

HTML



HTML History



- GML – 1969 – Charles Goldfarb et al. (IBM) – for integrated law office information system
- GML – 1980 – First ANSI draft
- GML – 1983 – ANSI approved. Adopted by IRS, DoD
- SGML – 1985 – Draft ISO standard. Adopted by EU
- SGML – 1986 – ISO approved.
- HTML – 1992 – Introduced by CERN – European Laboratory for Particle Physics
- HTML – 1998 – Version 4.0
- XHTML – 2000 – First draft (version 2.0 is nearing completion)

Introduction



- **HTML- HyperText Markup Language**
 - Identify elements of a page so that a browser can render that page on your computer screen
 - Presentation of a document vs. structure
- ***HTML files or documents***
 - Notepad, MS Frontpage, MS Word, many shareware tools
 - HTML-Kit: <http://www.chami.com/html-kit>
- **HTML files**
 - `.htm` or `.html` extensions
 - Main page - `index.html` | `default.html`
- **Document rendering - Browser dependent**
- **HTML Errors- browser tolerance**

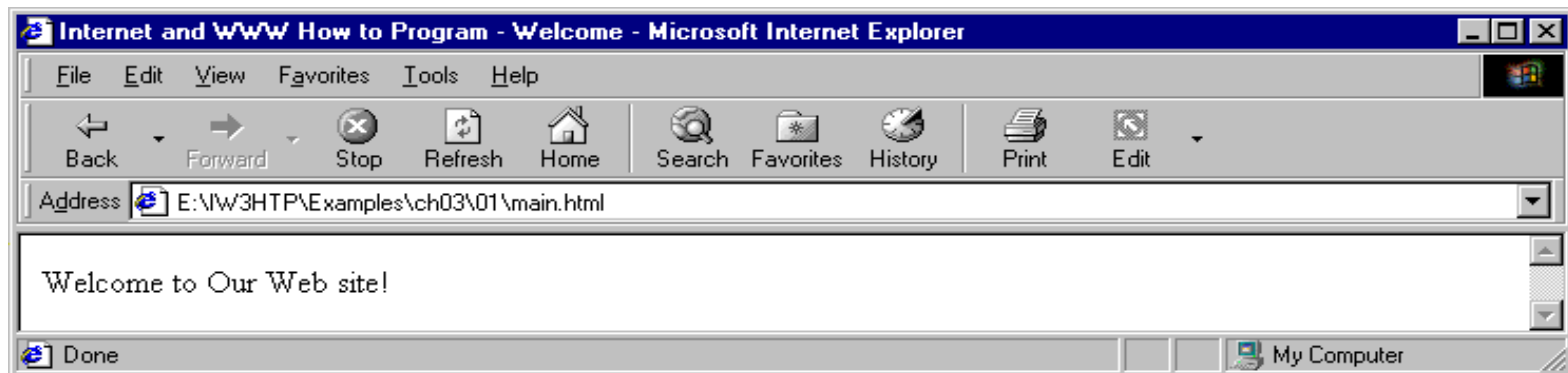
Common Tags



- Starts with `<HTML>...</HTML>` tags
- Comments `<!--...--!>` tags
- HTML documents
 - **HEAD** section
 - ✦ Info about the document
 - ✦ Info in header not generally rendered in display window
 - ✦ **TITLE** element names your Web page
 - **BODY** section
 - ✦ Page content
 - ✦ Includes text, images, links, forms, etc.
 - ✦ Elements include backgrounds, link colors and font faces
 - ✦ **P** element forms a paragraph, blank line before and after

Head and Body

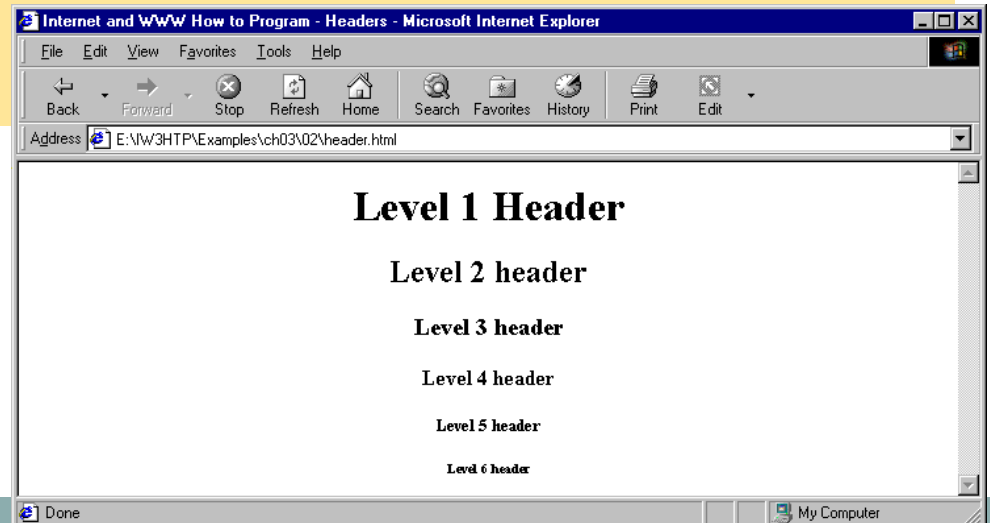
```
1 <HTML>
2
3 <!-- Fig. 9.1: main.html -->
4 <!-- Our first Web page -->
5
6 <HEAD>
7 <TITLE>Internet and WWW How to Program - Welcome</TITLE>
8 </HEAD>
9
10 <BODY>
11
12 <P>Welcome to Our Web Site!</P>
13
14 </BODY>
15 </HTML>
```



- Headers

- text size based on the header's "level"
- Actual size of text of browser dependent

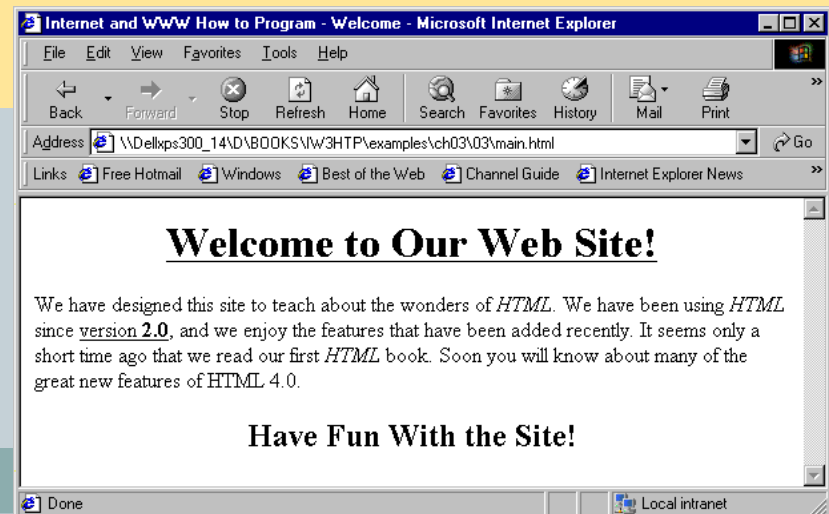
```
1 <HTML>
2
3 <!-- Fig. 9.2: header.html -->
4 <!-- HTML headers -->
5
6 <HEAD>
7 <TITLE>Internet and WWW How to Program - Headers</TITLE>
8 </HEAD>
9
10 <BODY>
11
12 <!-- Centers everything in the CENTER element -->
13 <CENTER>
14 <H1>Level 1 Header</H1> <!-- Level 1 header -->
15 <H2>Level 2 header</H2> <!-- Level 2 header -->
16 <H3>Level 3 header</H3> <!-- Level 3 header -->
17 <H4>Level 4 header</H4> <!-- Level 4 header -->
18 <H5>Level 5 header</H5> <!-- Level 5 header -->
19 <H6>Level 6 header</H6> <!-- Level 6 header -->
20 </CENTER>
21
22 </BODY>
23 </HTML>
```



Text Styling

- Underline style
`<U>...</U>`
- Align elements with **ALIGN** attribute **right**, **left** or **center**
- Close nested tags in the reverse order from which they were opened
- Emphasis (italics) style
`...`
- Strong (bold) style
`...`

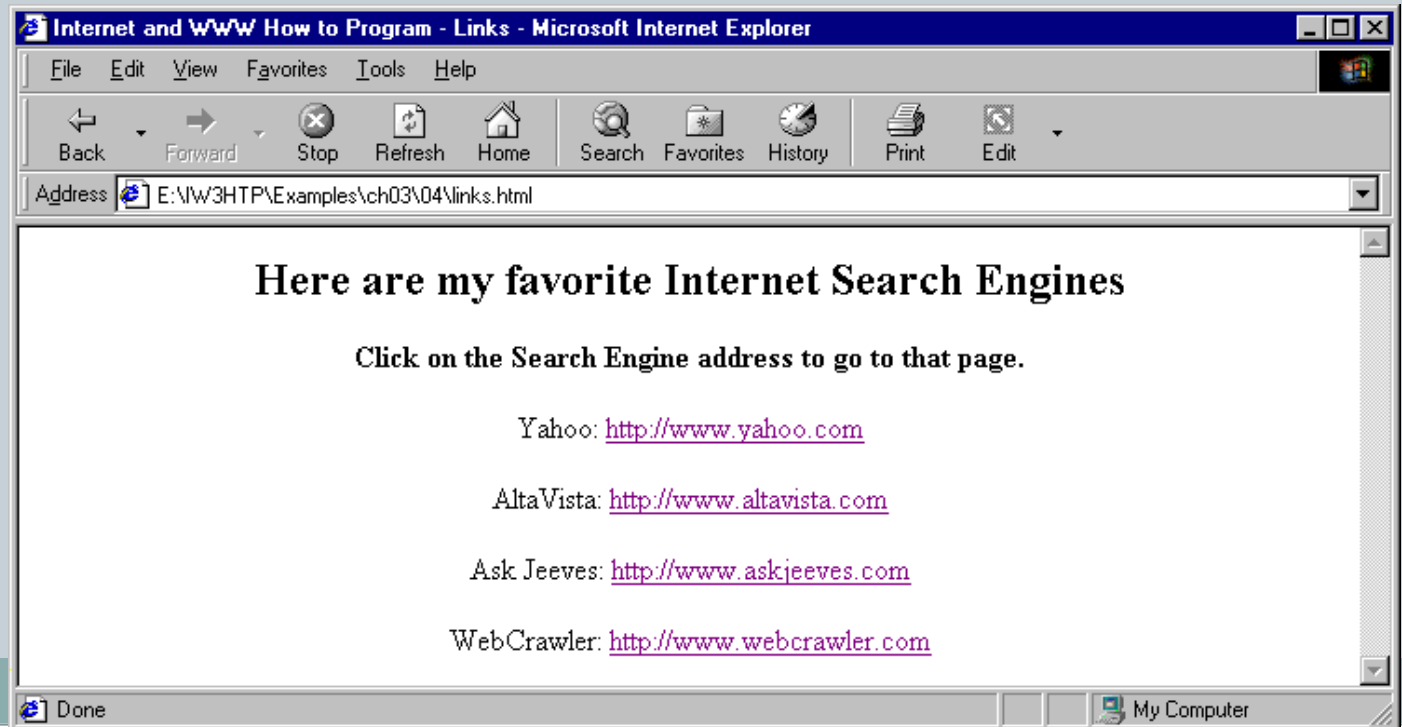
```
1 <HTML>
2
3 <!-- Fig. 9.3: main.html -->
4 <!-- Stylizing your text -->
5
6 <HEAD>
7 <TITLE>Internet and WWW How to Program - Welcome</TITLE>
8 </HEAD>
9
10 <BODY>
11 <H1 ALIGN = "center"><U>Welcome to Our Web Site!</U></H1>
12
13 <P>We have designed this site to teach
14 about the wonders of <EM>HTML</EM>. We have been using
15 <EM>HTML</EM> since <U>version<STRONG> 2.0</STRONG></U>,
16 and we enjoy the features that have been added recently. It
17 seems only a short time ago that we read our first <EM>HTML</EM>
18 book. Soon you will know about many of the great new features
19 of HTML 4.0.</P>
21 <H2 ALIGN = "center">Have Fun With the Site!</H2>
22
23 </BODY>
24 </HTML>
```



Linking



- Links inserted using the **A** (anchor) element
 - **HREF** specifies the URL you would like to link to
 - ✧ **...**
 - ✧ Can link to email addresses, using
 - ...**

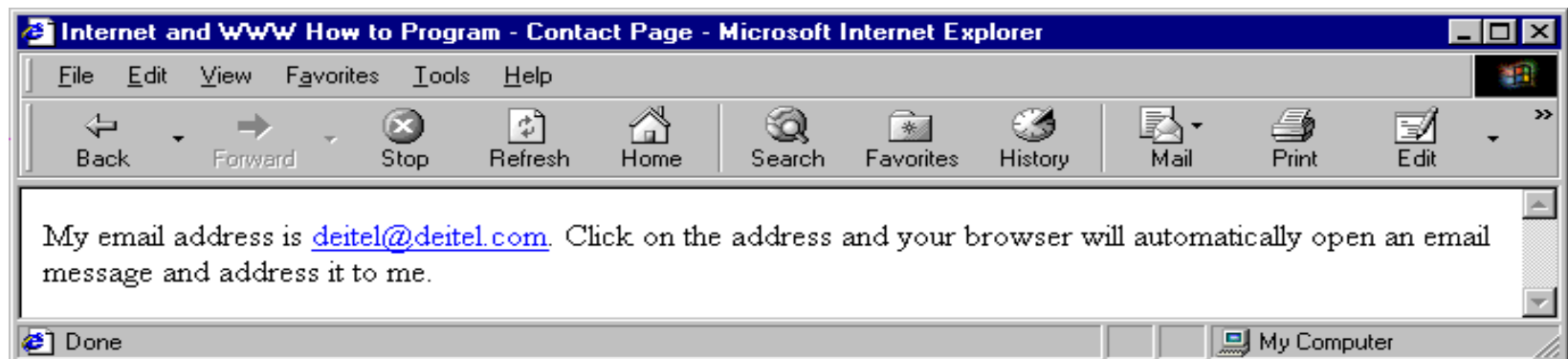


HTML for Linking to other Web pages

```
1  <HTML>
2
3  <!-- Fig. 9.4: links.html      -->
4  <!-- Introduction to hvperlinks -->
5
6  <HEAD>
7  <TITLE>Internet and WWW How to Program - Links</TITLE>
8  </HEAD>
9
10 <BODY>
11
12 <CENTER>
13 <H2>Here are mv favorite Internet Search Engines</H2>
14 <P><STRONG>Click on the Search Engine address to go to that
15 page.</STRONG></P>
16
17 <!-- Hvperlink form: <A HREF = "address"> -->
18 <P>Yahoo: <A HREF = "http://www.vahoo.com">
19 http://www.vahoo.com</A></P>
20
21 <P>AltaVista: <A HREF = "http://www.altavista.com">
22 http://www.altavista.com</A></P>
23
24 <P>Ask Jeeves: <A HREF = "http://www.askieeves.com">
25 http://www.askieeves.com</A></P>
26
27 <P>WebCrawler: <A HREF = "http://www.webcrawler.com">
28 http://www.webcrawler.com</A></P>
29 </CENTER>
30
31 </BODY>
32 </HTML>
```

Email links

```
1 <HTML>
2
3 <!-- Fig. 9.5: contact.html -->
4 <!-- Adding email hyperlinks -->
5
6 <HEAD>
7 <TITLE>Internet and WWW How to Program - Contact Page</TITLE>
8 </HEAD>
9
10 <BODY>
11
12 <!-- The correct form for hyperlinking to an email address -->
13 <!-- is <A HREF = "mailto:address"></A> -->
14 <P>My email address is <A HREF = "mailto:deitel@deitel.com">
15 deitel@deitel.com</A>. Click on the address and your browser
16 will open an email message and address it to me.
17 </P>
18
19 </BODY>
20 </HTML>
```



Images



- Image background
 - **<BODY BACKGROUND = "background">**
 - Image does not need to be large as browser *tiles* image across and down the screen
- Insert image into page
 - Use **** tag
 - ✦ Attributes:
 - **SRC** = "location"
 - **HEIGHT** (in pixels)
 - **WIDTH** (in pixels)
 - **BORDER** (black by default)
 - **ALT** (text description for browsers that have images turned off or cannot view images)

HTML for adding Image

```
1 <HTML>
2
3 <!-- Fig. 9.6: picture.html -->
4 <!-- Adding images with HTML -->
5
6 <HEAD>
7 <TITLE>Internet and WWW How to Program - Welcome</TITLE>
8 </HEAD>
9
10 <BODY BACKGROUND = "background.gif">
11
12 <CENTER>
13 <!-- Format for entering images: <IMG SRC = "name"> -->
14 <IMG SRC = "deitel.gif" BORDER = "1" HEIGHT = "144"
15     WIDTH = "200" ALT = "Harvey and Paul Deitel">
16 </CENTER>
17
18 </BODY>
19 </HTML>
```



Formatting Text With

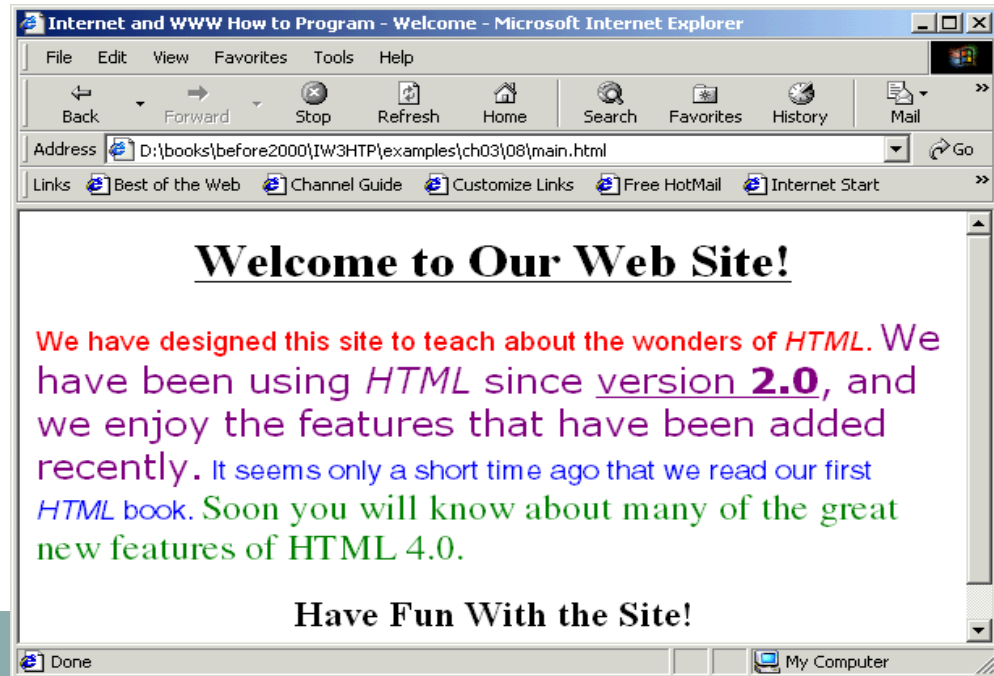
- **FONT** element adds color and formatting to text

- **FONT** attributes:

- ✦ **COLOR** Preset or hex color code
- ✦ **SIZE** "+x", "-x" or point size
- ✦ **FACE** Font of the text you are formatting

- Example

...



HTML for Font Specification

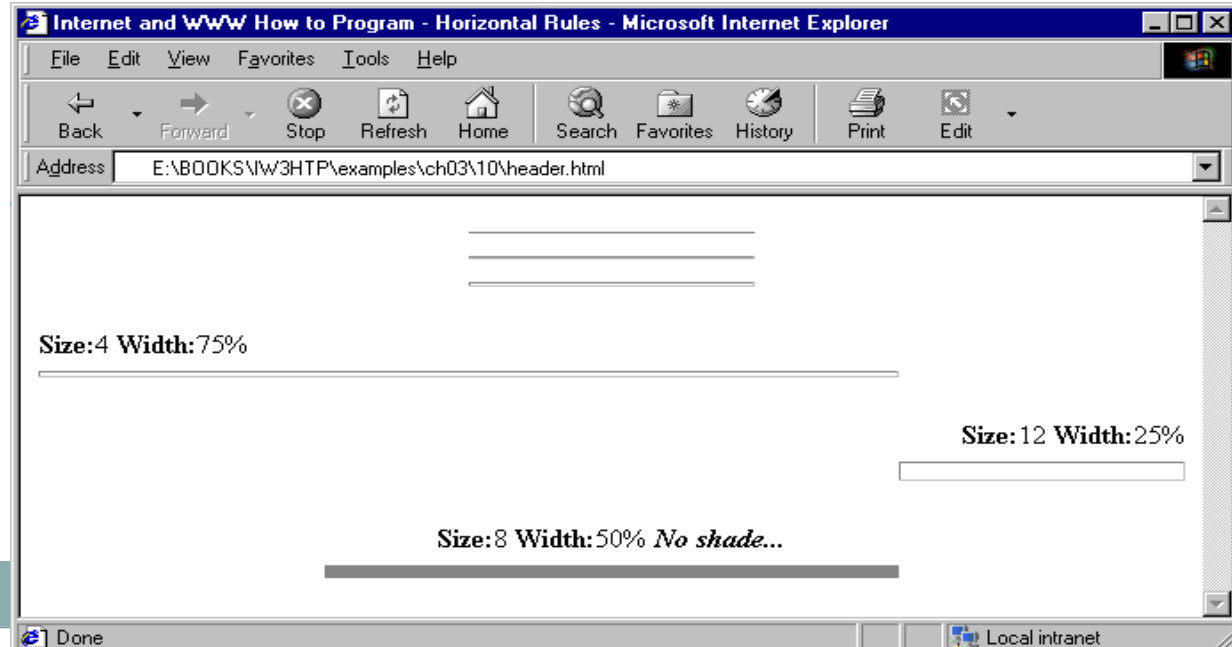
```
1<HTML>
2
3<!-- Fig. 9.8: main.html -->
4<!-- Formatting text size and color -->
5
6<HEAD>
7<TITLE>Internet and WWW How to Program - Welcome</TITLE>
8</HEAD>
9
10<BODY>
11
12<H1 ALIGN = "center"><U>Welcome to Our Web Site!</U></H1>
13
14<!-- Font tags change the formatting of text they enclose -->
15<P><FONT COLOR = "red" SIZE = "+1" FACE = "Arial">We have
16designed this site to teach about the wonders of
17<EM>HTML</EM>.</FONT>
18
19<FONT COLOR = "purple" SIZE = "+2" FACE = "Verdana">We have been
20using <EM>HTML</EM> since <U>version<STRONG> 2.0</STRONG></U>,
21and we enjoy the features that have been added recently.</FONT>
22
23<FONT COLOR = "blue" SIZE = "+1" FACE = "Helvetica">It
24seems only a short time ago that we read our first <EM>HTML</EM>
25book.</FONT>
26
27<FONT COLOR = "green" SIZE = "+2" FACE = "Times">Soon you will
28know about many of the great new features of HTML 4.0.</FONT></P>
29
30<H2 ALIGN = "center">Have Fun With the Site!</H2></P>
31
32</BODY>
33</HTML>
```

Horizontal Rules etc

- **<HR>** tag Inserts a line break directly below it

- **HR attributes:**

- ✦ **WIDTH** Adjusts the width of the rule- a number (in pixels) or a %
- ✦ **SIZE** Determines the height of the horizontal rule, in pixels
- ✦ **ALIGN** **left, right or center**
- ✦ **NOSHADE**
 - Eliminates default shading effect and displays horizontal rule as a solid-color bar



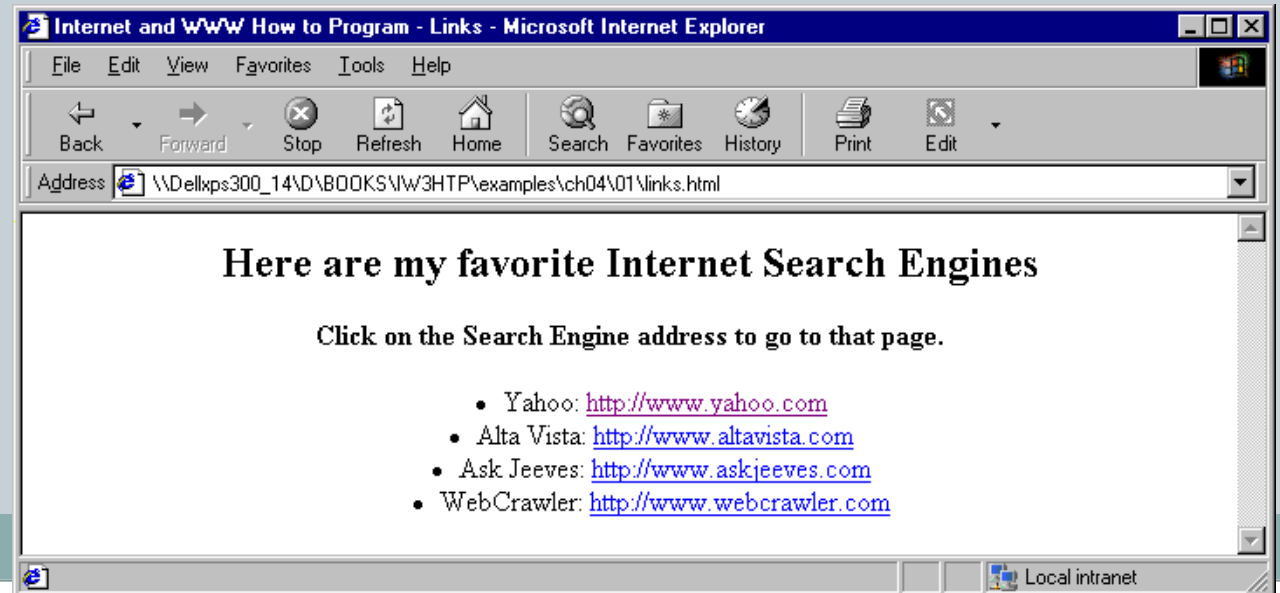
HTML for HR Rules Etc

```
1<HTML>
2
3<!-- Fig. 9.10: header.html -->
4<!-- Line breaks and horizontal rules -->
5
6<HEAD>
7<TITLE>Internet and WWW How to Program - Horizontal
8</HEAD>
9
10<BODY>
11<!-- Horizontal rules as inserted using the format: -->
12<!-- <HR WIDTH = ".." SIZE = ".." ALIGN = ".."> -->
13<HR WIDTH = "25%" SIZE = 1>
14<HR WIDTH = "25%" SIZE = 2>
15<HR WIDTH = "25%" SIZE = 3>
16
17<P ALIGN = "left"><STRONG>Size:</STRONG>4
18<STRONG>Width:</STRONG>75%
19<HR WIDTH = "75%" SIZE = "4" ALIGN = "left">
20
21<P ALIGN = "right"><STRONG>Size:</STRONG>12
22<STRONG>Width:</STRONG>25%
23<HR WIDTH = "25%" SIZE = "12" ALIGN = "right">
24
25<P ALIGN = "center"><STRONG>Size:</STRONG>8
26<STRONG>Width:</STRONG>50%
27<STRONG><EM>No shade...</EM></STRONG>
28<HR NOSHADE WIDTH = "50%" SIZE = "8" ALIGN = "center">
29
30</BODY>
31</HTML>
```


Unordered Lists



- *Unordered list* element
 - Creates a list in which every line begins with a bullet mark
 - **...** tags
 - Each item in unordered list inserted with the **** (*list item*) tag
 - ✦ Closing **** tag optional



Unordered lists with HTML

```
1<HTML>
3<!-- Fig. 10.1: links.html -->
4<!-- Unordered Lists      -->
5
6<HEAD>
7<TITLE>Internet and WWW How to Program - Links</TITLE>
8</HEAD>
9
10<BODY>
11
12<CENTER>
13<H2>Here are my favorite Internet Search Engines</H2>
14<P><STRONG>Click on the Search Engine address to go to that
15page.</STRONG></P>
16
17<!-- <UL> creates a new unordered (bullet) list -->
18<!-- <LI> inserts a new entry into the list      -->
19<UL>
20<LI>Yahoo: <A HREF = "http://www.vahoo.com">
21http://www.vahoo.com</A></LI>
22
23<LI>Alta Vista: <A HREF = "http://www.altavista.com">
24http://www.altavista.com</A></LI>
25
26<LI>Ask Jeeves: <A HREF = "http://www.askjeeves.com">
27http://www.askjeeves.com</A></LI>
28
29<LI>WebCrawler: <A HREF = "http://www.webcrawler.com">
30http://www.webcrawler.com</A></LI>
31</UL>
32</CENTER>
33</BODY>
34</HTML>
```

Nested and Ordered Lists

Nested list

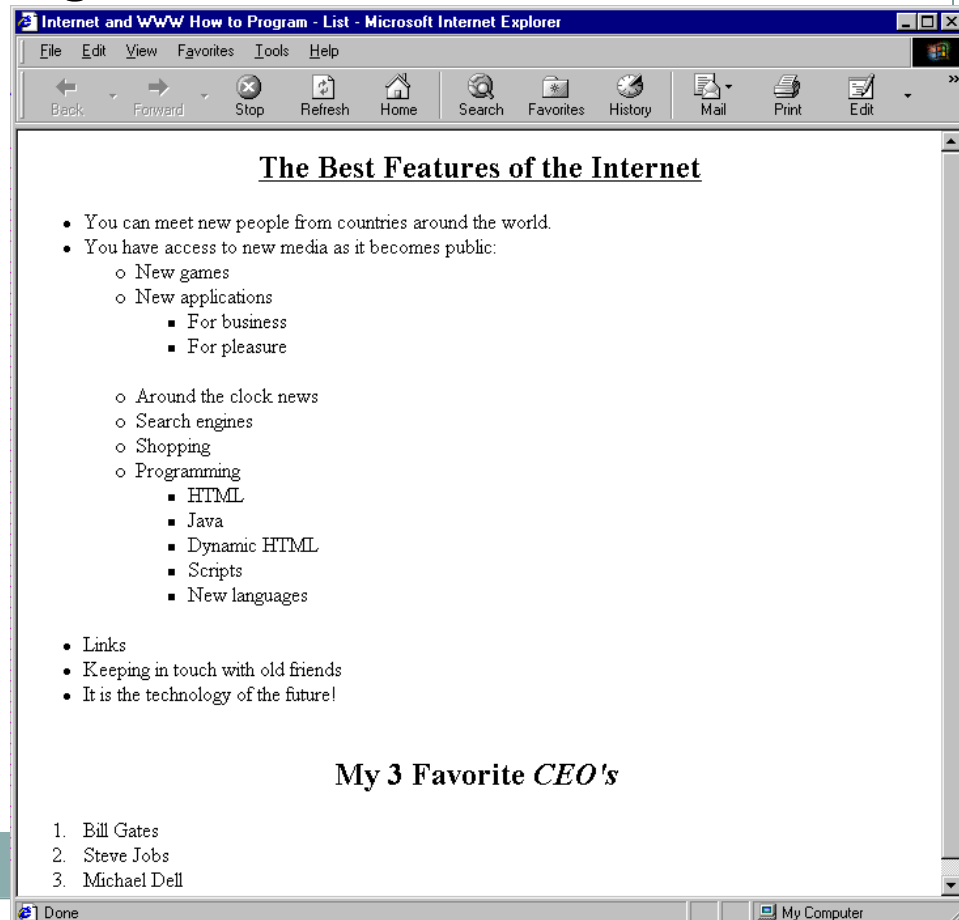
- Contained in another list element
- Nesting the new list inside the original
 - ✦ Indents list one level and changes the bullet type to reflect the nesting

Browsers

- Insert a line of whitespace after every closed list

Indent each level of a nested list

- Makes the code easier to edit and debug



HTML for Nested List

```
1 <HTML>
2
3 <!-- Fig. 10.2: list.html -->
4 <!-- Advanced Lists: nested and ordered -->
5
6 <HEAD>
7 <TITLE>Internet and WWW How to Program - List</TITLE>
8 </HEAD>
9
10 <BODY>
11
12 <CENTER>
13 <H2><U>The Best Features of the Internet</U></H2>
14 </CENTER>
15
16 <UL>
17 <LI>You can meet new people from countries around
18     the world.</LI>
19 <LI>You have access to new media as it becomes public:</LI>
20
21     <!-- This starts a nested list, which uses a modified -->
22     <!-- bullet. The list ends when you close the <UL> tag -->
23     <UL>
24     <LI>New games</LI>
25     <LI>New applications </LI>
26
27     <!-- Another nested list, there is no nesting limit -->
28     <UL>
29     <LI>For business</LI>
30     <LI>For pleasure</LI>
```

HTML for Nested List Contd.

```
31         </UL> <!-- This ends the double nested list -->
32     <LI>Around the clock news</LI>
33     <LI>Search engines</LI>
34     <LI>Shopping</LI>
35     <LI>Programming</LI>
36         <UL>
37             <LI>HTML</LI>
38             <LI>Java</LI>
39             <LI>Dynamic HTML</LI>
40             <LI>Scripts</LI>
41             <LI>New languages</LI>
42         </UL>
43     </UL> <!-- This ends the first level nested list -->
44 <LI>Links</LI>
45 <LI>Keeping in touch with old friends</LI>
46 <LI>It is the technology of the future!</LI>
47 </UL> <!-- This ends the primary unordered list -->
48
49 <BR><CENTER><H2>My 3 Favorite <EM>CEO's</EM></H2></CENTER>
50
51 <!-- Ordered lists are constructed in the same way as -->
52 <!-- unordered lists, except their starting tag is <OL> -->
53 <OL>
54 <LI>Bill Gates</LI>
55 <LI>Steve Jobs</LI>
56 <LI>Michael Dell</LI>
57 </OL>
58
59 </BODY>
60 </HTML>
```

Ordered Lists



- Ordered list element
 - `...` tags
 - By default, ordered lists use decimal sequence numbers
 - ✦ (1, 2, 3, ...)
 - To change sequence type, use **TYPE** attribute in `` opening tag
 - ✦ **TYPE** = “1” (default)
 - Decimal sequence (1, 2, 3, ...)
 - ✦ **TYPE** = “I”
 - Uppercase Roman numerals (I, II, III, ...)
 - ✦ **TYPE** = “i”
 - Lowercase Roman numerals (i, ii, iii, ...)
 - ✦ **TYPE** = “A”
 - Uppercase alphabetical (A, B, C, ...)
 - ✦ **TYPE** = “a”
 - Lowercase alphabetical (a, b, c, ...)

HTML for Ordered List

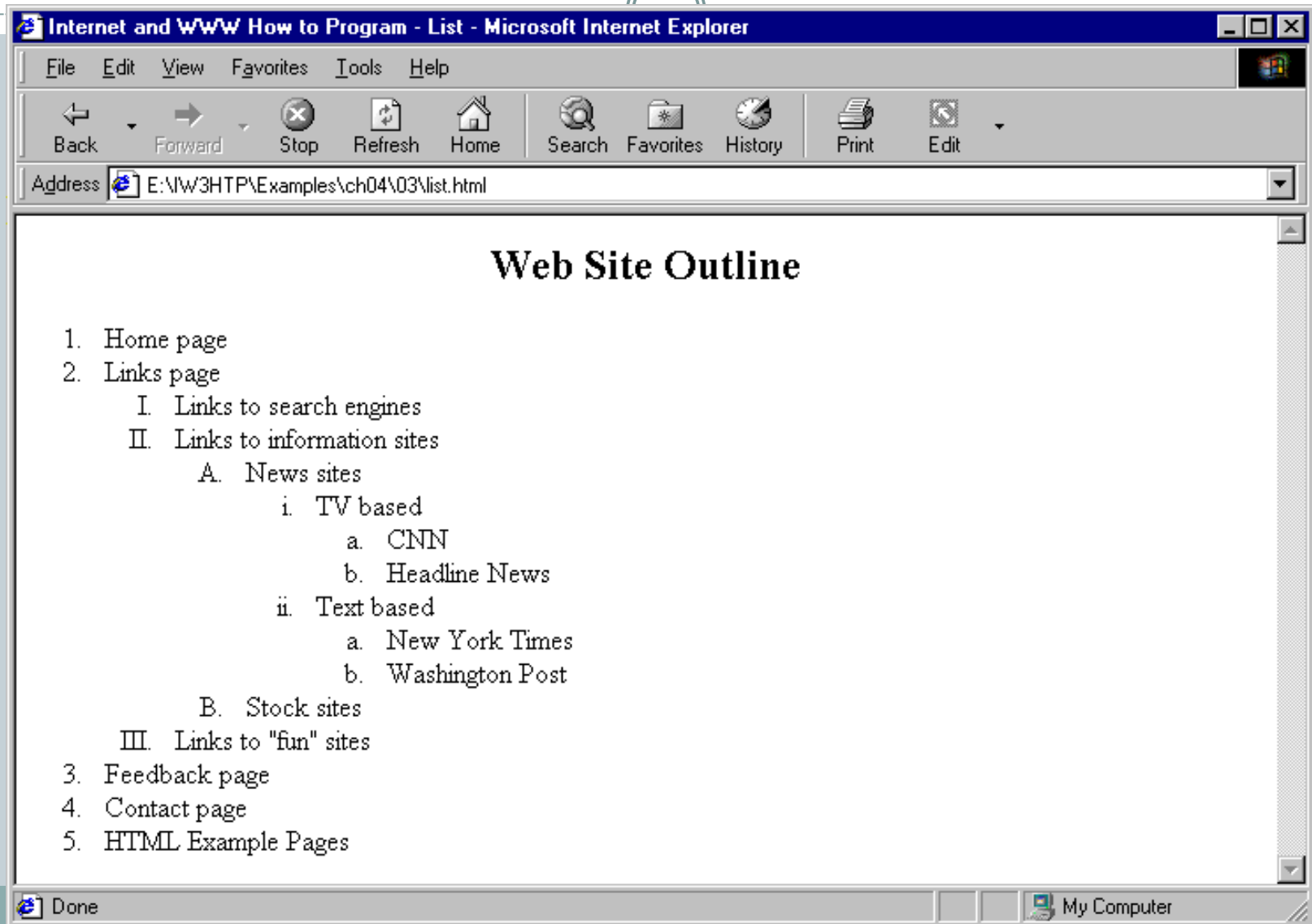
```
1<HTML>
2
3<!-- Fig. 10.3: list.html -->
4<!-- Different Types of Ordered Lists -->
5
6<HEAD>
7<TITLE>Internet and WWW How to Program - List</TITLE>
8</HEAD>
9
10<BODY>
11
12<CENTER>
13<H2>Web Site Outline</H2>
14</CENTER>
15
16<!-- Change the character style by specifying it in -->
17<!-- <OL TYPE = "style"> OR <LI TYPE = "style"> as -->
18<!-- decimal=1, uppercase Roman=I, lowercase Roman=i -->
19<!-- uppercase Latin=A, lowercase Latin=a -->
20<OL>
21<LI>Home page</LI>
22<LI>Links page</LI>
23  <OL TYPE = "I">
24    <LI>Links to search engines</LI>
25    <LI>Links to information sites</LI>
26      <OL TYPE = "A">
27        <LI>News sites</LI>
28      <OL>
29        <LI TYPE = "i">TV based</LI>
30      <OL TYPE = "a">
```

HTML for Ordered List Contd



```
31         <LI>CNN</LI>
32         <LI>Headline News</LI>
33     </OL>
34     <LI TYPE = "i">Text based</LI>
35     <OL TYPE = "a">
36         <LI>New York Times</LI>
37         <LI>Washington Post</LI>
38     </OL>
39 </OL>
40 <LI>Stock sites</LI>
41 </OL>
42 <LI>Links to "fun" sites</LI>
43 </OL>
44 <LI>Feedback page</LI>
45 <LI>Contact page</LI>
46 <LI>HTML Example Pages</LI>
47 </OL>
48
49 </BODY>
50 </HTML>
```


Different types of ordered lists



Basic HTML Tables



- *Tables*

- All tags and text go inside **<TABLE>...</TABLE>** tags
- **TABLE** element attributes
 - **BORDER** lets you set the width of the table's border in pixels
 - **ALIGN**: left, right or center
 - **WIDTH**: pixels (absolute) or a percentage
- ✦ **CAPTION** element is inserted directly above the table
- Helps *text-based browsers* interpret table data



Basic HTML tables



- **TABLE** element (cont.)
 - **THEAD** element
 - ✦ Header info
 - ✦ For example, titles of table and column headers
 - **TR** element
 - ✦ Table row element used for formatting the cells of individual rows
 - **TBODY** element
 - ✦ Used for formatting and grouping purposes
 - Smallest area of the table we are able to format is data cells
 - ✦ Two types of data cells
 - In the header: `<TH>...</TH>` suitable for titles and column headings
 - In the table body: `<TD>...</TD>`
 - ✦ Aligned left by default

HTML for tables

```
1  <HTML>
2
3  <!-- Fig. 10.4: table.html -->
4  <!-- Basic table design -->
5
6  <HEAD>
7  <TITLE>Internet and WWW How to Program - Tables</TITLE>
8  </HEAD>
9
10 <BODY>
11
12 <CENTER><H2>Table Example Page</H2></CENTER>
13
14 <!-- The <TABLE> tag opens a new table and lets you put in -->
15 <!-- design options and instructions -->
16 <TABLE BORDER = "1" ALIGN = "center" WIDTH = "40%">
17
18 <!-- Use the <CAPTION> tag to summarize the table's contents -->
19 <!-- (this helps the visually impaired) -->
20 <CAPTION>Here is a small sample table.</CAPTION>
21
22 <!-- The <THEAD> is the first (non-scrolling) horizontal -->
23 <!-- section. Use it to format the table header area. -->
24 <!-- <TH> inserts a header cell and displays bold text -->
25 <THEAD>
26 <TR><TH>This is the head.</TH></TR>
27 </THEAD>
28
29 <!-- All of your important content goes in the <TBODY>. -->
30 <!-- Use this tag to format the entire section -->
31 <!-- <TD> inserts a data cell, with regular text -->
```

HTML for tables Contd



```
32 <TBODY>
33 <TR><TD ALIGN = "center">This is the body.</TD></TR>
34 </TBODY>
35
36 </TABLE>
37
38 </BODY>
39 </HTML>
```

A complex table with formatting and color



Homework



- Create Home Page of NDDU
- Use MS-Word and “saved as NDDU.HTML”.