

Introduction to XHTML: Part 1

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Objectives

- In this chapter, you will learn:
 - To understand important components of XHTML documents.
 - To use XHTML to create Web pages.
 - To be able to add images to Web pages.
 - To understand how to create and use hyperlinks to navigate Web pages.
 - To be able to mark up lists of information.

4.1 Introduction

- Extensible HyperText Markup Language
 - XHTML
 - A markup language
 - Separation of the presentation of a document from the structure of the document's information
 - Based on HTML
 - Technology of the World Wide Web Consortium (W3C)

4.2 Editing XHTML

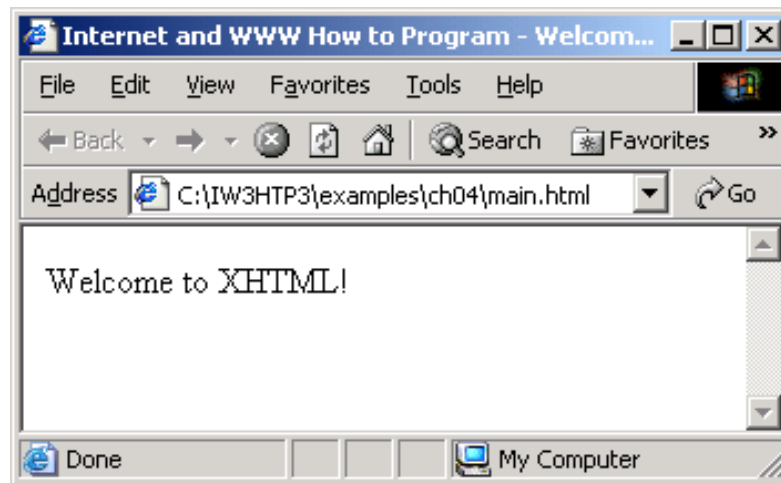
- XHTML documents
 - Source-code form
 - Text editor (e.g. Notepad, Wordpad, emacs, etc.)
 - .html or .htm file-name extension
 - Web server
 - Stores XHTML documents
 - Web browser
 - Requests XHTML documents

4.3 First XHTML Example

▣ XHTML comments

- Start with `<!--` and end with `-->`
- `html` element
 - `head` element
 - Head section
 - Title of the document
 - Style sheets and scripts
 - `body` element
 - Body section
 - Page's content the browser displays
- Start tag
 - attributes (provide additional information about an element)
 - name and value (separated by an equal sign)
- End tag

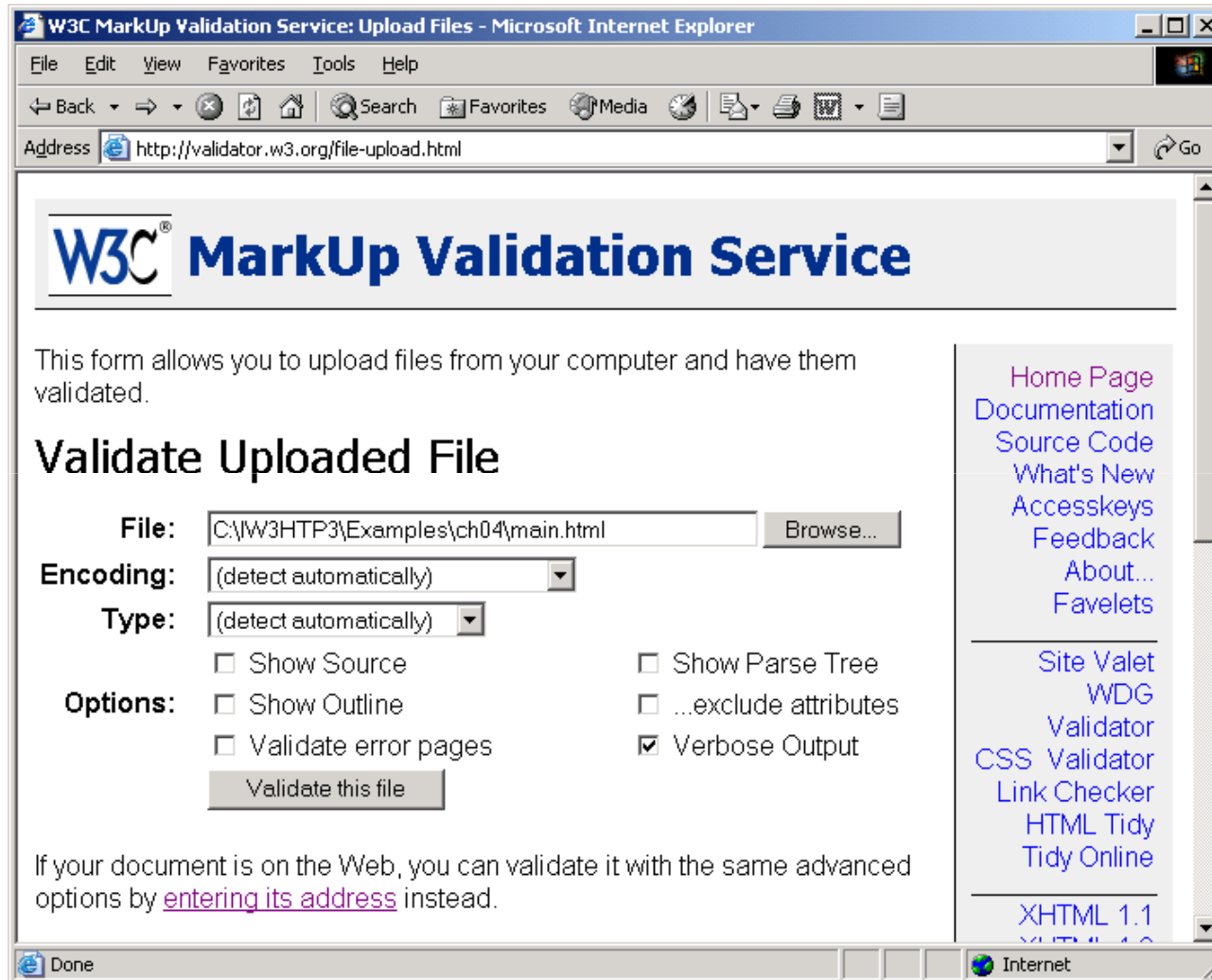
```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.1: main.html -->
6 <!-- Our first web page -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - welcome</title>
11   </head>
12
13   <body>
14     <p>welcome to XHTML!</p>
15   </body>
16 </html>
```



4.4 W3C XHTML Validation Service

- Validation service (`validator.w3.org`)
 - Checking a document's syntax
 - URL that specifies the location of the file
 - Uploading a file to the site
`validator.w3.org/file-upload.html`

4.4 W3C XHTML Validation Service



4.4 W3C XHTML Validation Service

Validation Results - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address <http://validator.w3.org/check> Go

W3C[®] Markup Validation Service

Jump To: [\[Results\]](#)

File: C:\W3HTP3\Examples\ch04\main.html
Content-Type: text/xml
Encoding: us-ascii
Doctype: [XHTML 1.1](#)
Root Namespace: <http://www.w3.org/1999/xhtml>

- Note:* The HTTP Content-Type header sent by your web browser (unknown) did not contain a "charset" parameter, but the Content-Type was one of the XML text/* sub-types (text/xml). The relevant specification (RFC 3023) specifies a strong default of "us-ascii" for such documents so we will use this value regardless of any encoding you may have indicated elsewhere. If you would like to use a different encoding, you should arrange to have your browser send this new encoding information.
- Note:* The Validator XML support has [some limitations](#).

This Page Is Valid [XHTML 1.1!](#)

Home Page
Documentation
Source Code
What's New
Accesskeys
Feedback
About...
Favelets

Site Valet
WDG
Validator
CSS Validator
Link Checker
HTML Tidy
Tidy Online

XHTML 1.1
XHTML 1.0
HTML 4.01

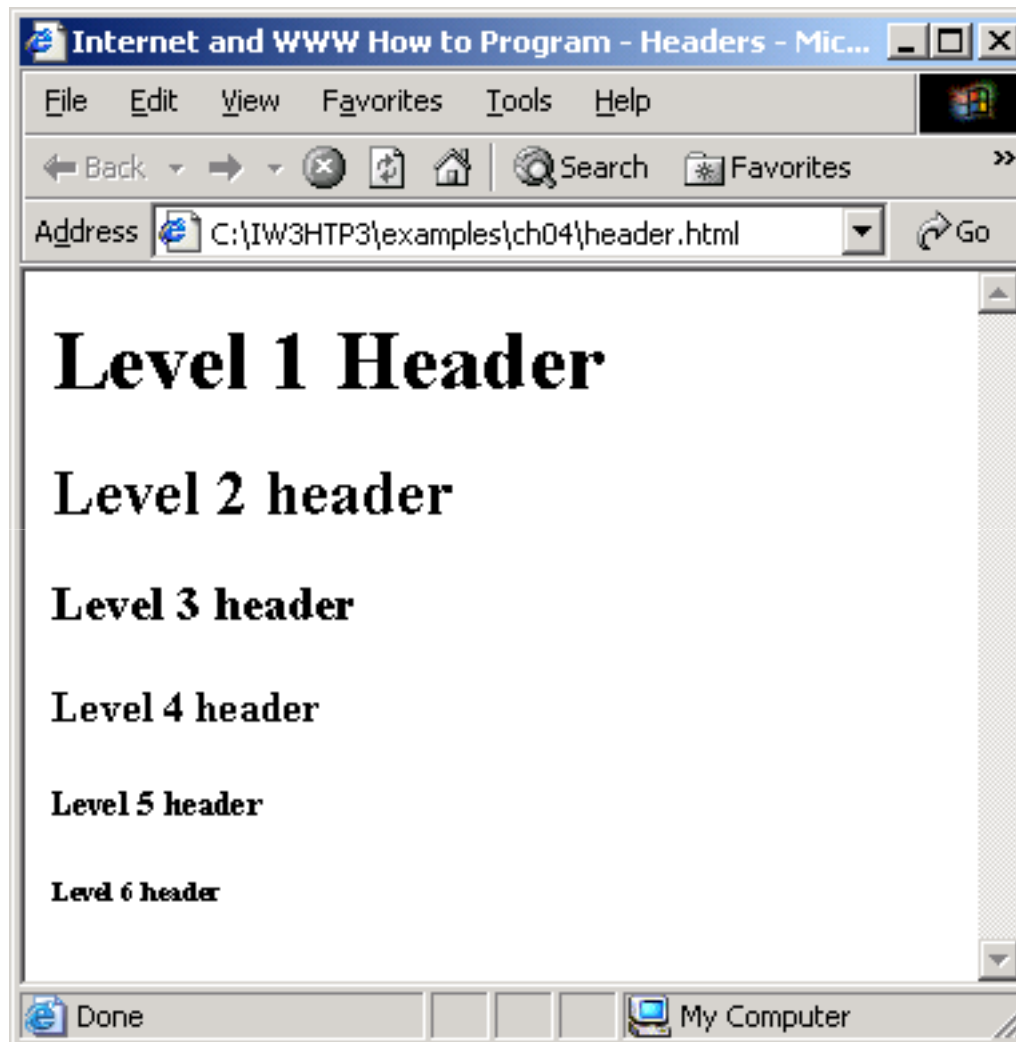
XSL 1.0
CSS Level 2
CSS Level 1

Done Internet

4.5 Headers

- Six headers (header elements)
 - h1 through h6

```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.4: header.html -->
6 <!-- XHTML headers      -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - Headers</title>
11   </head>
12
13   <body>
14
15     <h1>Level 1 Header</h1>
16     <h2>Level 2 header</h2>
17     <h3>Level 3 header</h3>
18     <h4>Level 4 header</h4>
19     <h5>Level 5 header</h5>
20     <h6>Level 6 header</h6>
21
22   </body>
23 </html>
```

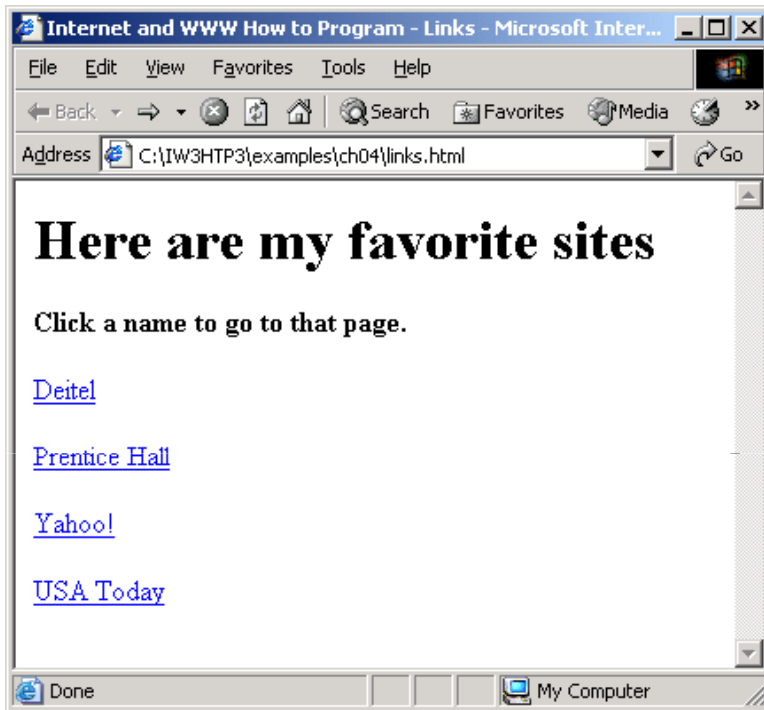


4.6 Linking

- Hyperlink
 - References other sources such as XHTML documents and images
 - Both text and images can act as hyperlinks
 - Created using the `a` (anchor) element
 - Attribute `href`
 - Specifies the location of a linked resource
 - Link to e-mail addresses using `mailto:` URL
- `` tag
 - Bold

```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.5: links.html      -->
6 <!-- Introduction to hyperlinks -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - Links</title>
11   </head>
12
13   <body>
14
15     <h1>Here are my favorite sites</h1>
16
17     <p><strong>Click a name to go to that page.</strong></p>
18
19     <!-- Create four text hyperlinks -->
20     <p><a href = "http://www.deitel.com">Deitel</a></p>
21
22     <p><a href = "http://www.prenhall.com">Prentice Hall</a></p>
23
24     <p><a href = "http://www.yahoo.com">Yahoo!</a></p>
25
```

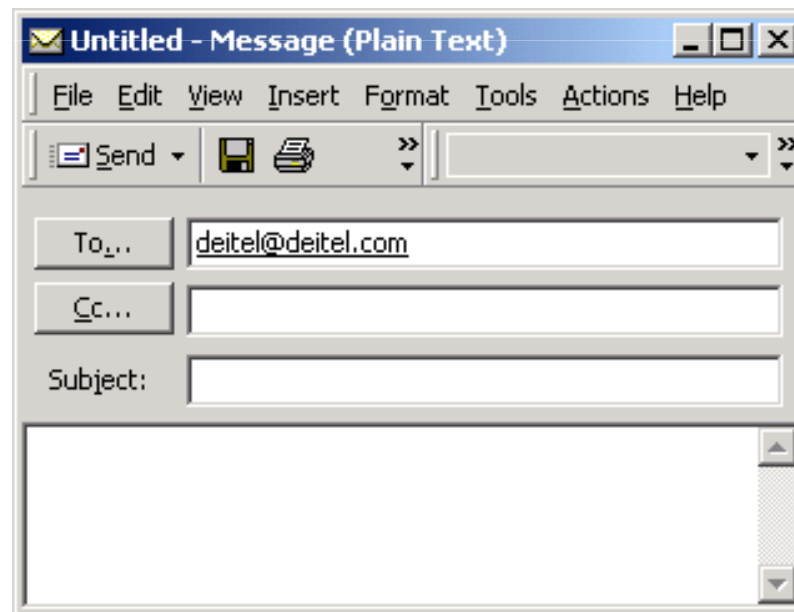
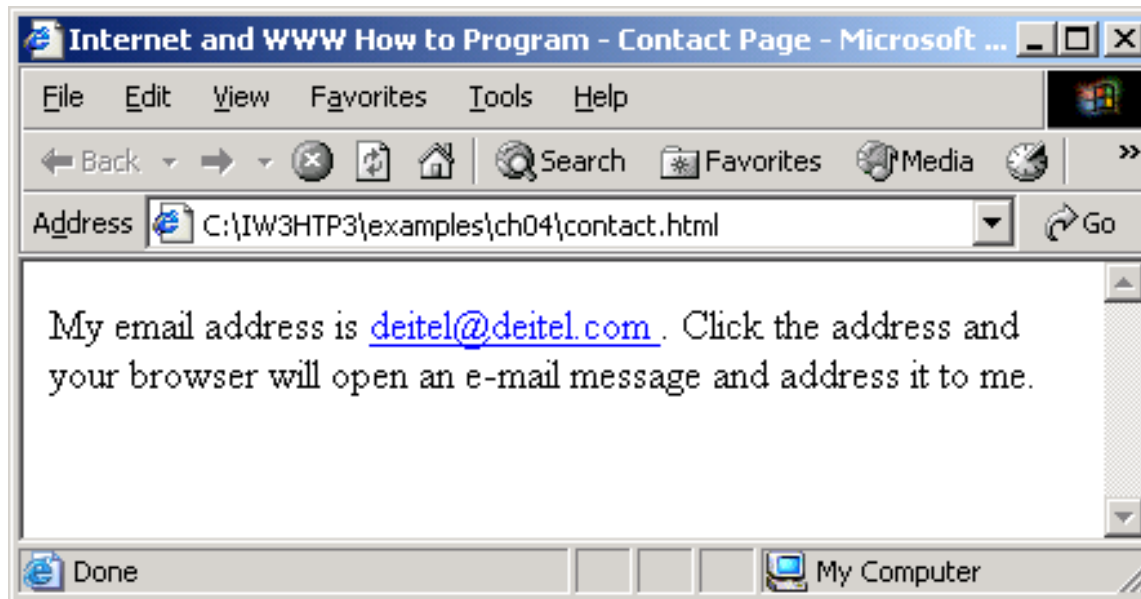
```
26 <p><a href = "http://www.usatoday.com">USA Today</a></p>
27
28 </body>
29 </html>
```



ks.html
2



```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.6: contact.html -->
6 <!-- Adding email hyperlinks -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - Contact Page</title>
11   </head>
12
13   <body>
14
15     <p>
16       My email address is
17       <a href = "mailto:deitel@deitel.com">
18         deitel@deitel.com
19       </a>
20       . Click the address and your browser will
21       open an e-mail message and address it to me.
22     </p>
23   </body>
24 </html>
```

4.7 Images

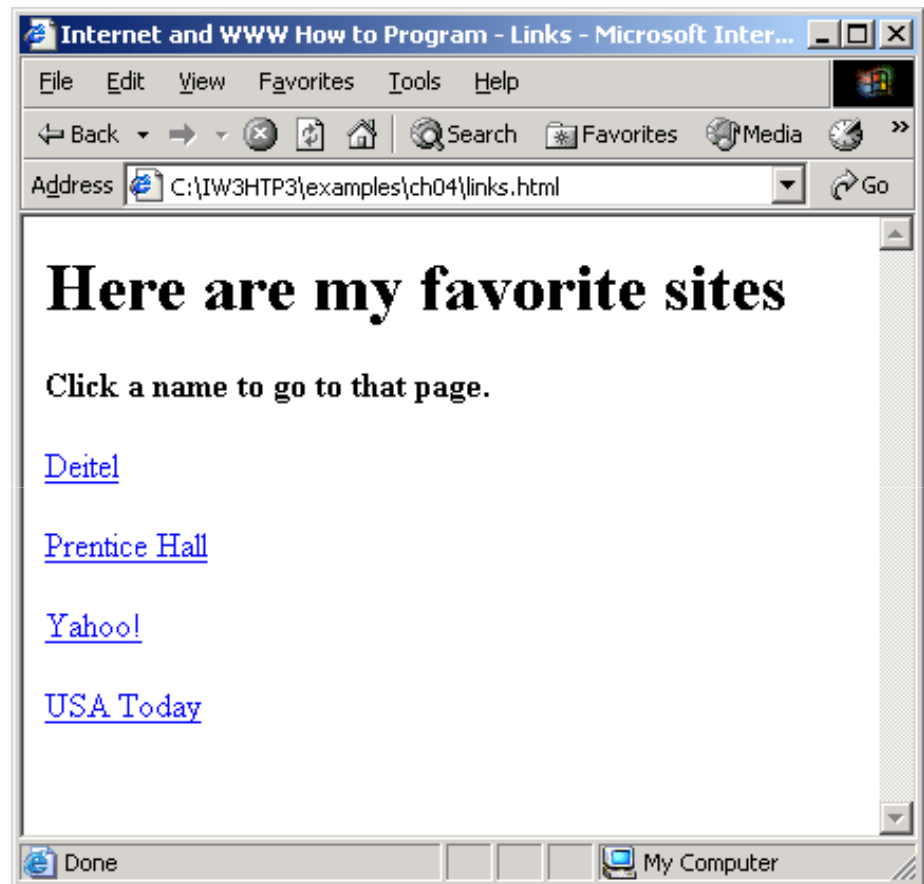
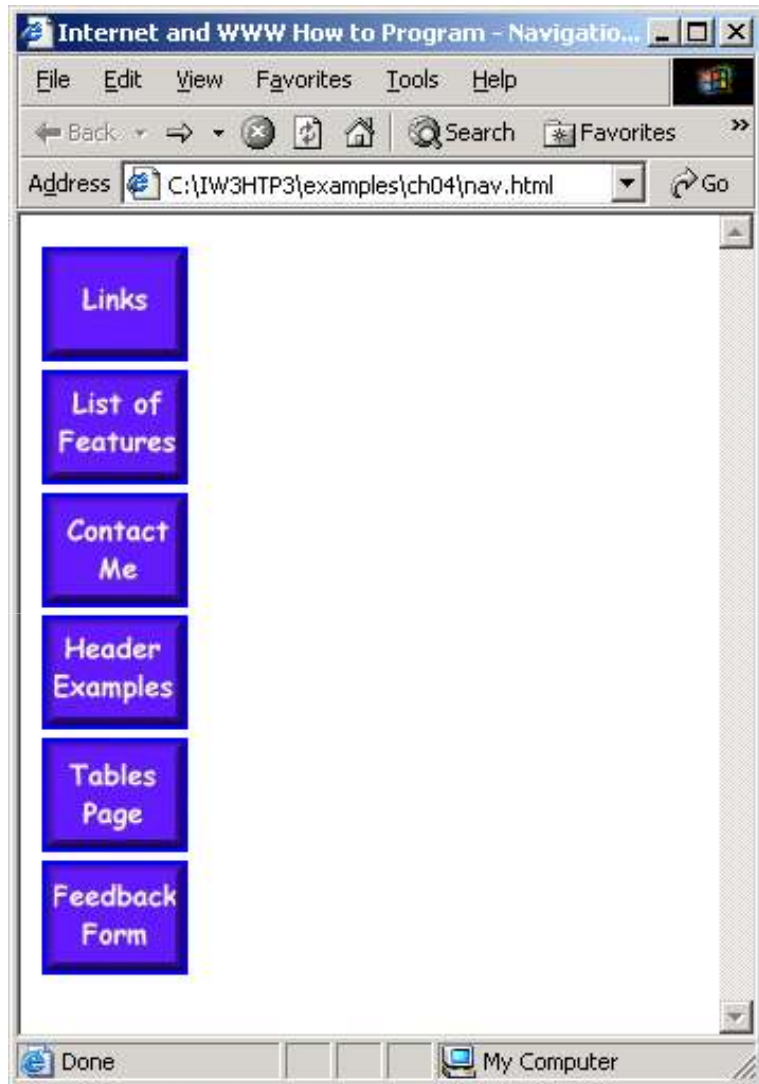
- Three most popular formats
 - Graphics Interchange Format (GIF)
 - Joint Photographic Experts Group (JPEG)
 - Portable Network Graphics (PNG)
 - `img` element
 - `src` attribute
 - Specifies the location of the image file
 - `width` and `height`
- Pixels (“picture elements”)
- Empty elements
 - Terminated by character `/` inside the closing right angle bracket (`>`), or by explicitly including the end tag
- `br` element
 - Line break

```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.7: picture.html -->
6 <!-- Adding images with XHTML -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - welcome</title>
11   </head>
12
13   <body>
14
15     <p>
16       <img src = "xmlhttp.jpg" height = "238" width = "183"
17         alt = "XML How to Program book cover" />
18       <img src = "jhttp.jpg" height = "238" width = "183"
19         alt = "Java How to Program book cover" />
20     </p>
21   </body>
22 </html>
```



```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.8: nav.html          -->
6 <!-- Using images as link anchors -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - Navigation Bar
11     </title>
12   </head>
13
14   <body>
15
16     <p>
17       <a href = "links.html">
18         <img src = "buttons/links.jpg" width = "65"
19           height = "50" alt = "Links Page" />
20       </a><br />
21
22       <a href = "list.html">
23         <img src = "buttons/list.jpg" width = "65"
24           height = "50" alt = "List Example Page" />
25       </a><br />
```

```
26
27     <a href = "contact.html">
28         <img src = "buttons/contact.jpg" width = "65"
29             height = "50" alt = "Contact Page" />
30     </a><br />
31
32     <a href = "header.html">
33         <img src = "buttons/header.jpg" width = "65"
34             height = "50" alt = "Header Page" />
35     </a><br />
36
37     <a href = "table1.html">
38         <img src = "buttons/table.jpg" width = "65"
39             height = "50" alt = "Table Page" />
40     </a><br />
41
42     <a href = "form.html">
43         <img src = "buttons/form.jpg" width = "65"
44             height = "50" alt = "Feedback Form" />
45     </a><br />
46 </p>
47
48 </body>
49 </html>
```

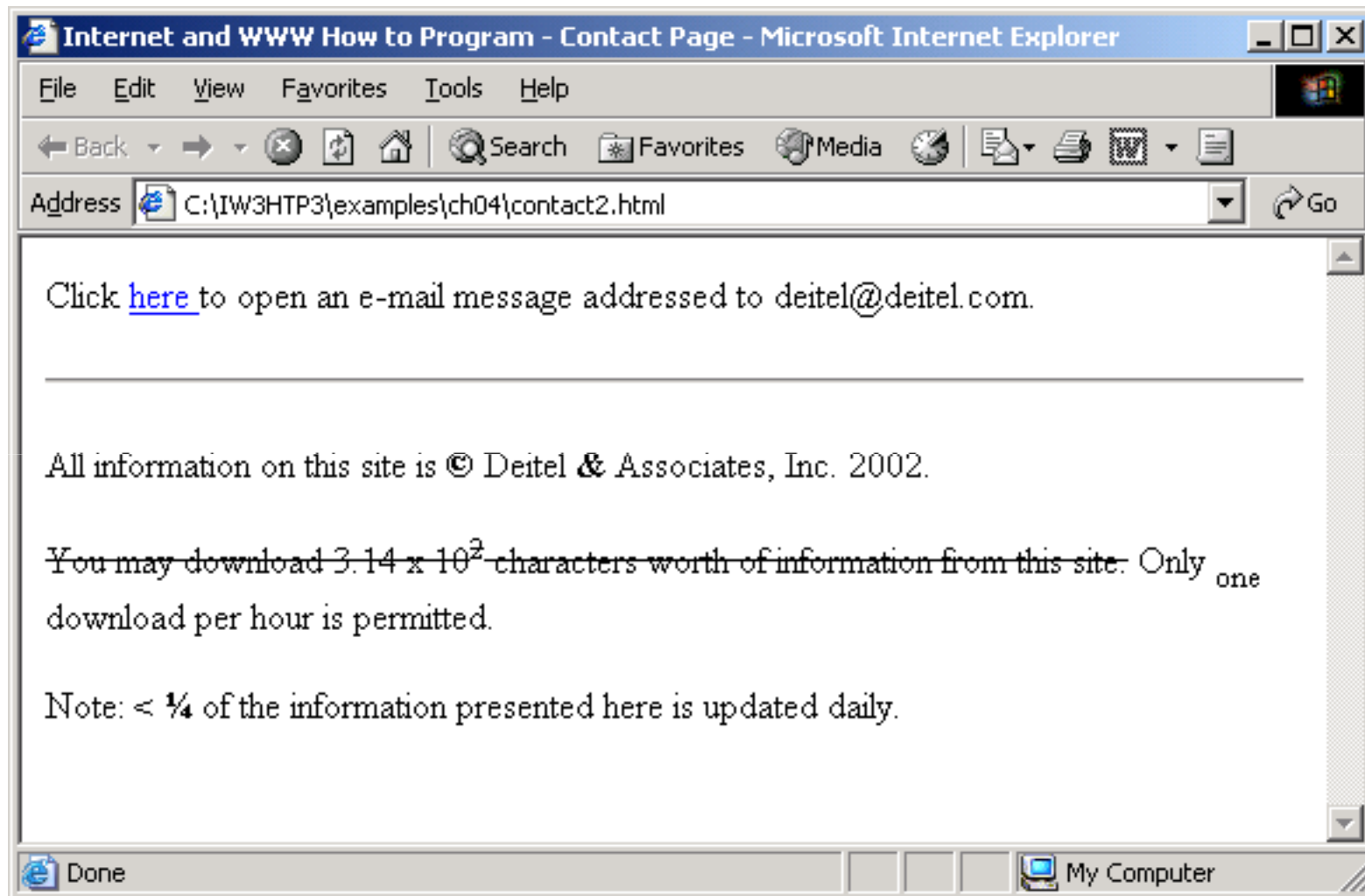


4.8 Special Characters and More Line Breaks

- Character entity references (in the form `&code;`)
- Numeric character references (e.g. `&`)
- `del`
 - Strike-out text
- `sup`
 - Superscript text
- `sub`
 - Subscript text
- `<hr />`


```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.9: contact2.html -->
6 <!-- Inserting special characters -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - Contact Page
11     </title>
12   </head>
13
14   <body>
15
16     <!-- special characters are entered -->
17     <!-- using the form &code; -->
18     <p>
19       click
20       <a href = "mailto:deitel@deitel.com">here
21       </a> to open an e-mail message addressed to
22       deitel@deitel.com.
23     </p>
24
25     <hr /> <!-- inserts a horizontal rule -->
```

```
26
27     <p>All information on this site is <strong>&copy;</strong>
28     Deitel <strong>&amp;</strong> Associates, Inc. 2002.</p>
29
30     <!-- to strike through text use <del> tags    -->
31     <!-- to subscript text use <sub> tags         -->
32     <!-- to superscript text use <sup> tags       -->
33     <!-- these tags are nested inside other tags -->
34     <p><del>You may download 3.14 x 10<sup>2</sup>
35     characters worth of information from this site.</del>
36     only <sub>one</sub> download per hour is permitted.</p>
37
38     <p>Note: <strong>&lt; &frac14;</strong> of the information
39     presented here is updated daily.</p>
40
41     </body>
42 </html>
```



4.9 Unordered Lists

- Unordered list element `ul`
 - Creates a list in which each item begins with a bullet symbol (called a disc)
 - `li` (list item)
 - Entry in an unordered list

```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.10: links2.html          -->
6 <!-- Unordered list containing hyperlinks -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - Links</title>
11   </head>
12
13   <body>
14
15     <h1>Here are my favorite sites</h1>
16
17     <p><strong>Click on a name to go to that page.</strong></p>
18
19     <!-- create an unordered list -->
20     <ul>
21
22       <!-- add four list items -->
23       <li><a href = "http://www.deitel.com">Deitel</a></li>
24
25       <li><a href = "http://www.w3.org">W3C</a></li>
```

```
26
27     <li><a href = "http://www.yahoo.com">Yahoo!</a></li>
28
29     <li><a href = "http://www.cnn.com">CNN</a></li>
30 </ul>
31 </body>
32 </html>
```



4.10 Nested and Ordered Lists

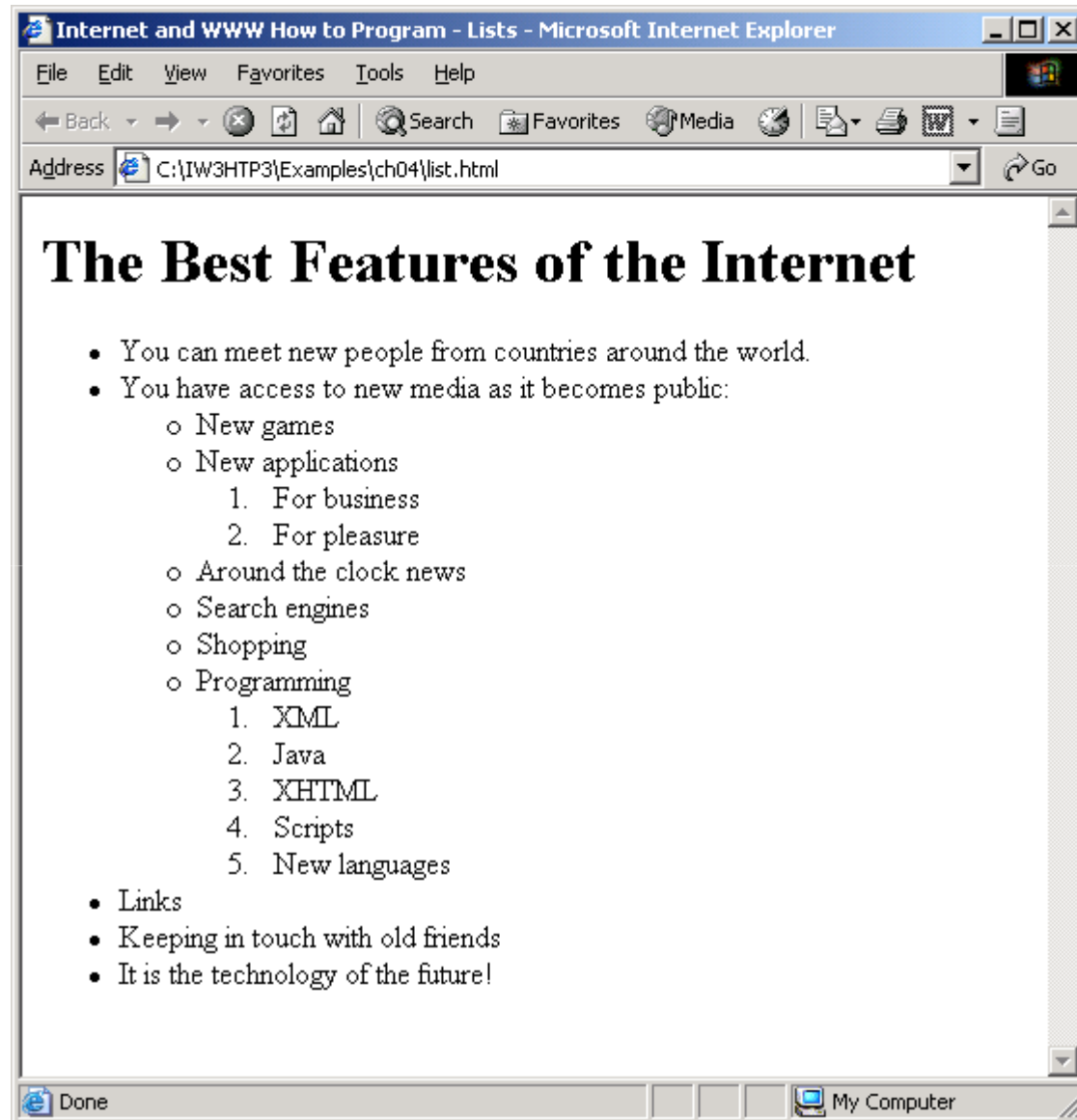
- Represent hierarchical relationships
- Ordered lists (o1)
 - Creates a list in which each item begins with a number

```
1 <?xml version = "1.0"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.1//EN"
3   "http://www.w3.org/TR/xhtml11/DTD/xhtml11.dtd">
4
5 <!-- Fig. 4.11: list.html -->
6 <!-- Advanced Lists: nested and ordered -->
7
8 <html xmlns = "http://www.w3.org/1999/xhtml">
9   <head>
10     <title>Internet and WWW How to Program - Lists</title>
11   </head>
12
13   <body>
14
15     <h1>The Best Features of the Internet</h1>
16
17     <!-- create an unordered list -->
18     <ul>
19       <li>You can meet new people from countries around
20         the world.</li>
21       <li>
22         You have access to new media as it becomes public:
23
```



```
24      <!-- this starts a nested list, which uses a -->
25      <!-- modified bullet. The list ends when you -->
26      <!-- close the <ul> tag. -->
27      <ul>
28          <li>New games</li>
29          <li>
30              New applications
31
32              <!-- nested ordered list -->
33              <ol>
34                  <li>For business</li>
35                  <li>For pleasure</li>
36              </ol>
37          </li>
38
39          <li>Around the clock news</li>
40          <li>Search engines</li>
41          <li>Shopping</li>
42          <li>
43              Programming
44
45              <!-- another nested ordered list -->
46              <ol>
47                  <li>XML</li>
48                  <li>Java</li>
```

```
49         <li>XHTML</li>
50         <li>Scripts</li>
51         <li>New languages</li>
52     </ol>
53
54     </li>
55
56     </ul> <!-- ends the nested list of line 27 -->
57 </li>
58
59 <li>Links</li>
60 <li>Keeping in touch with old friends</li>
61 <li>It is the technology of the future!</li>
62
63 </ul> <!-- ends the unordered list of line 18 -->
64
65 </body>
66 </html>
```



4.11 Web Resources

- www.w3.org/TR/xhtml11
- www.xhtml.org
- www.w3schools.com/xhtml/default.asp
- validator.w3.org
- hotwired.lycos.com/webmonkey/00/50/index2a.html
- wdvl.com/Authoring/Languages/XML/XHTML
- www.w3.org/TR/2001/REC-xhtml11-20010531