shift key

<form>

<select>

<option>CPU

<option selected>Disk

<option>RAM

<option>Monitor



# Action buttons

- RESET button to clear contents of elements of a form
- SUBMIT button to send the content of a form

```
<form action="ckeck.jsp">  
...  
<input type="reset" value="Clear">  
<input type="submit" value="Login">  
</form>
```

