Advanced HTML

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Creating Links: Same Directory

- ***Hypertext links*, called *anchors*, enable a reader to move from one HTML document to another**. Creating *a link to a document in the same directory as your main document* is the simplest anchor link to create.
- The HTML code for doing this looks like the following:

```
<a href="filename.html">text that will be linked</a>
```

- In the above example, "filename.html" is known as a relative URL as it points to another file in the same directory. The text that appears after the <a href> tag (text that will be linked), will appear as clickable text to the reader.
- If the reader clicks on this text, he/she will be linked to the HTML document "filename.html".

Source file and Target file

- The file from where the link will reside is named **source** and it is the file that will contain the html code above.
- The file to where the link will connect to is named **target** and it is the file that must be loaded on the browser when the link is clicked.
- The two files may be in the same directory or in different directories on the same computer or in different computers!

Source: link   **Target**:

`Index.html` `------------------------------------->` `filename.html`

- Html code to be written in `index.html`:

`<a href="filename.html">text that will be linked</a>`

Links to files at the same directory

Creating a link from the current html file to another html file named locallink.html.

Both files are located in the same directory

```
<!DOCTYPE html>
<html>
   <head>
      <title>Our first web page</title>
   </head>
   <body>
      <hr>
      <h2>Creating Links in the Same
      directory</h2>
      <hr>
      <a href="locallink.html">information</a>
   </body>
</html>
```

`href` is an attribute of the `a` tag! Attributes take values in quotes ("") and need to be only at the opening tag. A tag may have many attributes.

Creating Links: Other directories

- As you build Web documents, you will create new directories and subdirectories to organize your web of information.
- The Web documents that you link to are not always in the same directory as your main HTML document (index.html).
- The HTML code used to create a link to an HTML document in a different directory, looks like the following:

```
<a href="directoryname/filename.html">text that
will be linked</a>
```

Directories

- If your directory structure was organized like the example shown below: (the bracketed text in bold and italics represent directory names and the non-italicized filenames ending in .html represent HTML files)
- The directory *[html]* contains the file **index.html** and the directory *[files]*
- The directory *[files]* contains the file **web.html** and the directory *[john]*
- The directory *[john]* contains the file **doc.html**

- *[html]*
  └➔ **index.html**
- └➔ *[files]*
- └➔ **web.html**
- └➔ *[john]*
- └➔ **doc.html**

Links to subdirectories

If you were to create a hypertext link from index.html to web.html, and to doc.html then you would enter the following HTML code in index.html to create the links

[html]

➤ **index.html**

➤ *[files]*

  ➤ **web.html**

  ➤ *[john]*

    ➤ **doc.html**

```
<!DOCTYPE html>
<html>
    <head>
        <title>Our first web page</title>
    </head>
    <body>
        <hr>
        <h2>Creating Links in sub-directories</h2>
        <hr>
        <p>This page is index.html</p>
        <a href="files/web.html">link to the web.html</a>
        <br>
        <a href="files/john/doc.html">link to the doc.html</a>
    </body>
</html>
```

Links to parent directories using "../"

If you were to create a hypertext link from doc.html to web.html, and to index.html then you would enter the following HTML code in doc.html to create the links

```
[html]
  index.html
  [files]
    web.html
    [john]
      doc.html
```

```
<!DOCTYPE html>
<html>
    <head>
        <title>Our first web page</title>
    </head>
    <body>
        <hr>
        <h2>Creating Links in sub-directories</h2>
        <hr>
        <p>This page is doc.html </p>
        <a href="../web.html">link to the web.html</a>
        <br>
        <a href="../../index.html">link to the index.html</a>
    </body>
</html>
```

The two periods (..) indicate the parent directory of the HTML file from where you create the link.

How to calculate the relative path

- Write the absolute path of the source file e.g.:
  - C:\MyDocs\html\index.html
- Write the absolute path of the target file e.g.:
  - C:\MyDocs\html\files\web.html
- In both files "cancel out" the common directories:
  - ~~C:\MyDocs\html~~\index.html
  - ~~C:\MyDocs\html~~\files\web.html
- Substitute all directory names left in the source path with ..
  - ~~C:\MyDocs\html~~\index.html
  - ~~C:\MyDocs\html~~\files\web.html
- Delete the file name of the source file
  - ~~C:\MyDocs\html\index.html~~
  - ~~C:\MyDocs\html~~\files\web.html
- The relative path is what is left from the source path + what is left from the target path
  - ~~C:\MyDocs\html\index.html~~ + ~~C:\MyDocs\html~~\files\web.html

An other example

- Write the absolute path of the source file e.g.:
    - C:\MyDocs\html\files\more\joe.html
- Write the absolute path of the target file e.g.:
    - C:\MyDocs\www\web\jack.html
- In both files "cancel out" the common directories:
    - C:\MyDocs\html\files\more\joe.html
    - C:\MyDocs\www\web\jack.html
- Substitute all directory names left in the source path with ..
    - C:\MyDocs\html\files\more\joe.html
    - C:\MyDocs\www\web\jack.html
- Delete the file name of the source file
    - C:\MyDocs\html\files\more\joe.html
    - C:\MyDocs\www\web\jack.html
- The relative path is what is left from the source path + what is left from the target path
    - ..\..\ + www\web\jack.html = ..\..\www\web\jack.html

Creating Links: To World Internet Sites

- The HTML code to ***create a link to an HTML document on another world Internet site*** looks like the following:
  - ```
    <a href="URL">text that will be linked</a>
    ```
- For example, let's say you wanted a link in your HTML document to the ACM Home Page. The code to create this link would look like the following:
- ```
  <a href="http://www.acm.org">Association for Computing Machinery</a>
  ```
- Note that **URL's are always case-sensitive**.

Absolute path links

Link to another page on the web by giving the url!

```
<!DOCTYPE html>
<html>
   <head>
      <title>Our first web page</title>
   </head>
   <body>
      <hr>
      <h2>Creating Links to other websites on
      the web</h2>
      <hr>
      <a href="http://www.acm.org">link to the
      ACM start page</a>
      <br>
      <a href="http://www.google.com">link to
      the Google</a>
   </body>
</html>
```

Link to Sections in the Same Page

- To link to text within a Web page you will use the **id="text"** attribute. This attribute ***allows you to quickly scroll to a particular section of your page***.
- It is **not recommended** that you use this approach **for short documents** as this may seem obtrusive to your readers.
- Creating links to sections in the same page is a two step process:

  1. ***Create a named anchors at the places in your document you want to link to, using the `<a>` tag and the attribute `id=`***".
  2. Make sure that each `id=`" takes a **unique** value .
  3. ***create an index at the top of your page***. This index will allow these reading your document the opportunity to link to the various sections (named anchors) in the page in the usual way. The values to the `href=`" attribute should be what you used in the `id=`" you want to link to, preceded by a ***#***

1. The HTML code to create a named anchor looks like the following:

   ○ `<a id="text">text that acts as a 'hidden' link</a>`

   ○ Replace "text" with a word that will reference the link.

2. The HTML code to write a link to your named anchor looks like the following:

   ○ `<a href="#text">text that will be linked to section in same page</a>`

   ○ The **# *symbol instructs your Web browser to look through the HTML document for a named anchor called "text"*.** When you click on the hypertext, it brings the part of the document that contains the named anchor to the top of the screen.

Example of links to part of a page

We can edit all the headers we have in a document to look like the following:

Notice that the last named anchor is "Horizontal" and not "Entering" as we have already used "Entering" as a named anchor in this document.

```html
<!DOCTYPE html>
<html>
    <head>
        <title>Our first web page</title>
    </head>
    <body>
        <ul>
            <li><a href="#What">What is a Markup
            Language?</a></li>
            <li><a href="#The">The Hypertext Markup
            Language-HTML</a></li>
            <li><a href="#Headings">Headings</a></li>
            <li><a href="#Entering">Entering Text
            Breaks</a></li>
            <li><a href="#Horizontal">Entering Horizontal
            Lines</a></li>
        </ul>

        <h1><a id="What">What is a Markup
        Language?</a></h1>
        <h2><a id ="The">The Hypertext Markup Language-
        HTML</a></h2>
        <h2><a id ="Headings">Headings</a></h2>
        <h2><a id ="Entering">Entering Text
        Breaks</a></h2>
        <h2><a id ="Horizontal">Entering Horizontal
        Lines</a></h2>
    </body>
</html>
```

Link to Sections in Another Page

- To link to text within another page, you will use the following HTML code:

- `<a href="file.html#NAME">text that will be linked in another document </a>`

Graphics as Hyperlinks

- In some instances, it may be more effective to use a graphic as the hyperlink. For example, the forward pointing arrow on the introductory page that is used to indicate moving forward to the next logical section.
- To **create a graphic as a hyperlink**, you will use the following HTML code:

```
<a href="filename.html">
<img src="graphic.gif" alt="alternate text"> </a>
```

- The alternate text attribute, ALT="alternate text" , is necessary as text only browsers will display "alternate text" as the hyperlink instead of the graphical icon (graphic.gif).

Linking One Image to Another Image

- Graphics are becoming a common and very popular media utilized in Web documents. However, ***remember that graphics greatly increase the size of your document and the time it takes for someone to load it***. A single graphics file can be the size of 30 hypertext documents! Therefore, you must work with graphics very carefully. Consider your users.

- One way in which you can limit the size of your graphics is by using smaller "thumbnail" images. Thumbnail images are miniature size copies of the graphics. The thumbnail image acts as a hyperlink that links to the full size image. In this way, the large image is downloaded only if the user decides to view it.

Linking One Image to Another Image

- It is possible to link one image (thumbnail image) to another image (full size image) using the following code:

```
<a href="big-graphic.gif"><img src="small-
  graphic.gif"/></a>
```

Linking to images in other directories

To create a Link From One Image to Another Image open the file locallink.html and enter the following text:

```html
<!DOCTYPE html>
<html>
   <head>
      <title>Our first web page</title>
   </head>
   <body>
        <hr>
        <h2> Linking One Image to Another
        Image</h2>
        <hr>
        <p> This small image links to another
        larger image
        <a href="../images/thumbpic.gif">
           <img src="../images/normpic.gif"
           alt="My Picture">
        </a>
      </p>
   </body>
</html>
```