

# Lecture #5

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NEWM N510: Web-Database Concepts

## HTML (1)

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## Review Last Lecture

- Database Design Process
- Entity Relationship Diagram
- MySQL Workbench
- MySQL Installation
- MySQL Administration
- MySQL Migration

# HTML in a Nutshell

1. Web Server Overview
2. HTML Editor (Notepad++)
3. FTP Client (FileZilla)
4. html Introduction
5. HTML: Elements
6. HTML: Basic Tags
7. HTML: Formatting
8. HTML: Entities
9. HTML: Links (URLs)
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12. HTML: Body Attributes
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15. HTML: Block Elements
16. HTML: Head
17. HTML: DTD (Meta)
18. HTML: Styles (CSS)
19. HTML: Scripts (JS)
20. HTML: Forms (Get/Post)

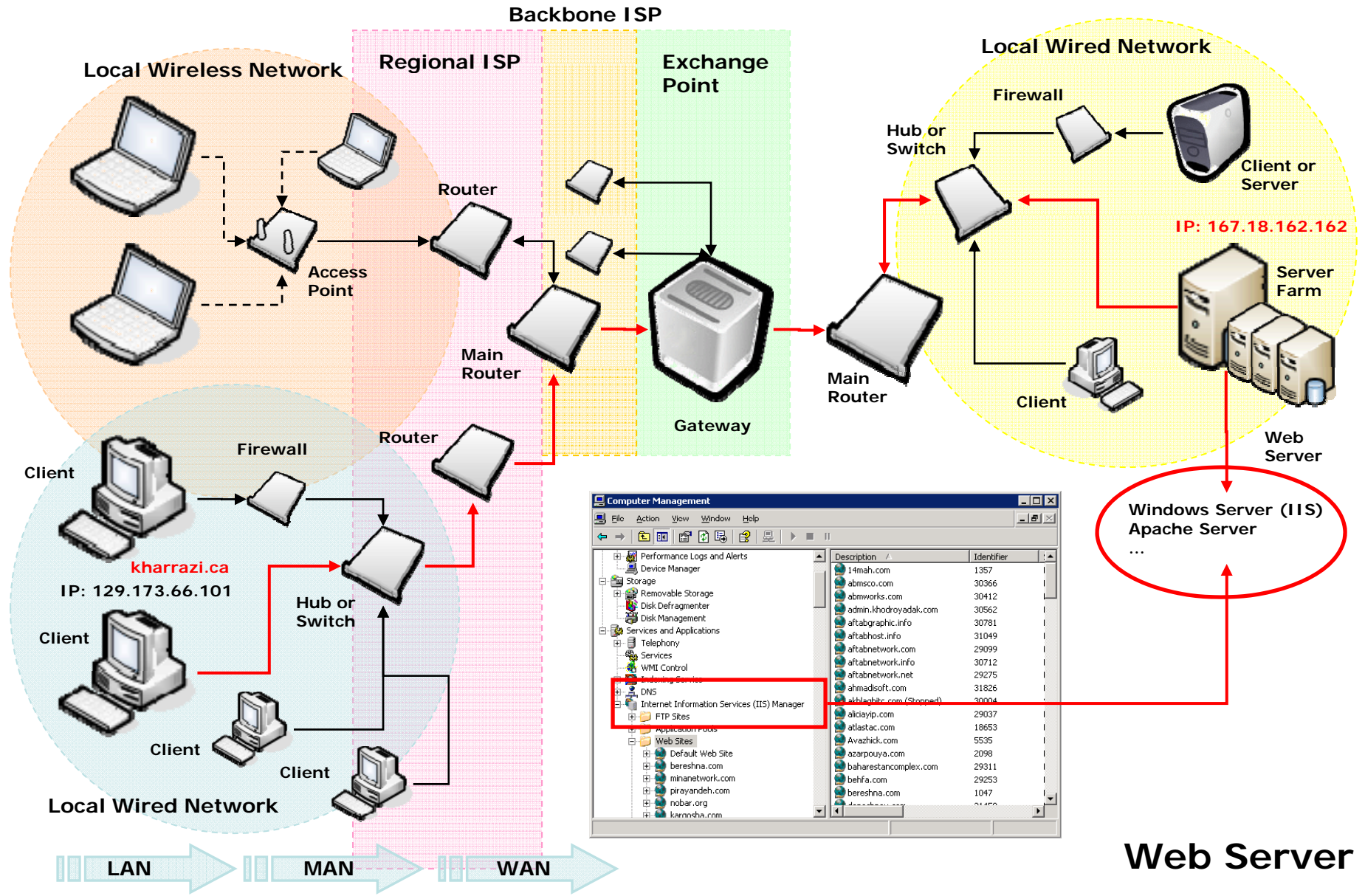
# Lecture in a Nutshell

1. Web Server Overview
2. HTML Editor (NotePad++)
3. FTP Client (FileZilla)
4. html Introduction
5. HTML: Elements
6. HTML: Basic Tags
7. HTML: Formatting
8. HTML: Entities
9. HTML: Links (URLs)
10. HTML: Fonts
11. HTML: Colors
12. HTML: Body Attributes

# 1. Web Server Overview

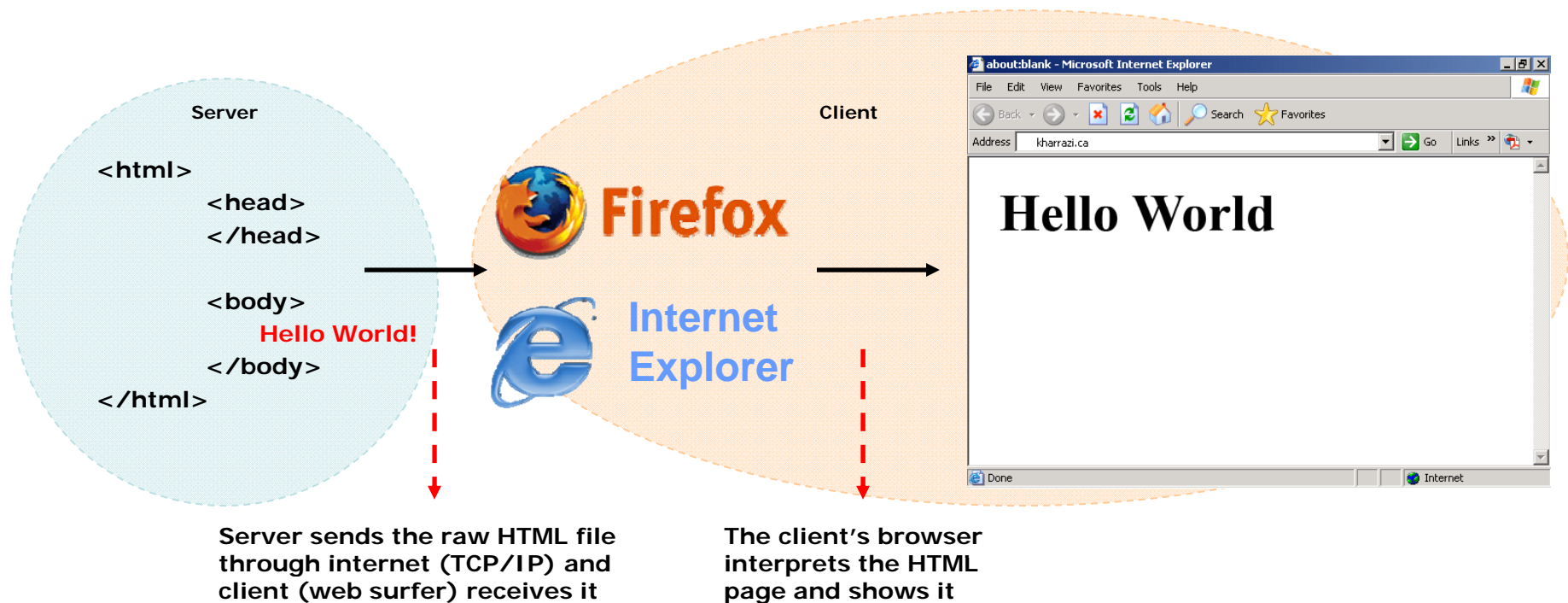
The term web server can mean one of two things:

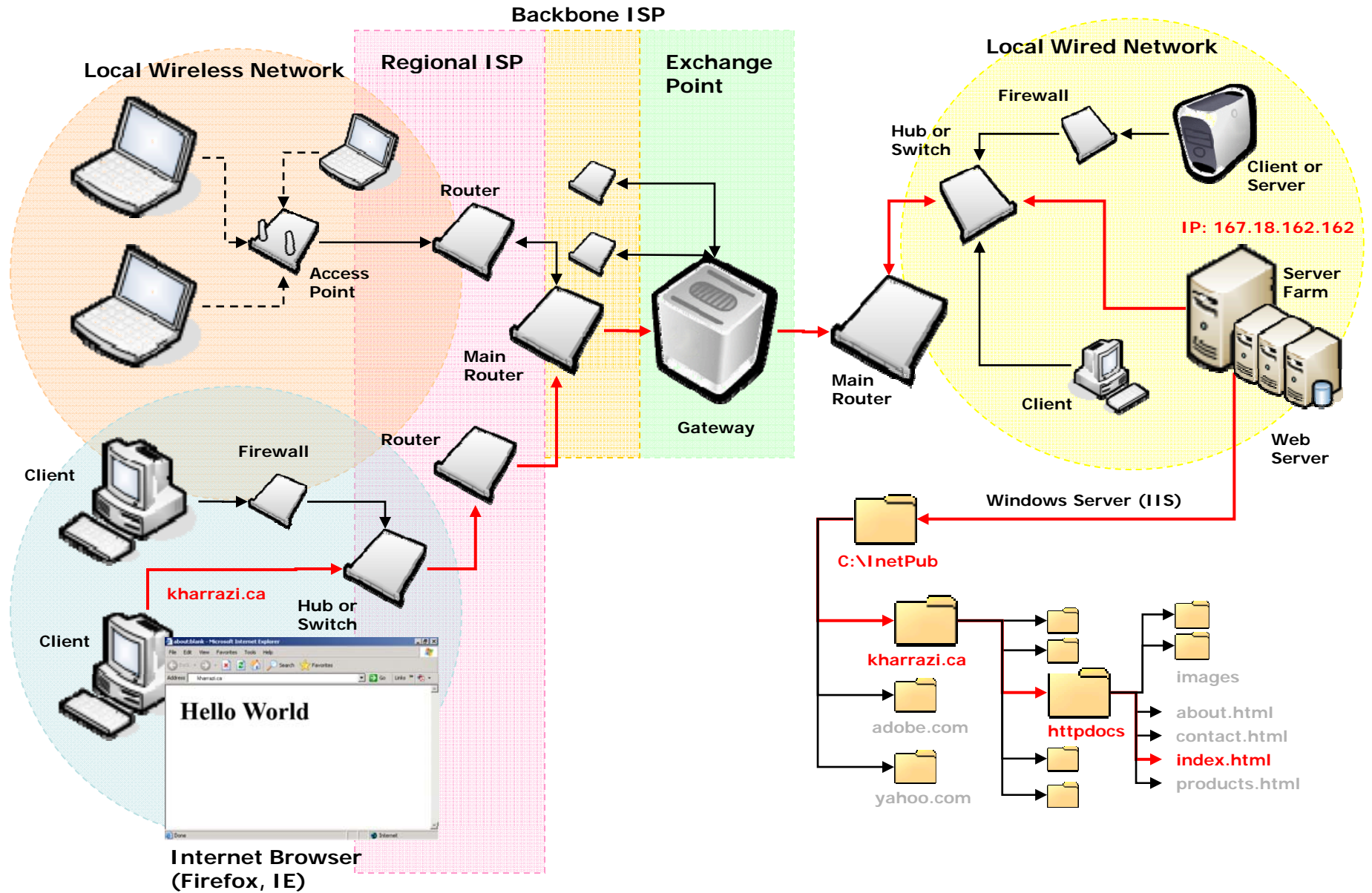
1. A computer responsible for serving web pages, mostly HTML documents, via the HTTP protocol to clients, mostly web browsers. Servers can have different Operating Systems such as Microsoft Windows, Mac OS, Linux, UNIX and FreeBSD.
2. A software program that is working as a daemon serving web documents such as Apache Server (Open Source) or Internet Information Server - IIS (Microsoft/Commercial).



## Web Server Overview(cont.)

- HTML (Hypertext Markup Language) is the document format language used on the World Wide Web. Web browsers read HTML and display the page.
- Sample code (tags):



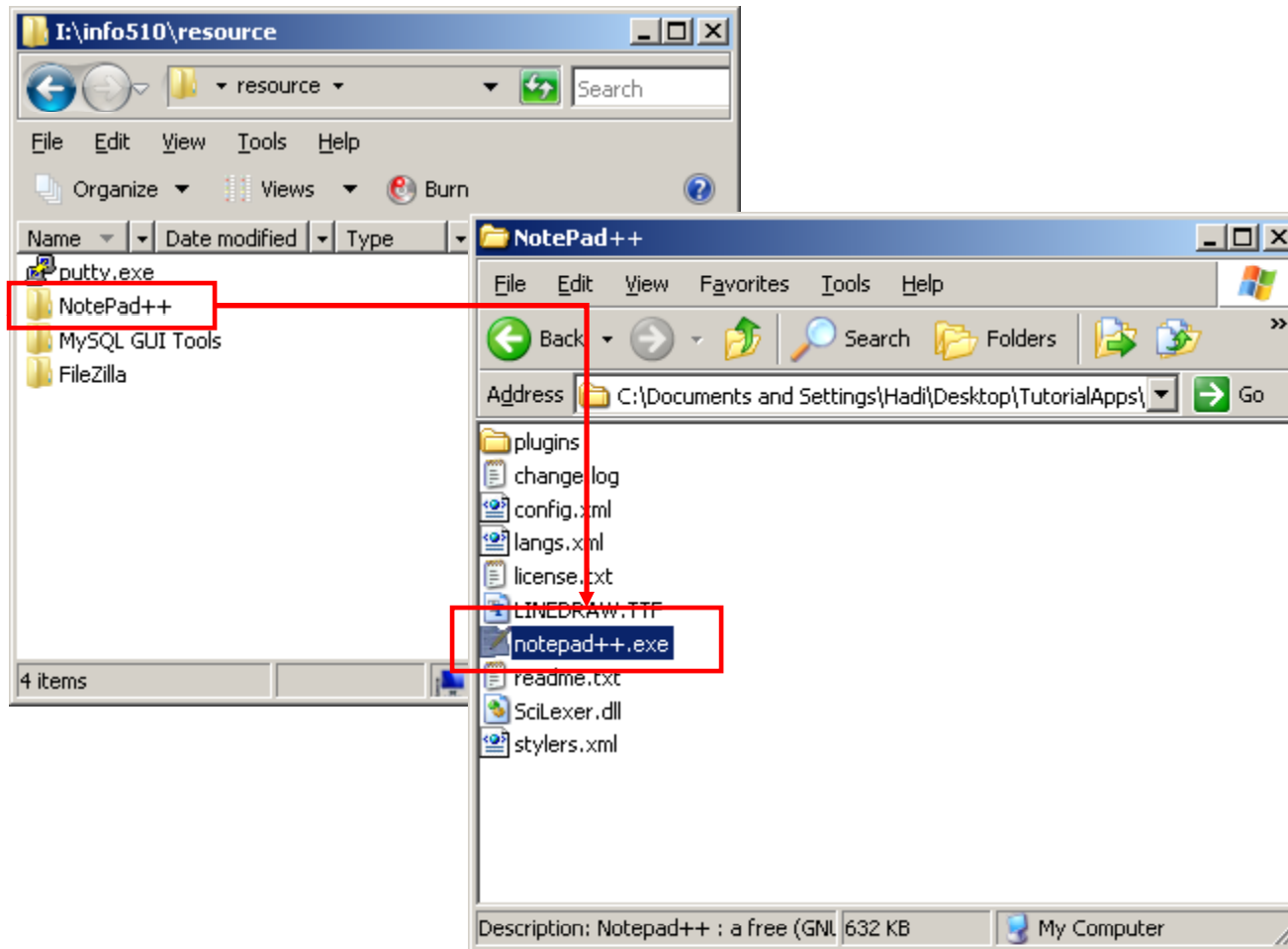




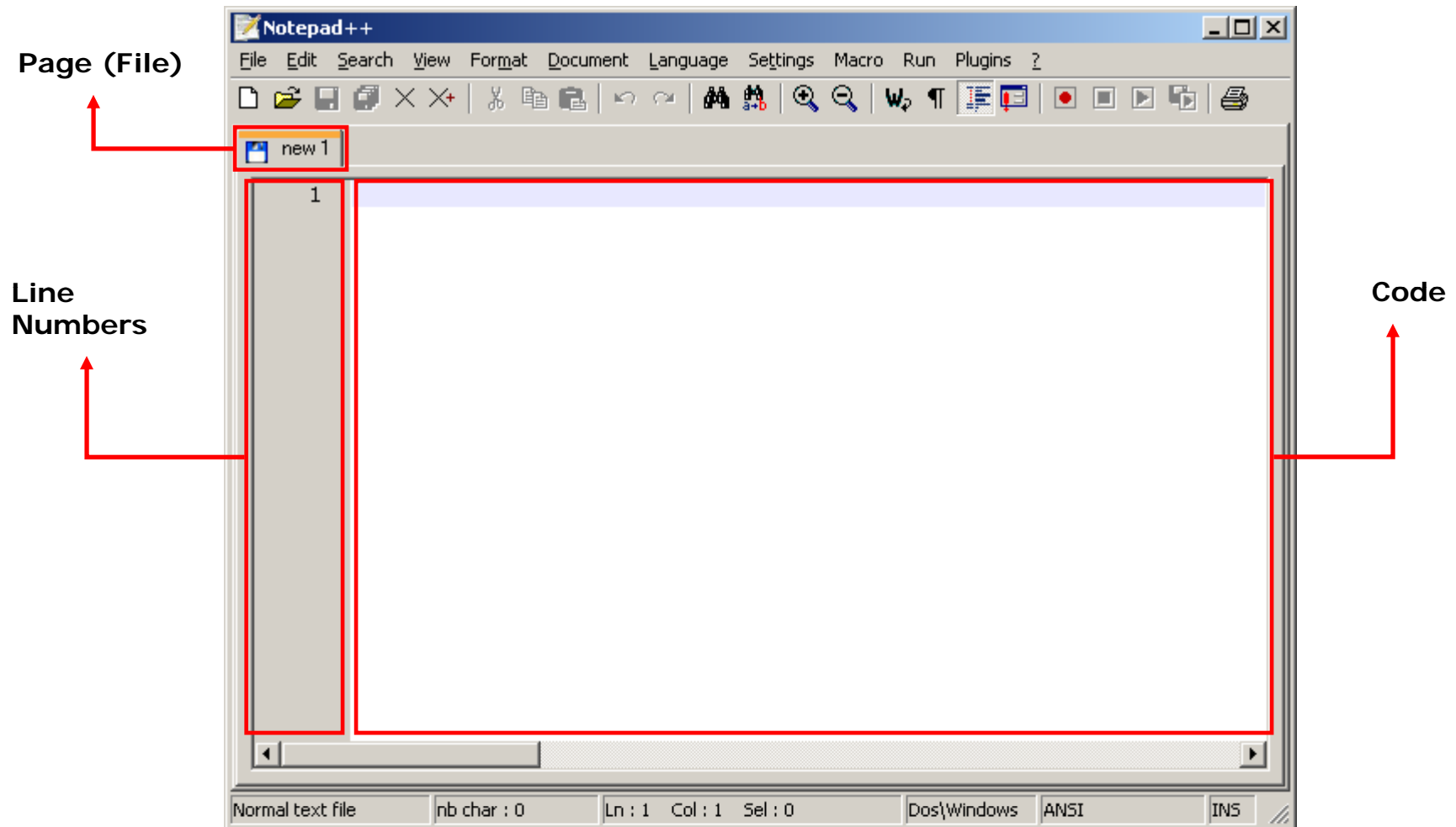
## 2. HTML Editor (Notepad++)

- An IDE (integrated development environment) is an application or set of tools that allows a programmer to write, compile, edit, and in some cases test and debug within an integrated, interactive environment.
- NotePad++ is NOT a full feature IDE, but it is a simple and useful code editor which will help us writing codes in many languages such as HTML, PHP and etc. Some of the features for NotePad++ is:
  - Syntax Highlighting (Colored Coding)
  - Tabbed Navigation
  - Code Completion
  - Code Folding
  - Free (Open Source)

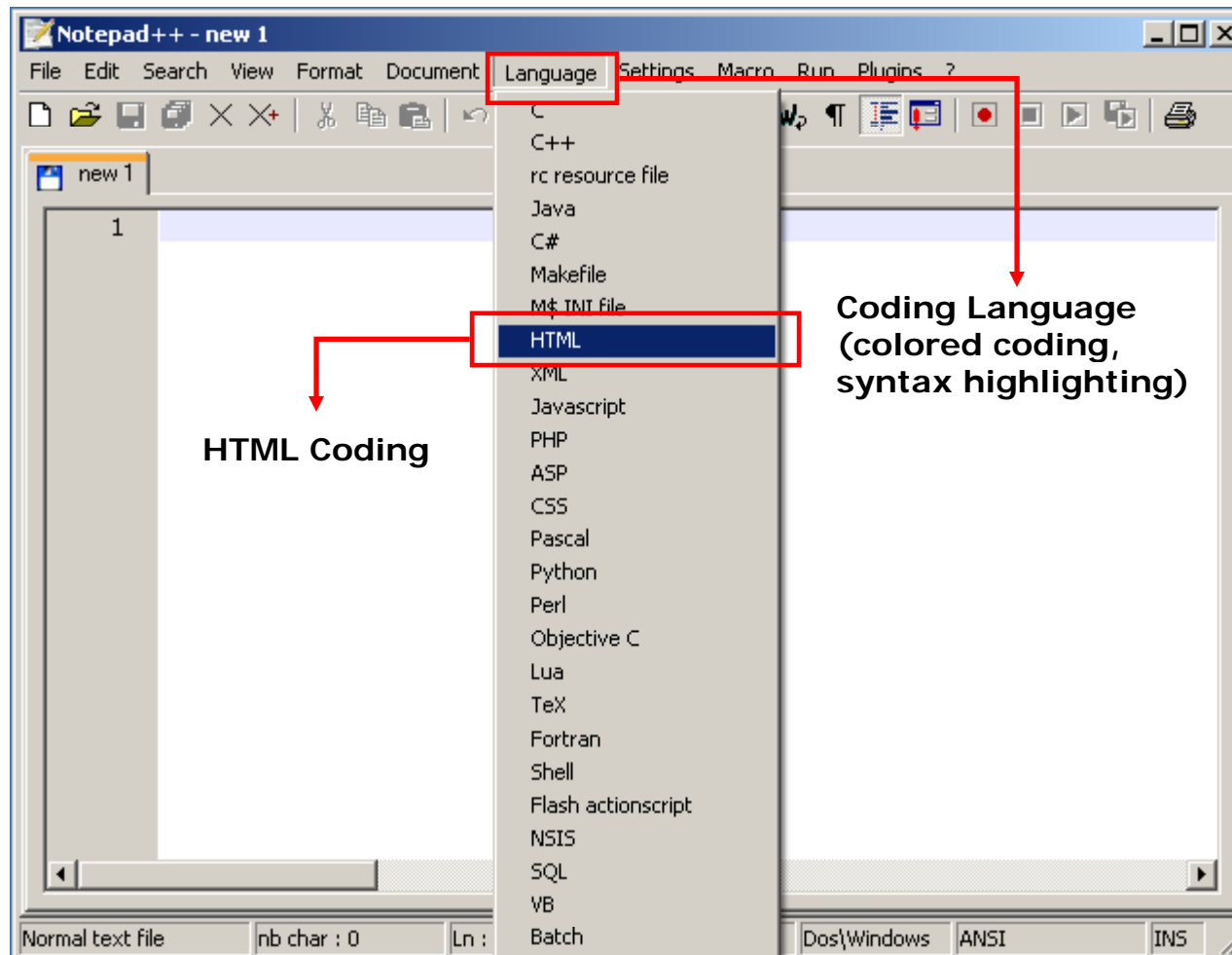
## HTML Editor (cont.) – NotePad++



## HTML Editor (cont.) – NotePad++



## HTML Editor (cont.) – NotePad++



## *HTML Editor (cont.) – NotePad++*

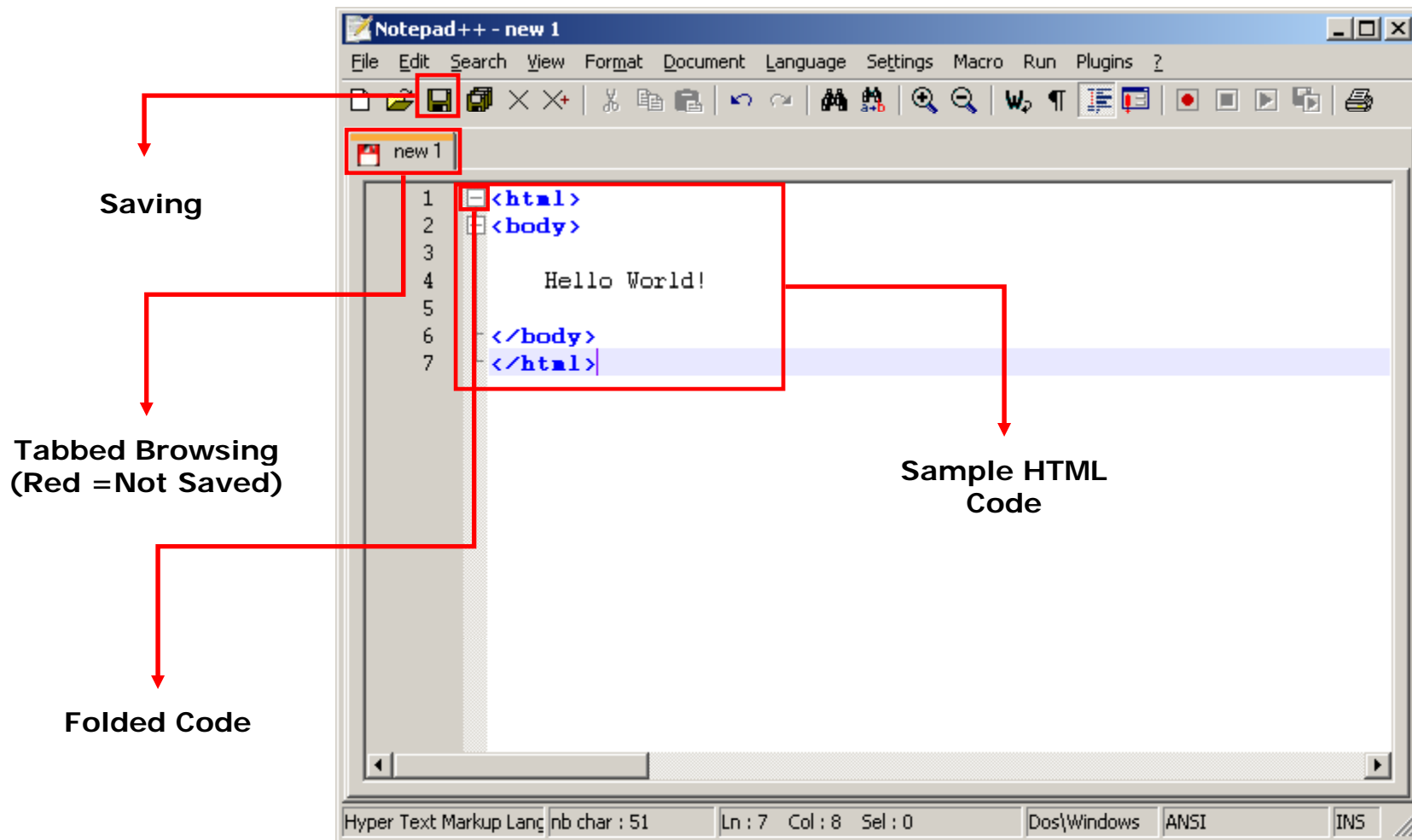
### **Sample HTML Code:**

```
<html>  
<body>
```

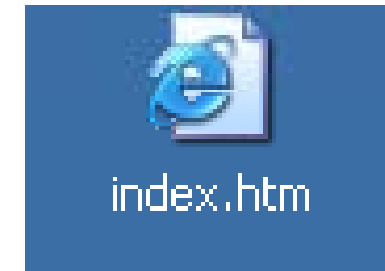
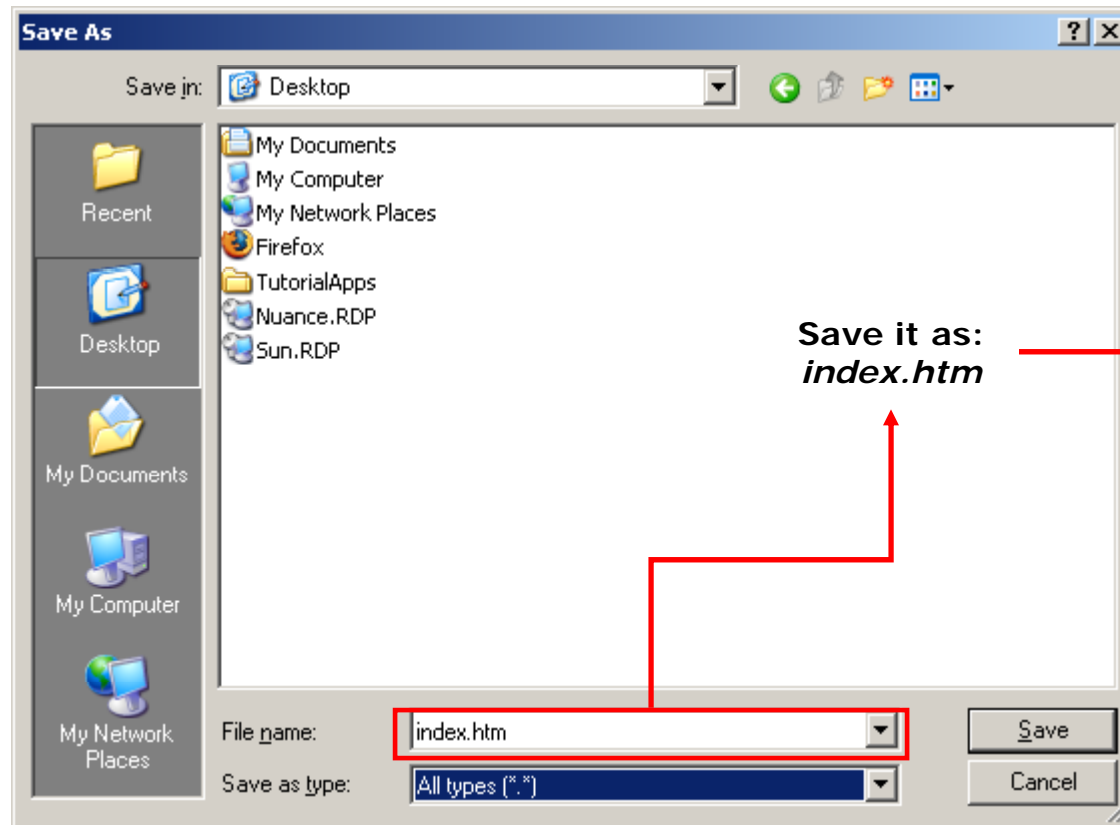
Hello World!

```
</body>  
</html>
```

## HTML Editor (cont.) – Notepad++

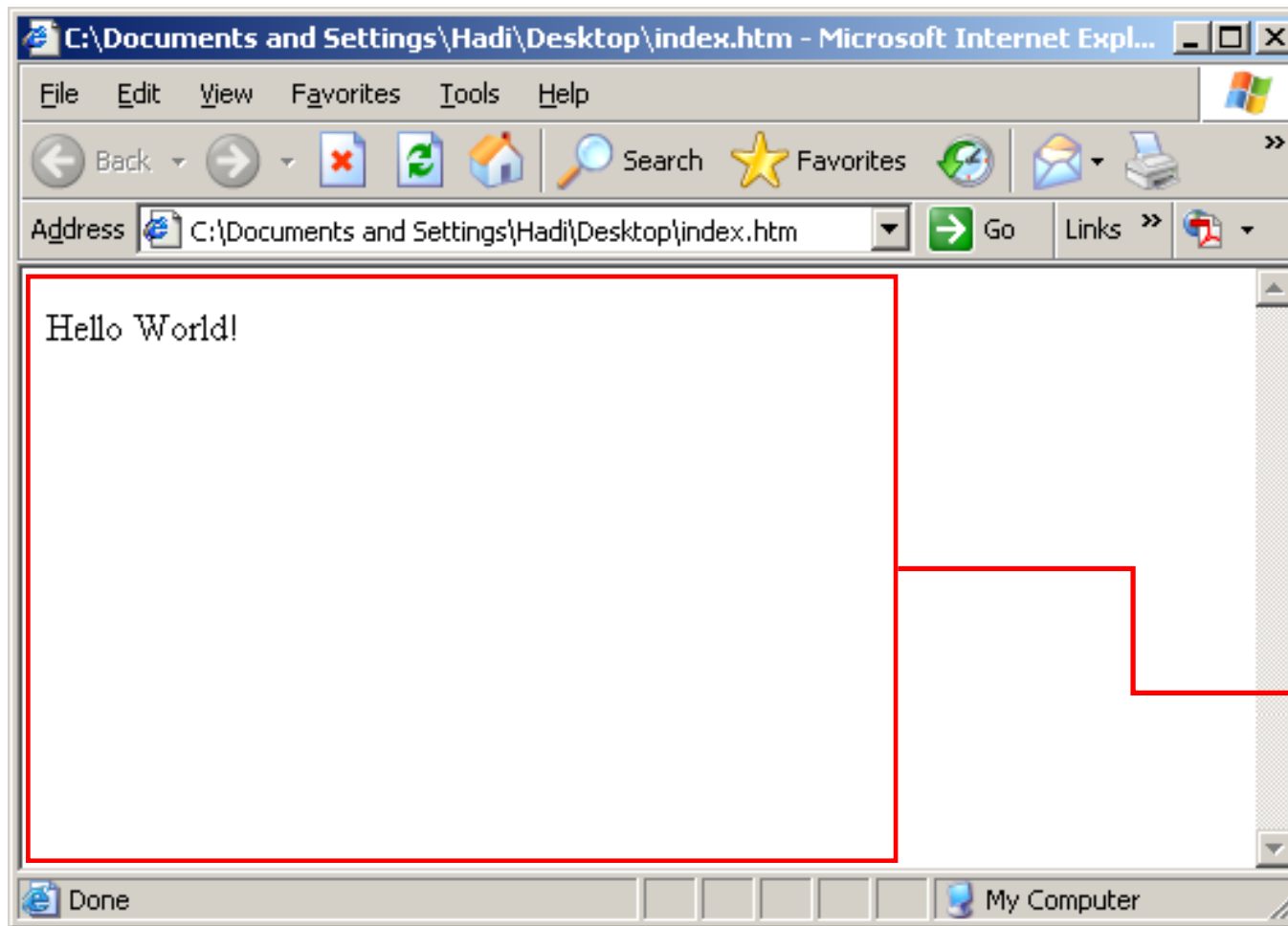


## HTML Editor (cont.) – NotePad++



Double Click on:  
*index.htm*

## HTML Editor (cont.) – NotePad++



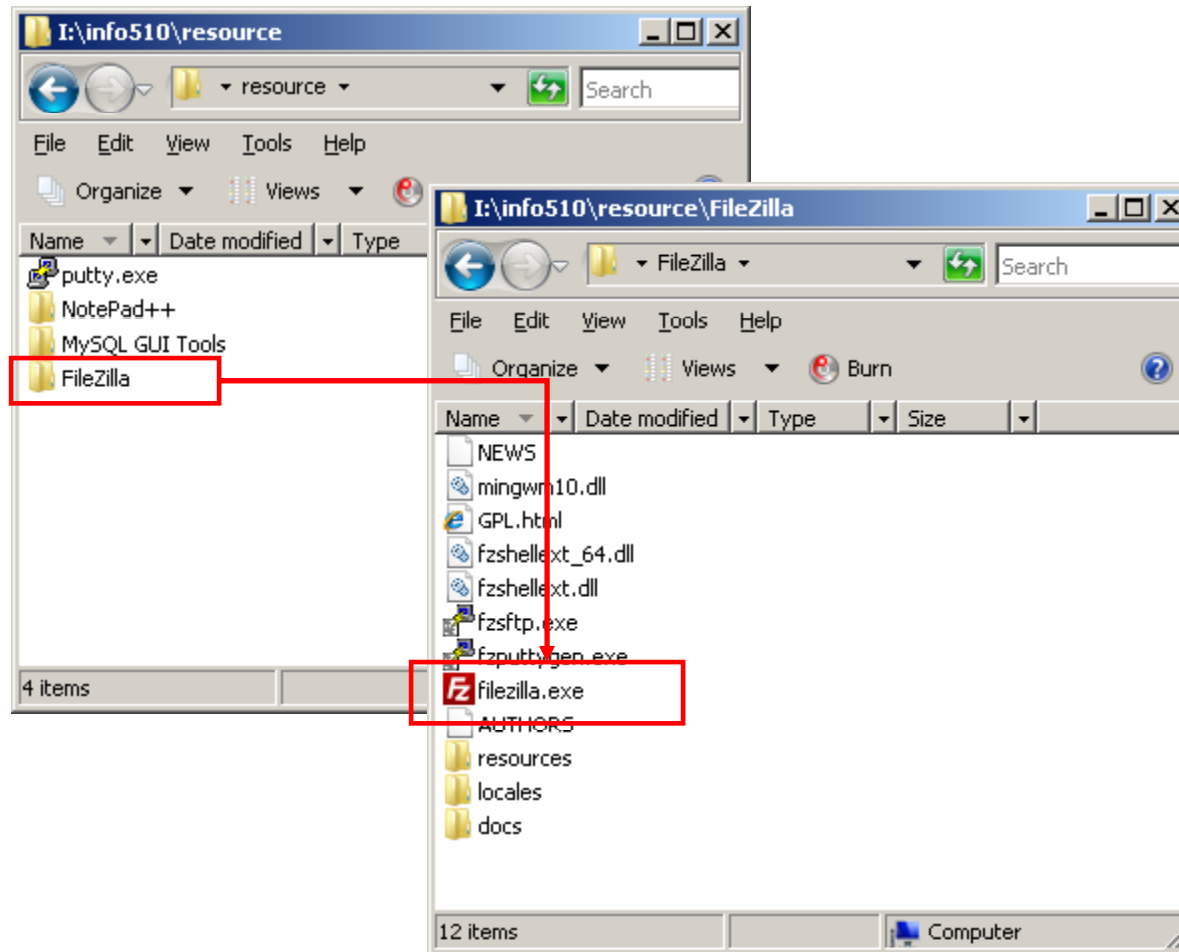
**Internet Explorer  
or Mozilla FireFox  
can translate  
(decode) your  
html file**



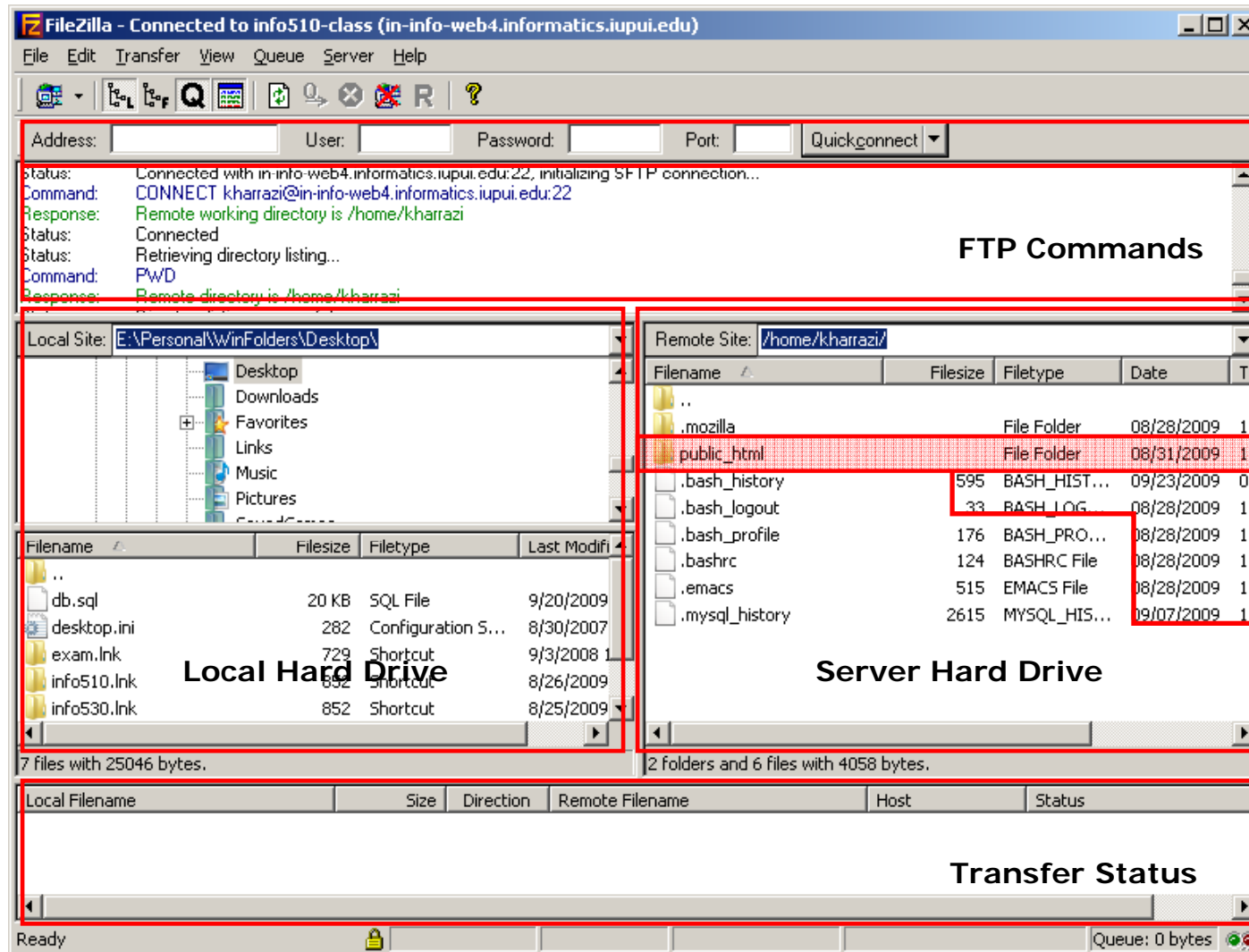
### 3. FTP Client (FileZilla)

- **FTP SERVER:** A server that a user can contact in order to transfer files by means of the File Transfer Protocol (FTP) over a TCP/IP network. Our CS server is running an FTP server on its Apache web server.
- **FTP CLIENT:** An FTP client uses the FTP protocol to connect to an FTP server to transfer files. FileZilla is an open source (free) ftp client. You will use FileZilla to upload your HTML or PHP files, which you created by NotePad++ , to the CS server.

## FTP Client (cont.) – FileZilla



## FTP Client (cont.) – FileZilla



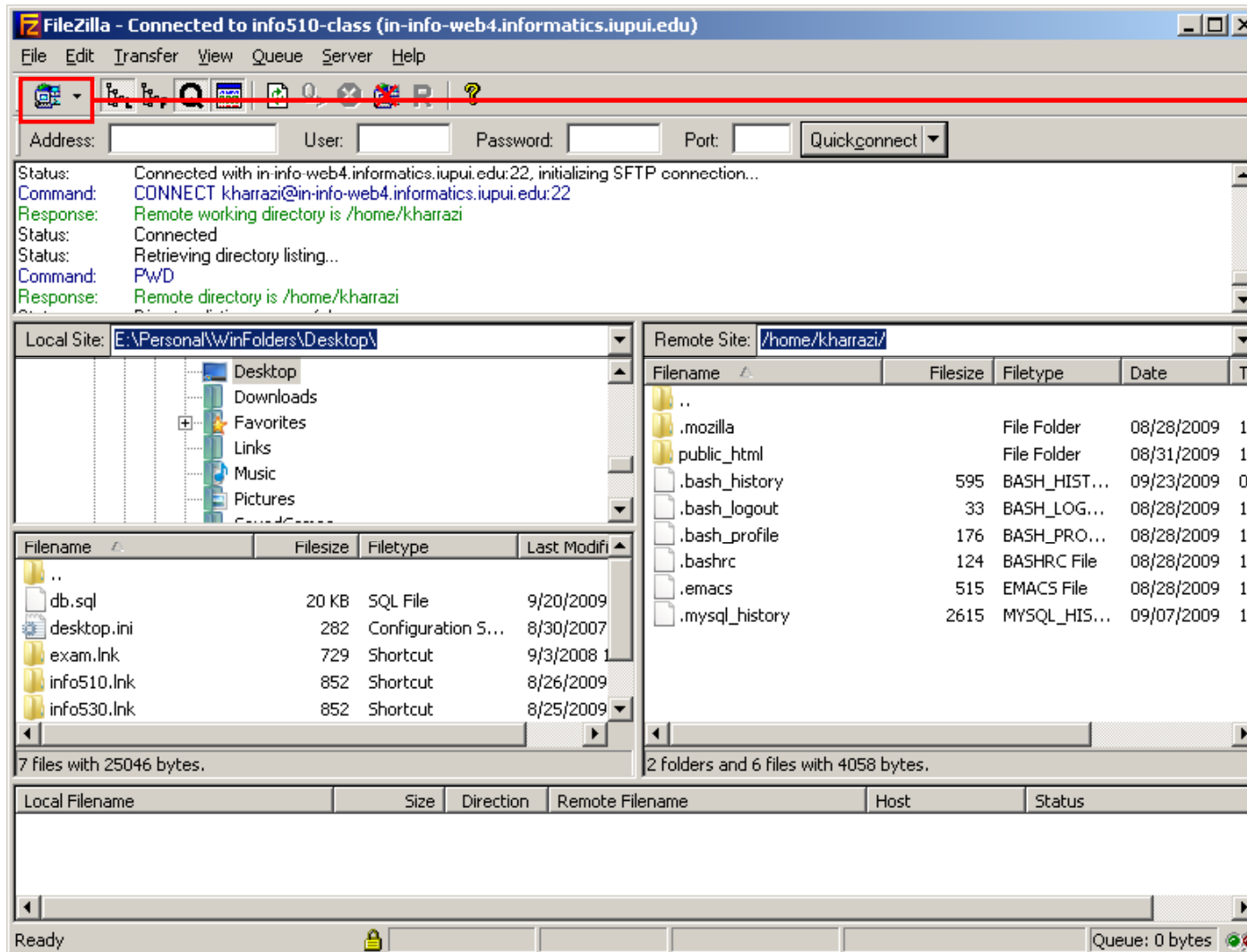
Server Name:  
*in-info-web4.informatics.iupui.edu*

User/Pass?

Port: **21** (FTP)  
Port: **22** (SFTP)

The folder that is open to internet (port 80) is:  
*public\_html*

## FTP Client (cont.) – FileZilla



New Site

## FTP Client (cont.) – FileZilla

The screenshot shows the FileZilla 'Site Manager' dialog box. The 'File' list on the left contains a site named 'info510-class', which is highlighted with a red box and labeled '2'. Below the list, the 'New Site' button is highlighted with a red box and labeled '1'. The 'Site details' section on the right is also highlighted with a red box and labeled '3'. This section contains the following configuration:

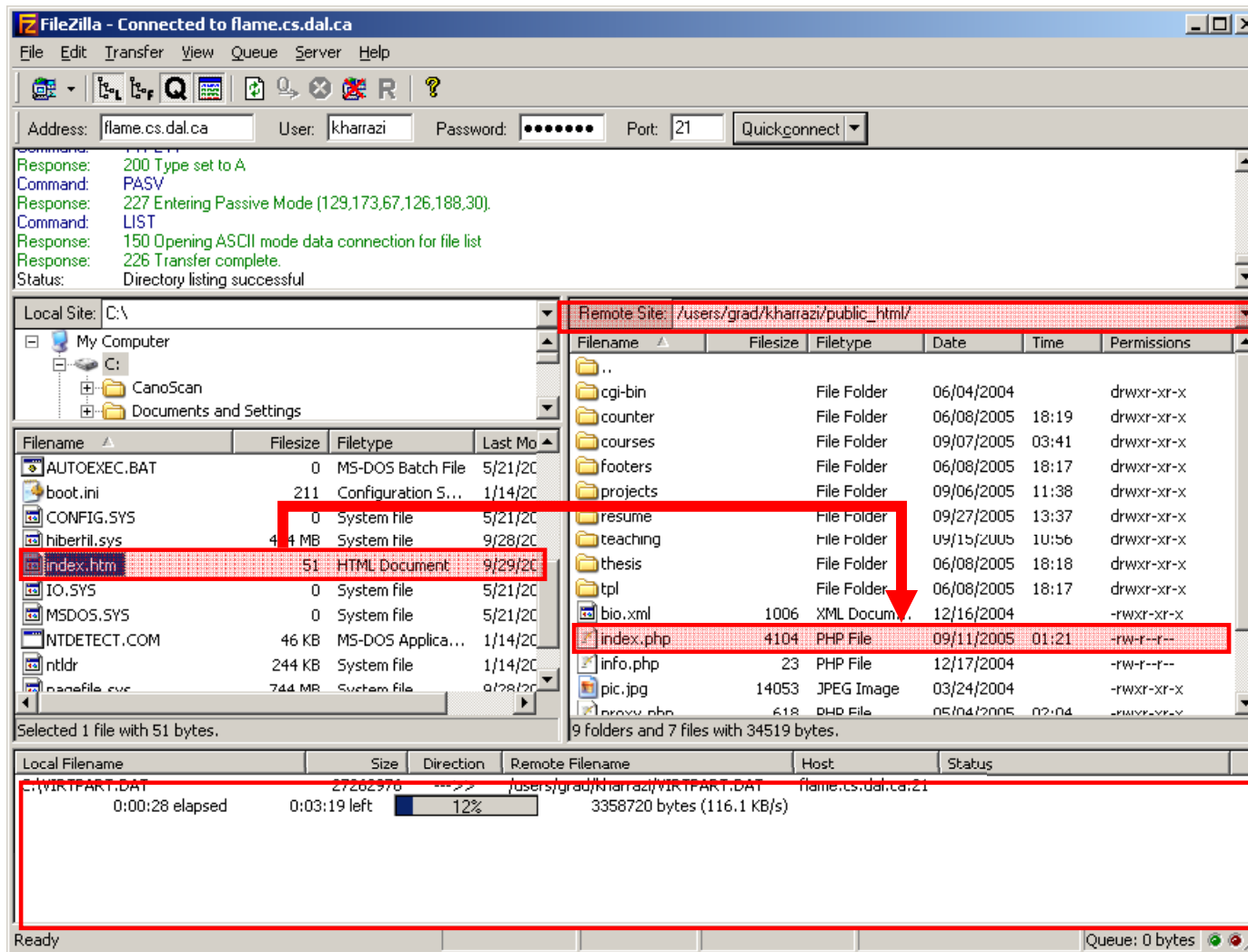
- Host: in-info-web4.informatics.iupui.edu
- Port: 22
- Servertype: SFTP using SSH2
- Logontype:  Normal
- User: kharrazi
- Password: [masked]
- Don't save password:
- Comments: [empty]
- Default site:

At the bottom of the dialog, the 'Save and Exit' button is highlighted with a red box and labeled '4'. To the right of the dialog, the server name and port are summarized:

**Server Name:**  
*in-info-web4.informatics.iupui.edu*

**Port: 22 (SFTP)**

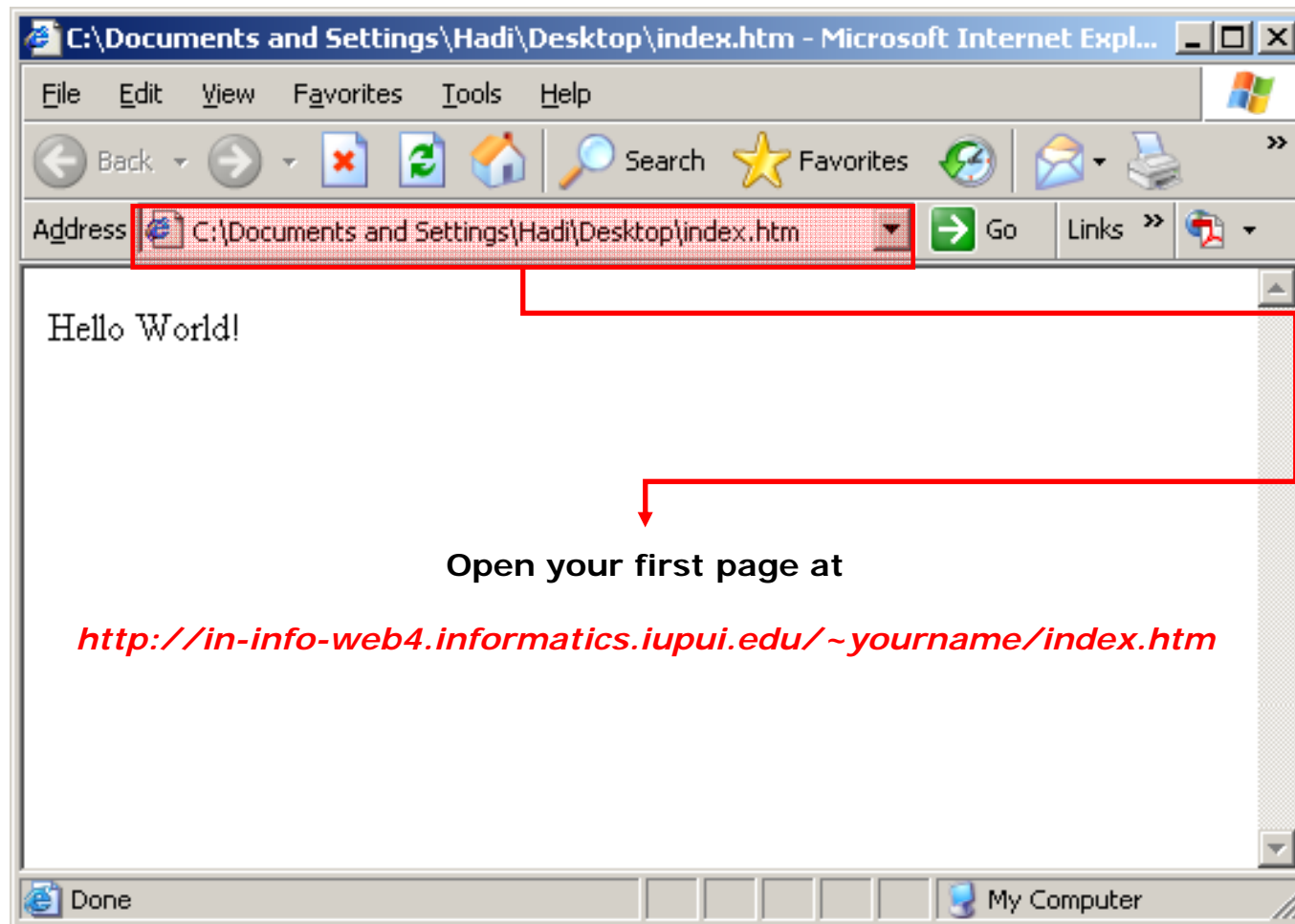
## FTP Client (cont.) – FileZilla



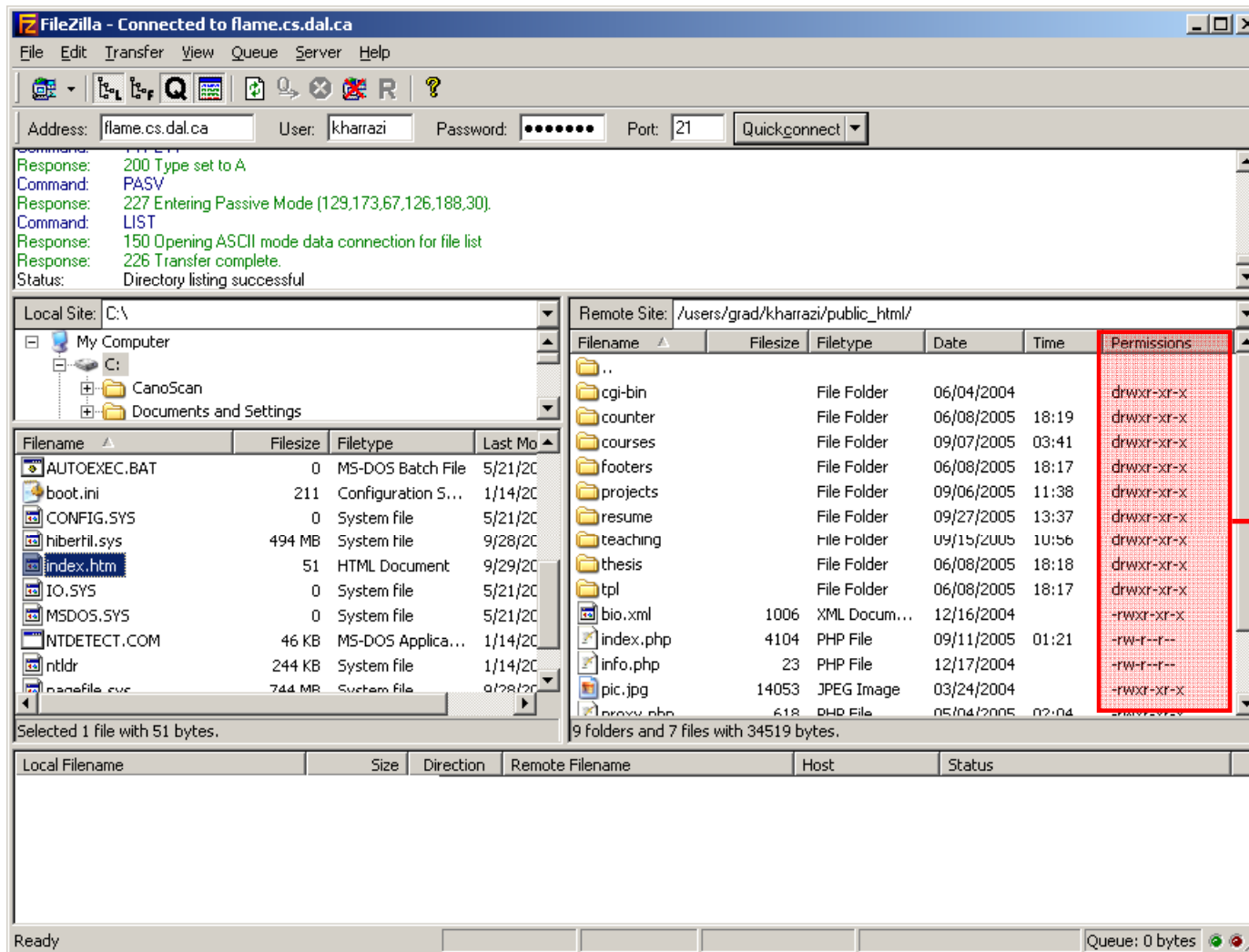
The folder that is open to internet (port 80) is: **public\_html**

## FTP Client (cont.) – FileZilla

Internet Explorer or FireFox



## FTP Client (cont.) – FileZilla



Permissions  
*UNIX/Apache*



## *FTP Client (cont.) – FileZilla*

- **File Permissions in UNIX:** Unix files and folders are protected on three different levels: User (Yourself), Group and Other (Public).
- These settings are called *CHMOD* which should be defined for all files and folders in your account.

Please refer to the following link for more information regarding setting the UNIX file permissions:

<http://www.akamarketing.com/unix-files-permissions.html>

## FTP Client (cont.) – FileZilla

- File Permissions in UNIX:

Permissions  
*UNIX/Apache*

	r	w	x
Value	Read	Write	Execute
0	N	N	N
1	N	N	Y
2	N	Y	N
3	N	Y	Y
4	Y	N	N
5	Y	N	Y
6	Y	Y	N
7	Y	Y	Y

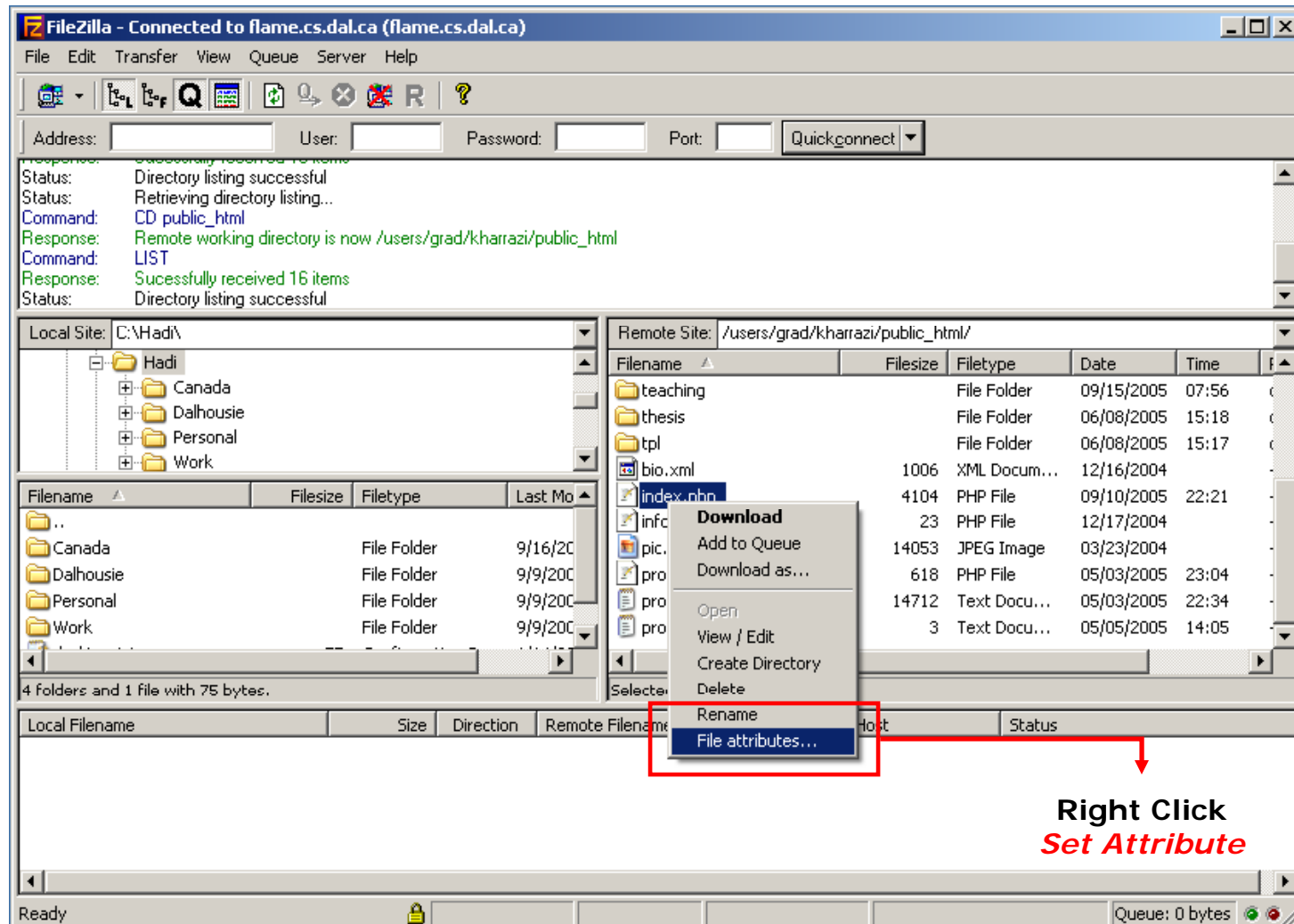
	Read	Write	Execute
Permission value	4	2	1

4 = 4x1 + 2x0 + 1x0

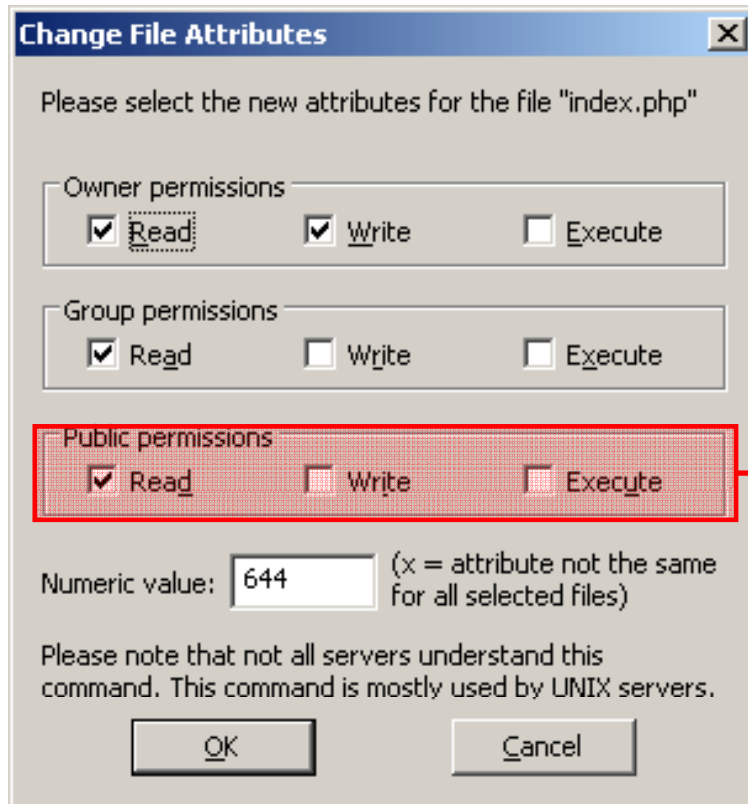
	User	Group	Other
Attribute	6	4	4

r w -    r - -    r - -

## FTP Client (cont.) – FileZilla



## FTP Client (cont.) – FileZilla



**You have to give the read access to public (other) in order to give permission to public to see your site (html file)**

**In case of PHP you need to give 'Execute' as well, thus give 755 for now.**

## 4. HTML Introduction

- HTML stands for Hyper Text Markup Language
- An HTML file is a text file containing small markup tags
- The markup tags tell the Web browser how to display the page
- An HTML file must have an **htm** or **html** file extension
- An HTML file can be created using a simple text editor
- ***HTM or HTML Extension?***

When you save an HTML file, you can use either the .htm or the .html extension. We have used .htm in our examples. It might be a bad habit inherited from the past when some of the commonly used software only allowed three letter extensions. With newer software we think it will be perfectly safe to use .html.

## 5. HTML Elements (tags)

- HTML tags are used to mark-up HTML elements
- HTML tags are surrounded by the two characters `<` and `>`
- The surrounding characters are called angle brackets
- HTML tags normally come in pairs like `<b>` and `</b>`
- The first tag in a pair is the start tag, the second tag is the end tag
- The text between the start and end tags is the element content
- HTML tags are *not case sensitive*, `<b>` means the same as `<B>`

```
<tag> TEXT OR VALUES </tag>
```

```
<tag attribute1='x'> TEXT OR VALUES </tag>
```

## 6. HTML Basic tags

- **Structure:**

<html> tag informs the web browser that this file is an HTML file. Usually the beginning and ending of an HTML file begins with this tag.

```
<html>all of your HTML code comes here</html>
```

<body> tag defines the section of the HTML page that should be rendered by the web browser.

```
<html>  
  <body>all of your HTML presentation comes here</body>  
</html>
```

## *HTML Basic tags (cont.)*

- **Structure:**

<head> tag carries additional information for the web browser or web crawlers (search engines) which usually do NOT have any visual representations.

```
<html>  
  <head>all of your extra information comes here</head>  
  <body>all of your HTML presentation comes here</body>  
</html>
```



## HTML Basic tags (cont.)

- **Headings:**

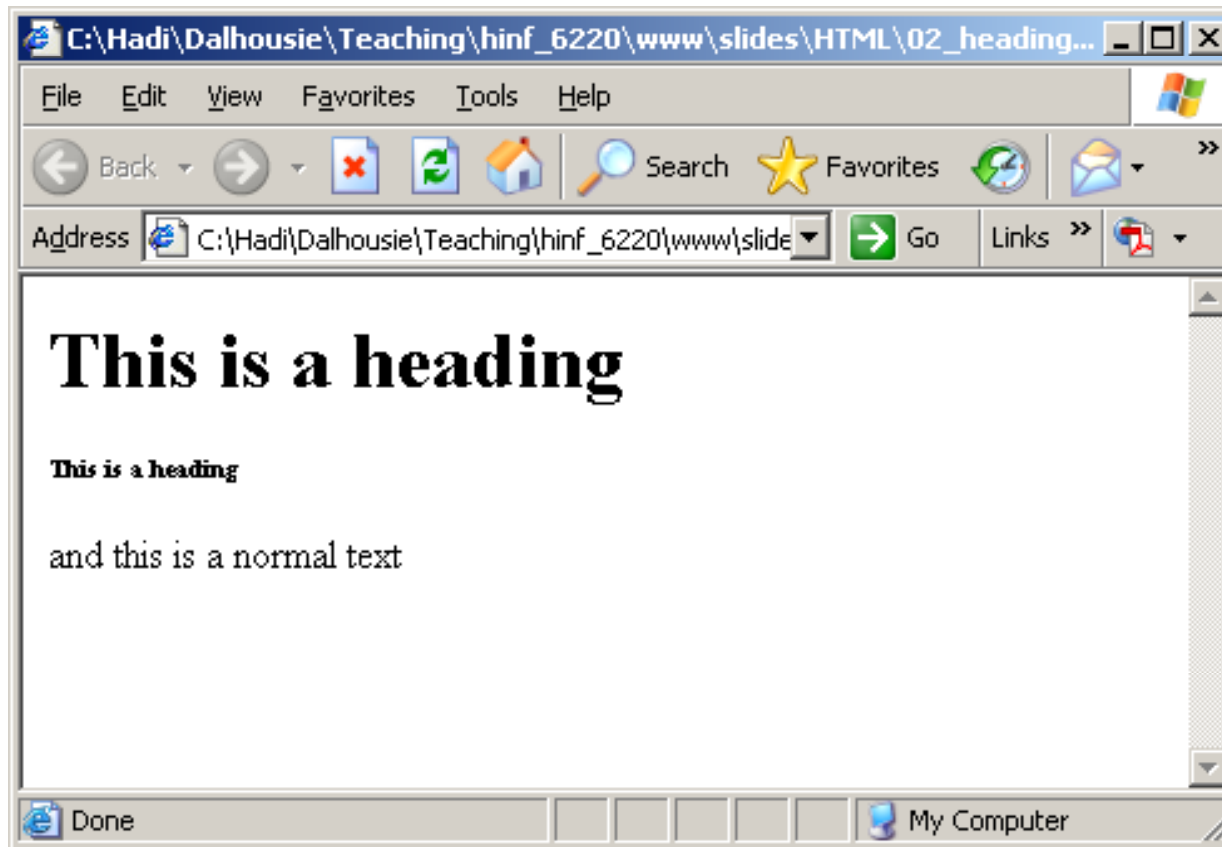
Headings are defined with the `<h1>` to `<h6>` tags.

`<h1>` defines the largest heading.

`<h6>` defines the smallest heading.

```
<html>
  <head></head>
  <body>
    <h1>This is a heading</h1>
    <h6>This is a heading</h6>
    and this is a normal text
  </body>
</html>
```

## HTML Basic tags (cont.)



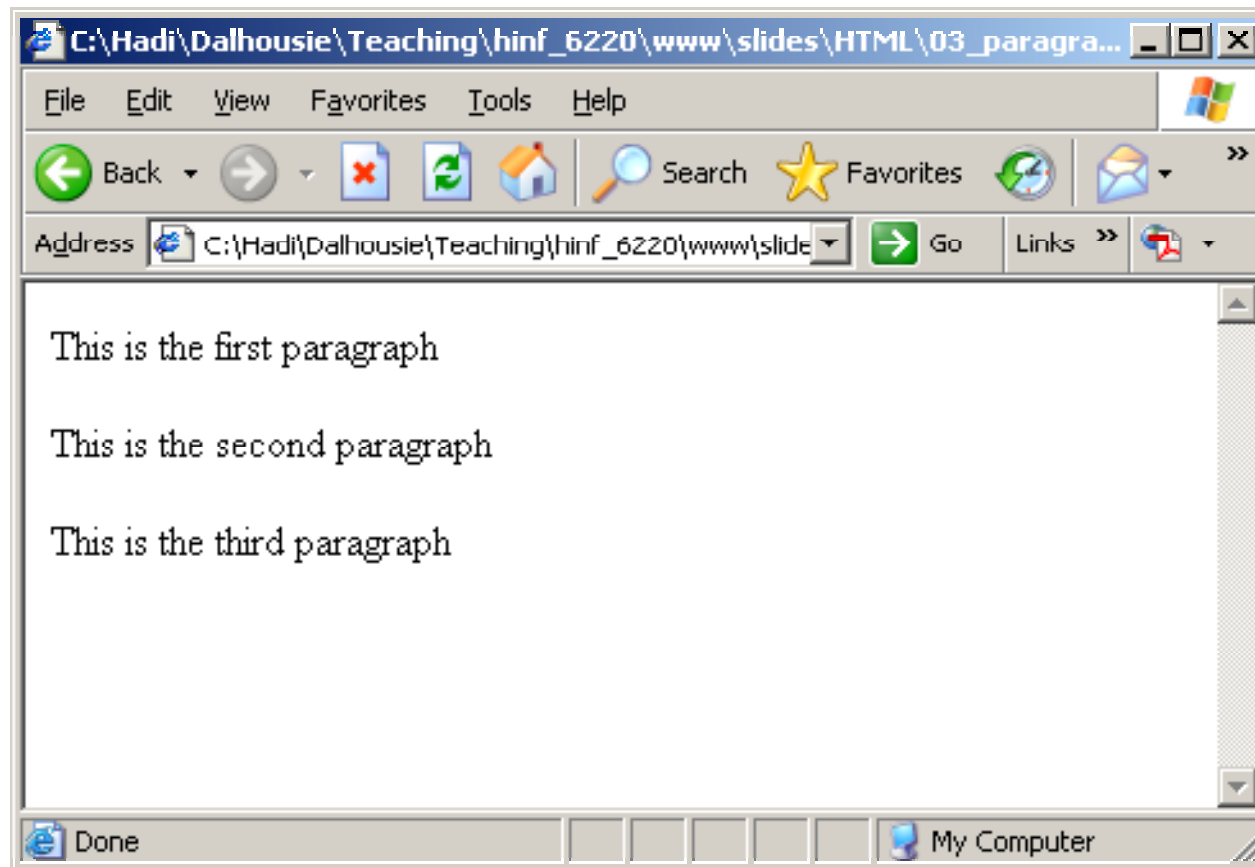
## *HTML Basic tags (cont.)*

- **Paragraphs:**

Paragraphs are defined with the `<p>` tag. HTML automatically adds an extra blank line before and after a paragraph.

```
<html>
  <head></head>
  <body>
    <p>This is the first paragraph</p>
    <p>This is the second paragraph</p>
    <p>This is the third paragraph</p>
  </body>
</html>
```

## HTML Basic tags (cont.)



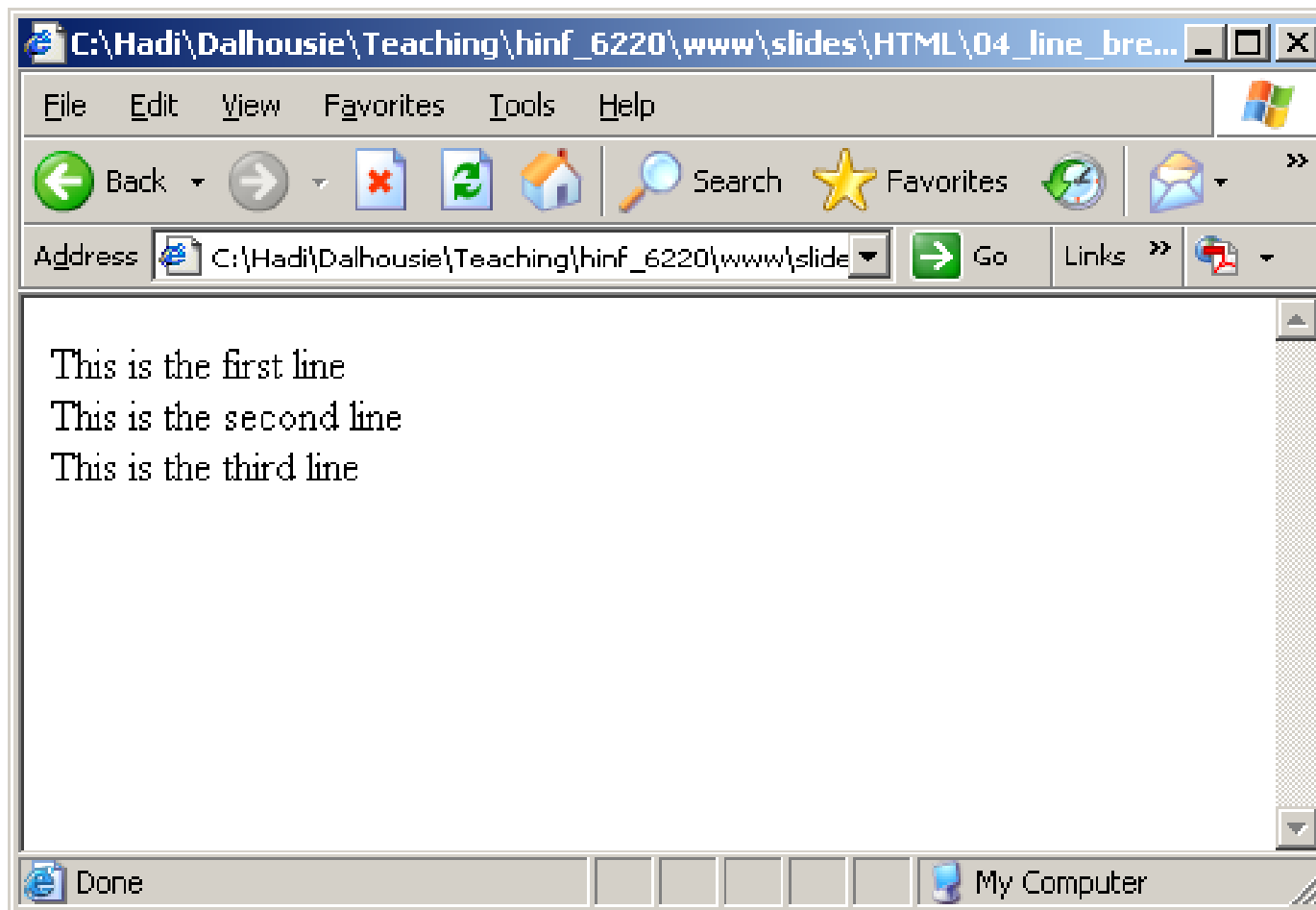
## HTML Basic tags (cont.)

- **Line Breaks:**

The `<br />` tag is used when you want to end a line, but don't want to start a new paragraph. The `<br />` tag forces a line break wherever you place it.

```
<html>
  <head></head>
  <body>
    This is the first line <br />
    This is the second line <br />
    This is the third line <br />
  </body>
</html>
```

## HTML Basic tags (cont.)



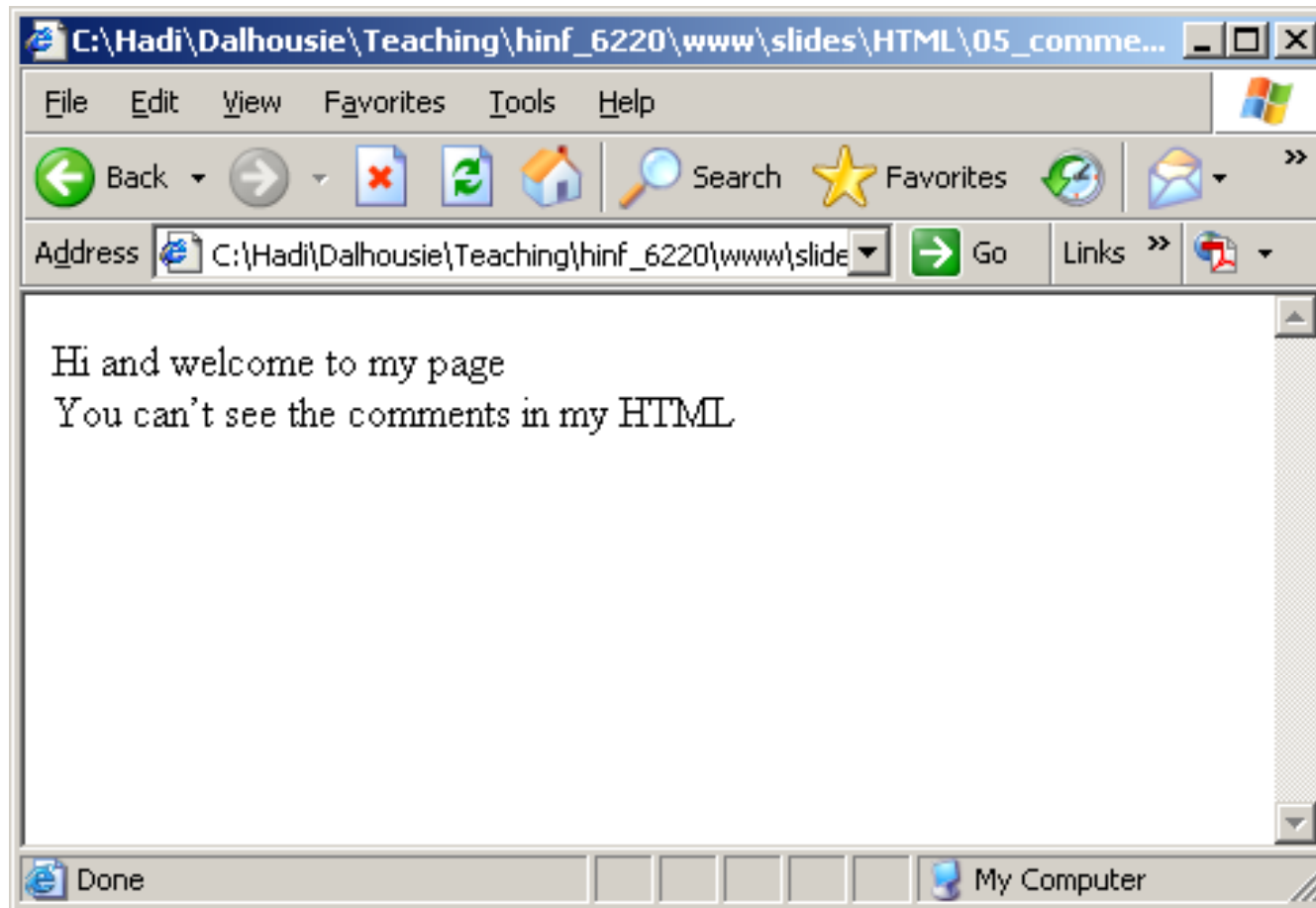
## HTML Basic tags (cont.)

- **Comments:**

The comment tag is used to insert a comment in the HTML source code. A comment will be ignored by the browser. You can use comments to explain your code, which can help you when you edit the source code at a later date..

```
<html>
  <head></head>
  <body>
    <!-- Here is the start of my page -->
    Hi and welcome to my page <br />
    You can't see the comments in my HTML <br />
  </body>
</html>
```

## HTML Basic tags (cont.)

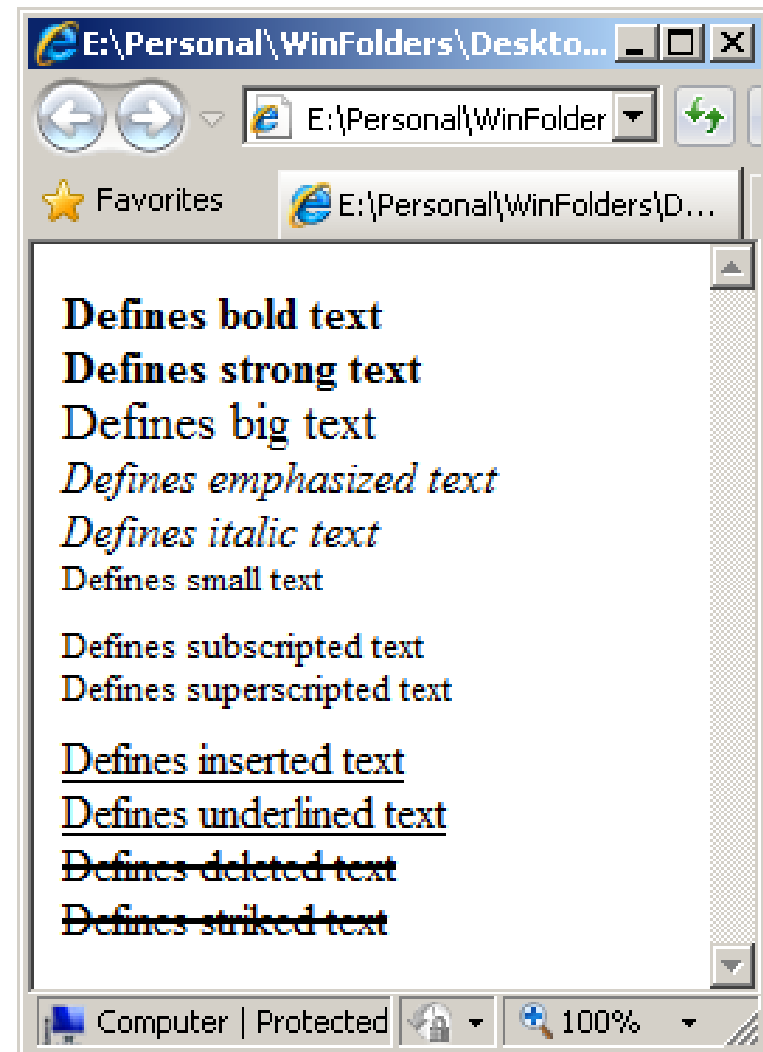




## 7. HTML Formatting

### Text Formatting:

<code>&lt;b&gt;</code>	Defines bold text
<code>&lt;strong&gt;</code>	Defines strong text
<code>&lt;big&gt;</code>	Defines big text
<code>&lt;em&gt;</code>	Defines emphasized text
<code>&lt;i&gt;</code>	Defines italic text
<code>&lt;small&gt;</code>	Defines small text
<code>&lt;sub&gt;</code>	Defines subscripted text
<code>&lt;sup&gt;</code>	Defines superscripted text
<code>&lt;ins&gt;</code>	Defines inserted text
<code>&lt;del&gt;</code>	Defines deleted text
<code>&lt;u&gt;</code>	Defines underlined text
<code>&lt;strike&gt;</code>	Defines strike text

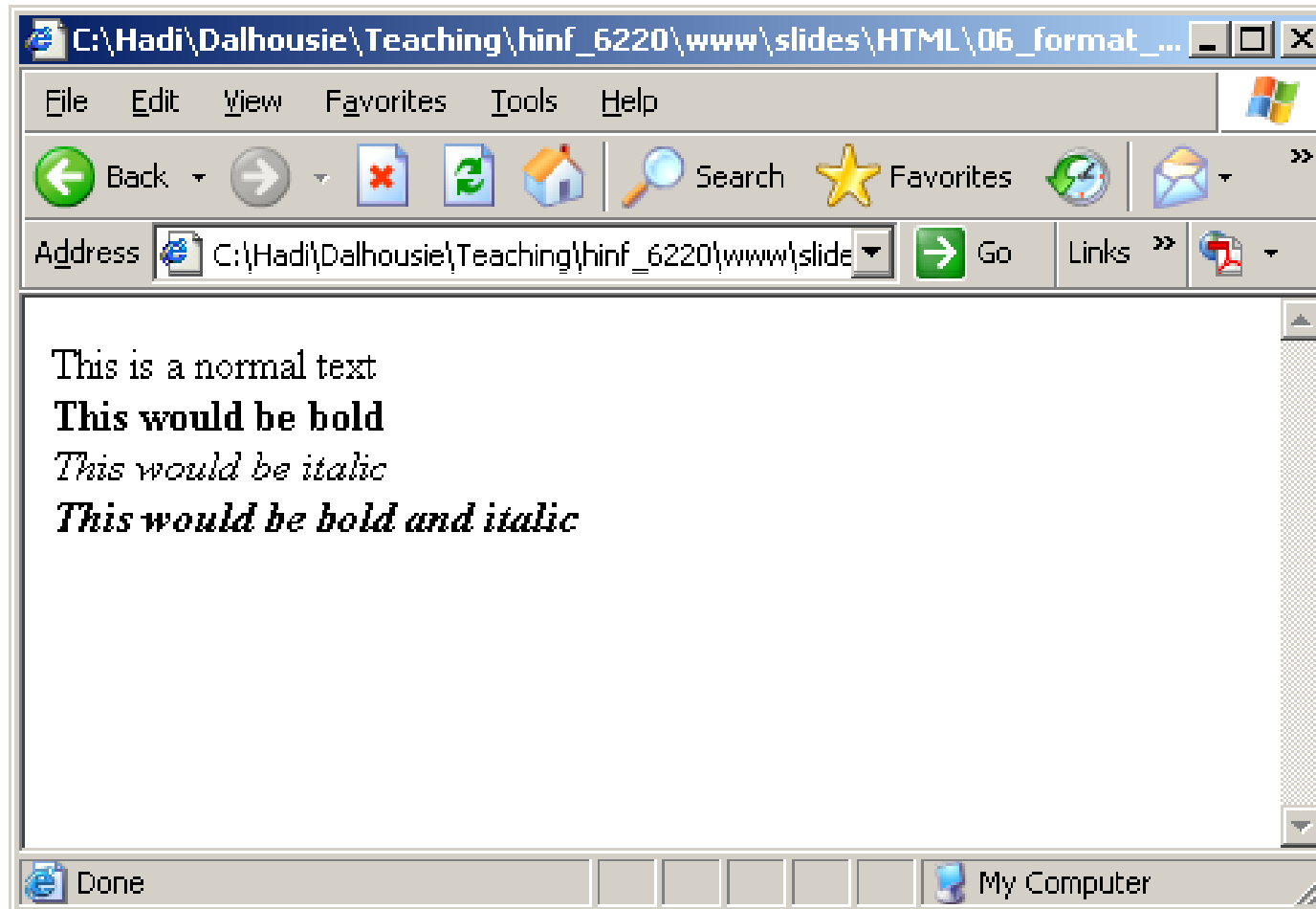


## HTML Formatting (cont.)

### Text Formatting:

```
<html>
  <head></head>
  <body>
    This is a normal text <br />
    <b>This would be bold</b> <br />
    <i>This would be italic</i> <br />
    <b><i>This would be bold and italic</i></b> <br />
  </body>
</html>
```

## HTML Formatting (cont.)



## *HTML Formatting (cont.)*

### "Computer Output" Tags:

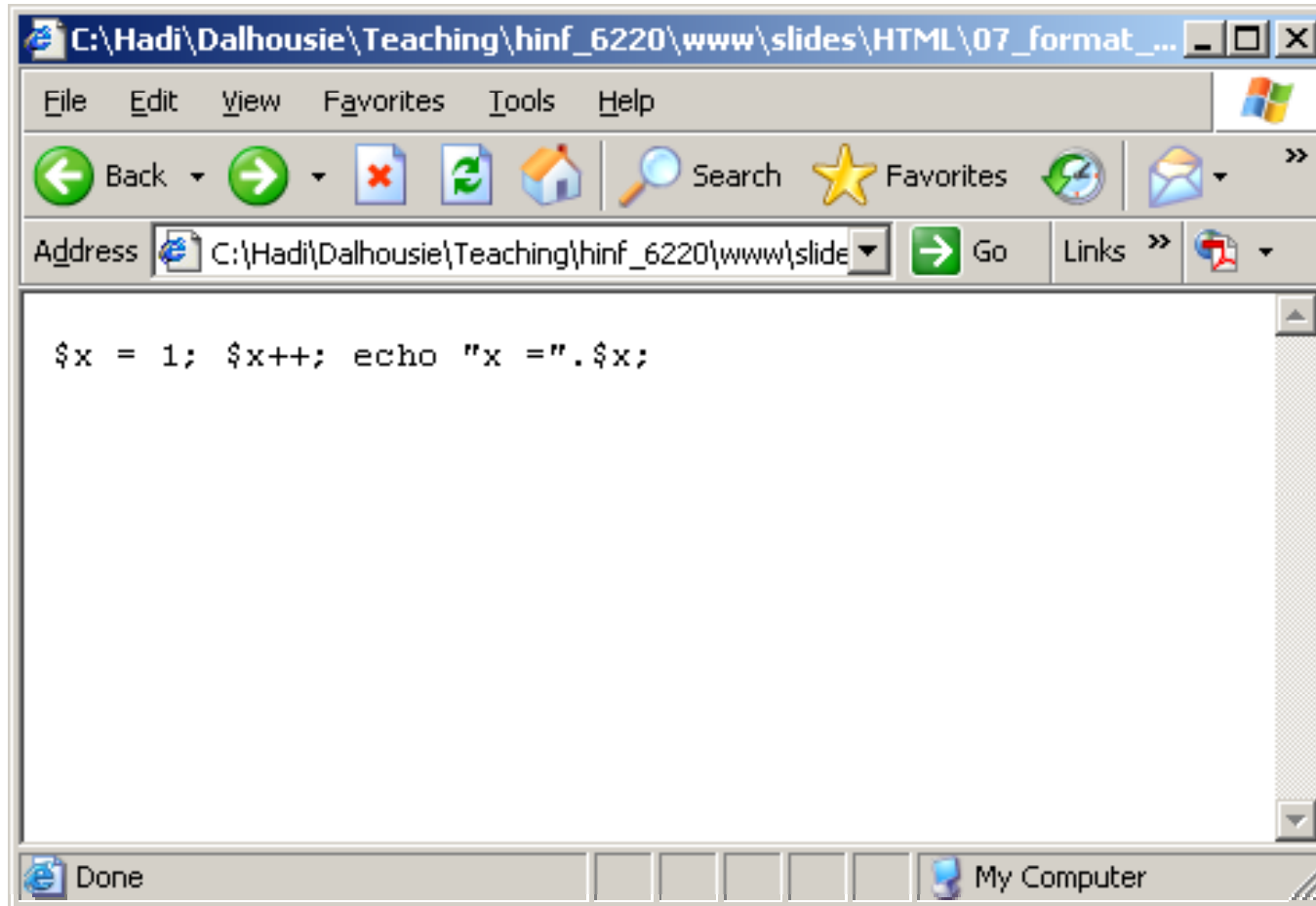
<code>&lt;code&gt;</code>	Defines computer code text
<code>&lt;kbd&gt;</code>	Defines keyboard text
<code>&lt;samp&gt;</code>	Defines sample computer code
<code>&lt;tt&gt;</code>	Defines teletype text
<code>&lt;var&gt;</code>	Defines a variable
<code>&lt;pre&gt;</code>	Defines preformatted text

## HTML Formatting (cont.)

### "Computer Output" Tags:

```
<html>
  <head></head>
  <body>
    <code>
      $x = 1;
      $x++;
      echo "x =" . $x;
    </code>
  </body>
</html>
```

## HTML Formatting (cont.)

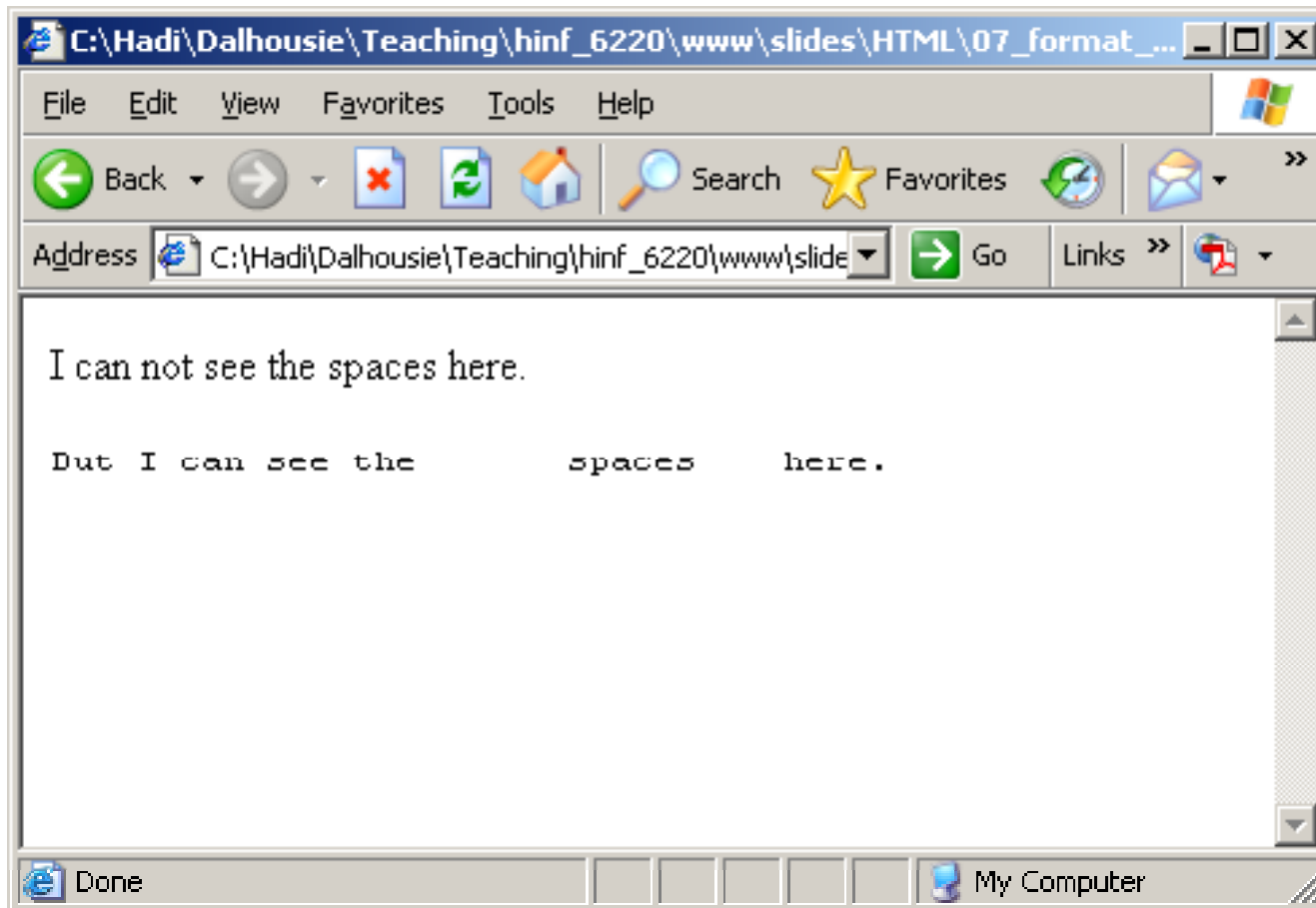


## HTML Formatting (cont.)

### "Computer Output" Tags:

```
<html>
  <head></head>
  <body>
    I can not see the spaces here.
  <pre>
    But I can see the      spaces      here.
  </pre>
  </body>
</html>
```

## HTML Formatting (cont.)





## 8. HTML Entities

- **Character Entities:** Some characters have a special meaning in HTML, like the less than sign (<) that defines the start of an HTML tag. If we want the browser to actually display these characters we must insert character entities in the HTML source. A character entity has three parts: an ampersand (&), an entity name or a # and an entity number, and finally a semicolon (;).

The advantage of using a name instead of a number is that a name is easier to remember. The disadvantage is that not all browsers support the newest entity names, while the support for entity numbers is very good in almost all browsers.

**Note** that the entities are case sensitive.

## HTML Entities (cont.)

- Character Entities:**

Result	Description	Entity Name	Entity Number
	Non-breaking space	&nbsp;	&#160;
<	Less than	&lt;	&#60;
>	Grater than	&gt;	&#62;
&	Ampersand	&amp;	&#38;
"	Quotation mark	&quot;	&#34;
'	Apostrophe	&apos; (not in IE)	&#39;
©	copyright	&copy;	&#169;
®	registered trademark	&reg;	&#174;

## *HTML Entities (cont.)*

- **Non-breaking Space:** The most common character entity in HTML is the non-breaking space. Normally HTML will truncate spaces in your text. If you write 10 spaces in your text HTML will remove 9 of them. To add spaces to your text, use the `&nbsp;` character entity.

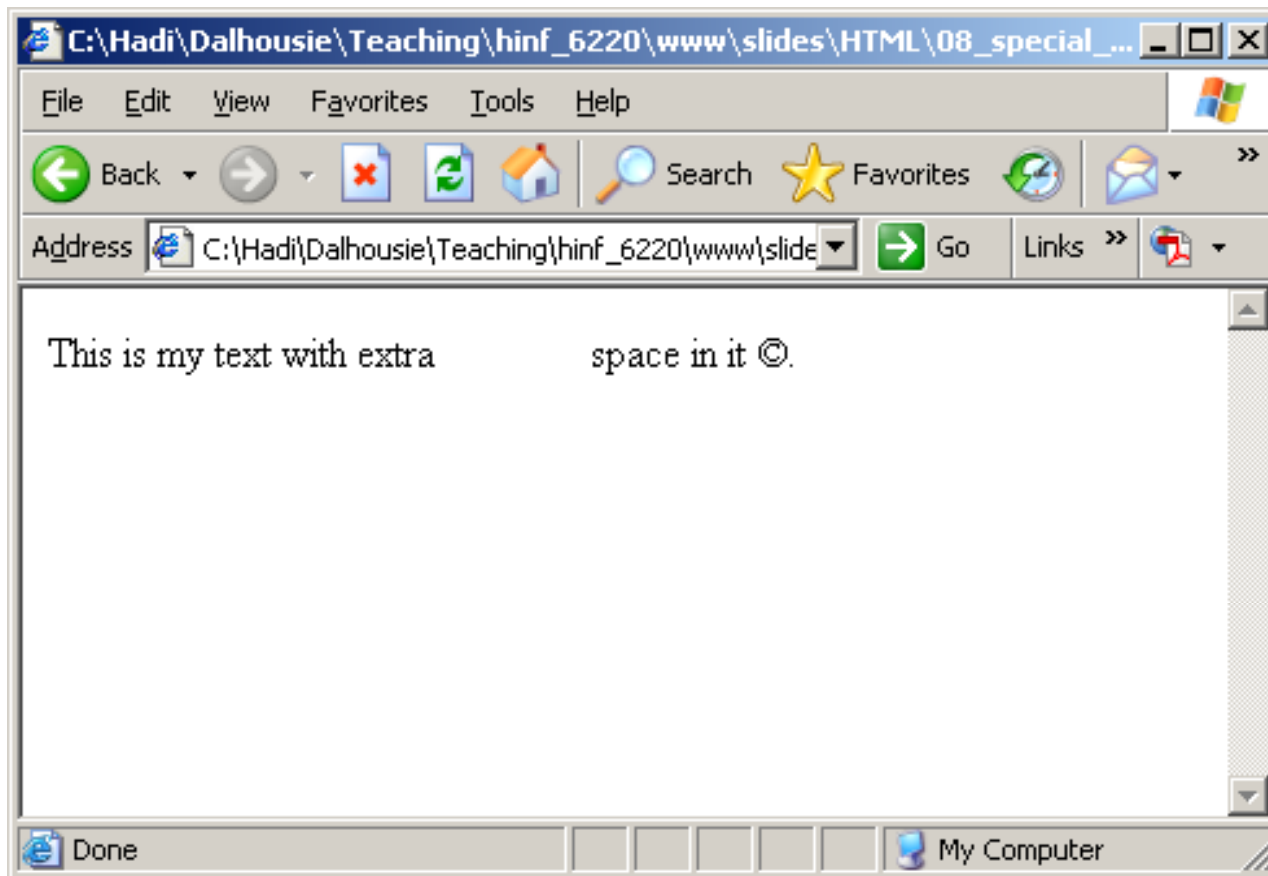
## HTML Entities (cont.)

- **Character Entities:**

```
<html>
  <head></head>
  <body>
    This is my text with extra &nbsp; &nbsp; &nbsp;
    &nbsp; &nbsp; &nbsp; &nbsp; space in it &copy;.
  </body>
</html>
```

## HTML Entities (cont.)

- **Character Entities:**



## 9. HTML Links (URLs)

- **The Anchor Tag and the *href* Attribute:**

HTML uses the `<a>` (anchor) tag to create a link to another document. An anchor can point to any resource on the Web: an HTML page, an image, a sound file, a movie, etc.

```
<a href='URL' target='option'> Text to show </a>
```

```
<html>
  <head></head>
  <body>
    <a href='http://www.yahoo.com' target='_blank'>
      Visit Yahoo
    </a>
  </body>
</html>
```

## HTML Links (cont.)

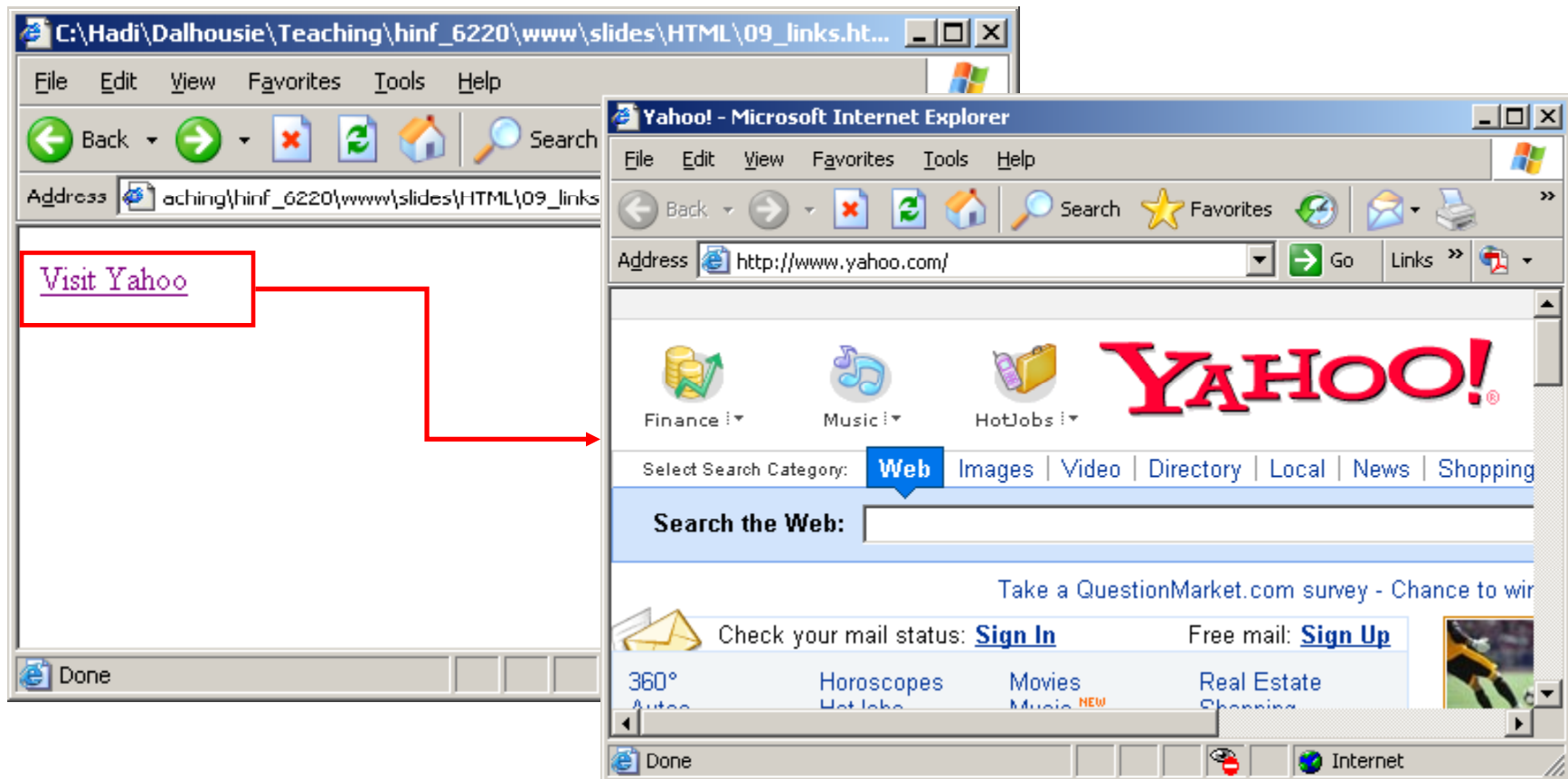
- **The Anchor Tag and the *href* Attribute:**

Target Options:

- \_blank** renders the link in a new, unnamed window
- \_self** renders the link in the current frame
- \_parent** renders the link in the immediate FRAMESET parent
- \_top** renders the link in the full, unframed window

## HTML Links (cont.)

- The Anchor Tag and the *href* Attribute:





## HTML Links (cont.)

- **The Anchor Tag and the Name Attribute:**

The name attribute is used to create a named anchor. When using named anchors we can create links that can jump directly into a specific section on a page, instead of letting the user scroll around to find what he/she is looking for.

```
<a href='#label'> Section Link </a>
```

```
<a name='label'> Section Name </a>
```

## HTML Links (cont.)

- **The Anchor Tag and the Name Attribute :**

```
<html>
  <head></head>
  <body>
    <a href='#section1'>Go to Section 1</a>

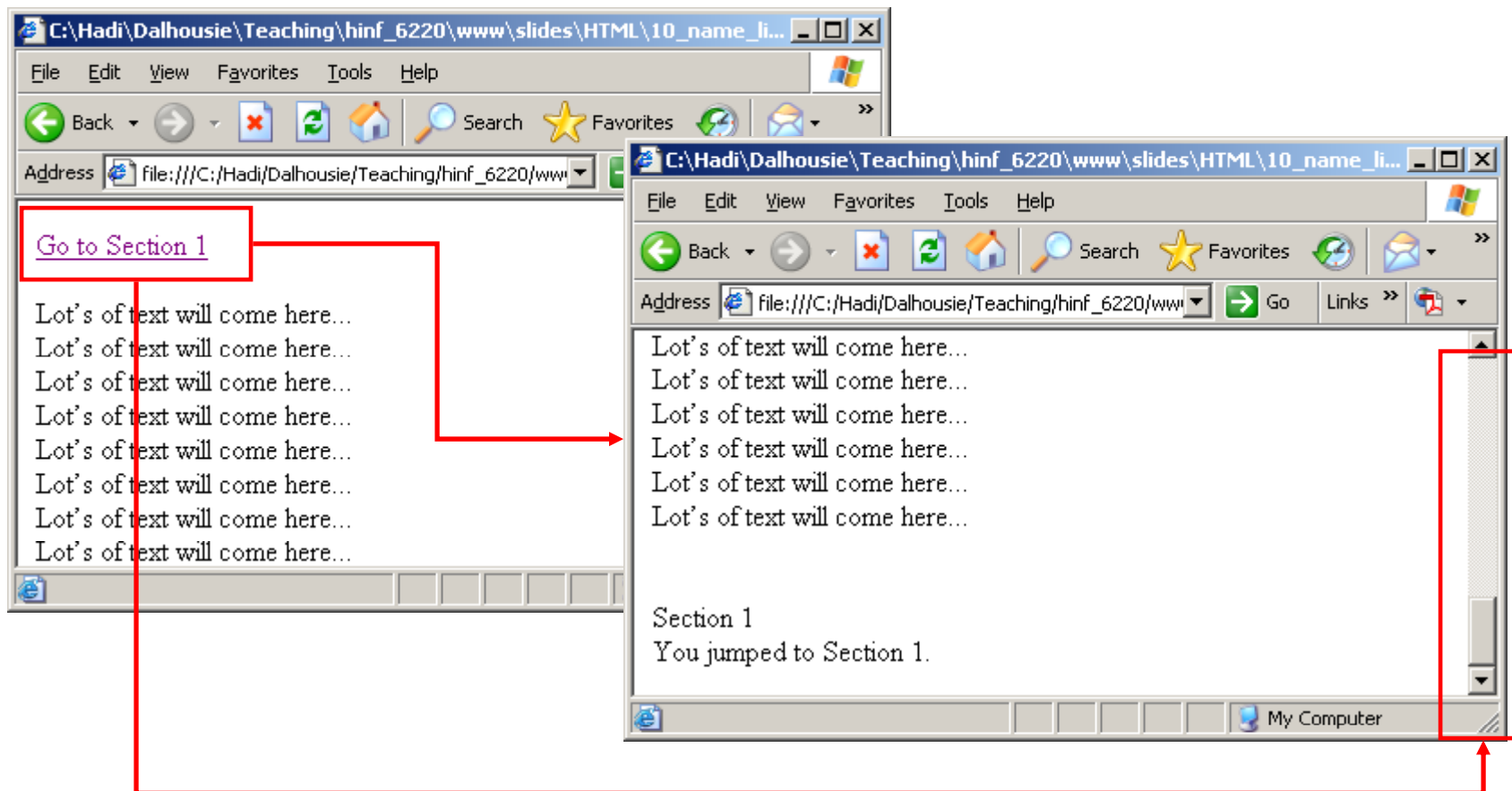
    Lot's of text will come here...

    <a name='section1'>Section 1</a>

  </body>
</html>
```

## HTML Links (cont.)

- **The Anchor Tag and the Name Attribute :**



## 10. HTML Fonts

- With HTML Font tag you can specify both the size and the type of the browser output :

```
<font attribute1='x'> TEXT OR VALUES </font>
```

- The <font> tag is **deprecated** in the latest versions of HTML (HTML 4 and XHTML).
- The World Wide Web Consortium (W3C) has removed the <font> tag from its recommendations. In future versions of HTML, **style sheets (CSS)** will be used to define the layout and display properties of HTML elements.

## HTML Fonts (cont.)

- **Font Attributes:**

Attribute	Example	Purpose
size="number"	size="14"	Defines the font size
size="+number"	size="+2"	Increases the font size
size="-number"	size="-2"	Decreases the font size
face="face-name"	face="Arial"	Defines the font name
color="color-value"	color="#FF0000"	Defines the font color
color="color-name"	color="red"	Defines the font color

## HTML Fonts (cont.)

- The FACE attribute :

```
<html>
  <head></head>
  <body>
    <font face='Verdana'>This text is Verdana</font>

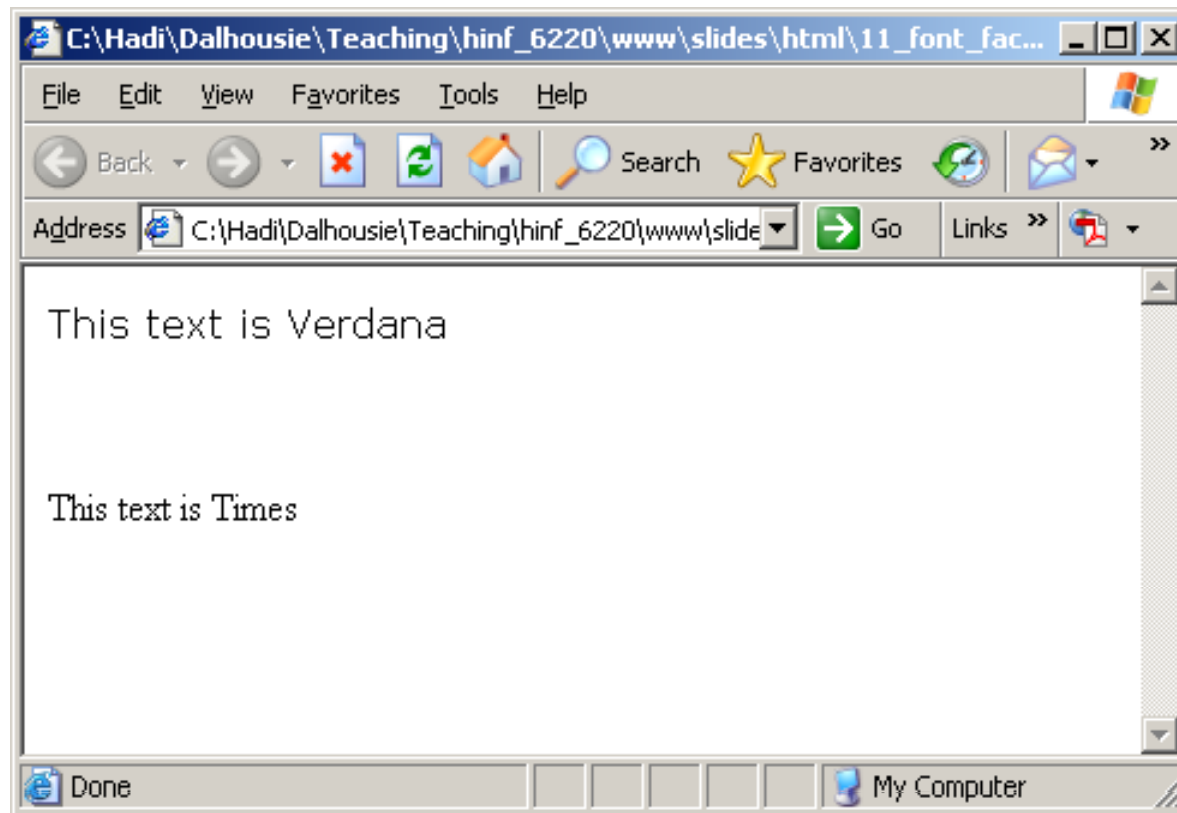
    <br><br><br><br>

    <font face='Times'>This text is Times</font>

  </body>
</html>
```

## HTML Fonts (cont.)

- **The FACE attribute :**



## HTML Fonts (cont.)

- The FACE attribute integration:

```
<html>
  <head></head>
  <body>
    <font face='Verdana'>This text is <b>Verdana</b>
    </font>

    <br><br><br><br>

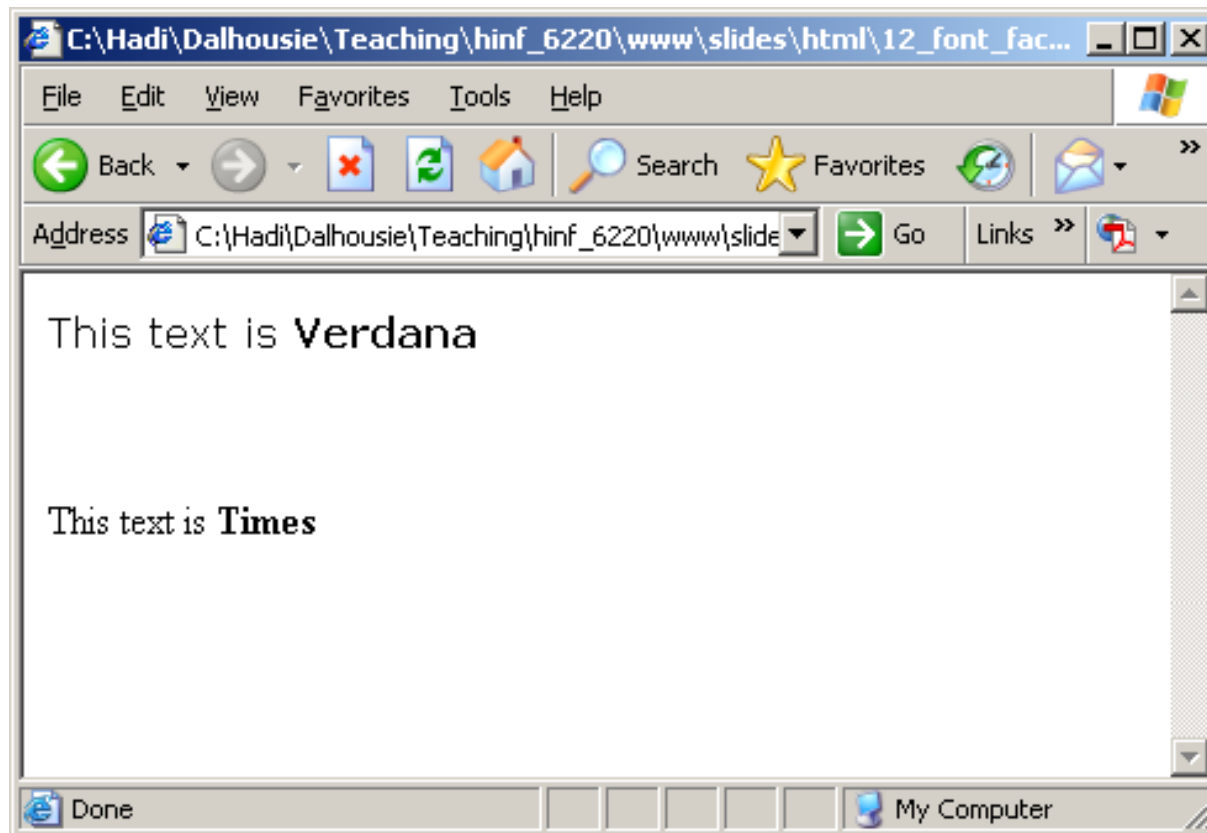
    <font face='Times'>This text is <b>Times</b>
    </font>

  </body>
</html>
```



## HTML Fonts (cont.)

- The FACE attribute integration:



## HTML Fonts (cont.)

- The FACE attribute – multiple or font family:

```
<html>
  <head></head>
  <body>
    <font face='Verdana, Times, Helvetica'>
      This text is <b>Verdana</b>
    </font>
  </body>
</html>
```

## HTML Fonts (cont.)

- The **SIZE** attribute – exact pixels:

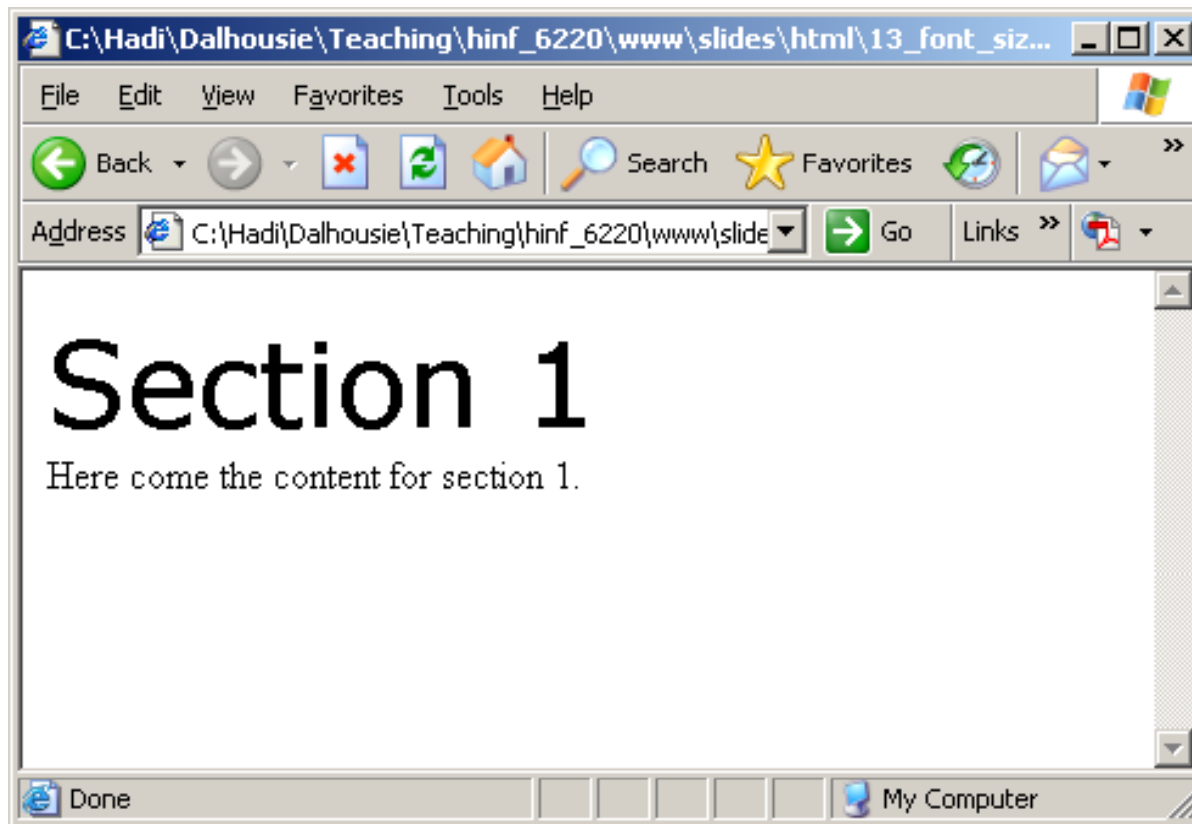
```
<html>
  <head></head>
  <body>

    <font face='Verdana' size= '32'>Section 1</font>
    <br>
    Here comes the content for section 1.

  </body>
</html>
```

## HTML Fonts (cont.)

- **The SIZE attribute – exact pixels:**



## HTML Fonts (cont.)

- The **SIZE** attribute – proportional:

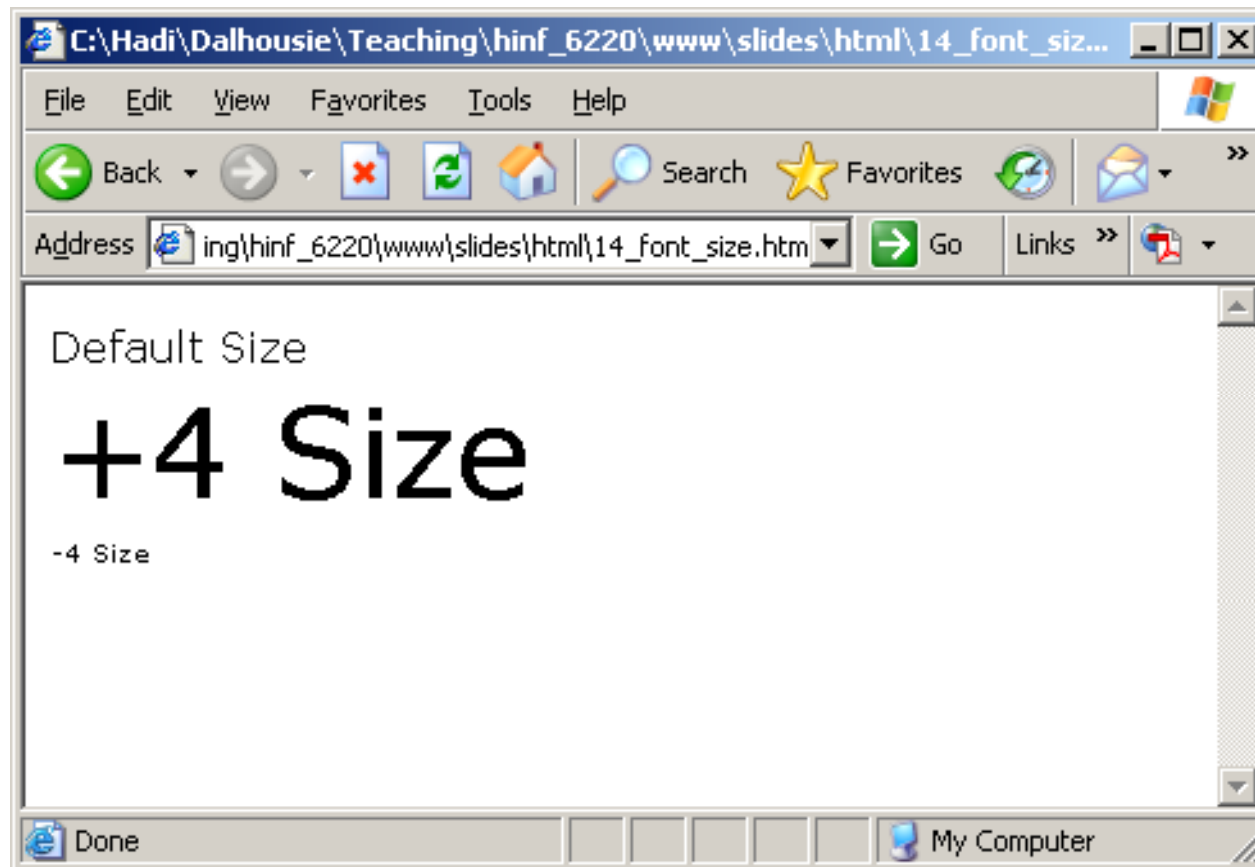
```
<html>
  <head></head>
  <body>

    <font face='Verdana' size= '+0'>Default Size
  </font>
  <br>
  <font face='Verdana' size= '+4'>+4 Size</font>
  <br>
  <font face='Verdana' size= '-4'>-4 Size</font>

  </body>
</html>
```

## HTML Fonts (cont.)

- **The SIZE attribute – proportional:**



## HTML Fonts (cont.)

- The COLOR attribute – exact hex code:

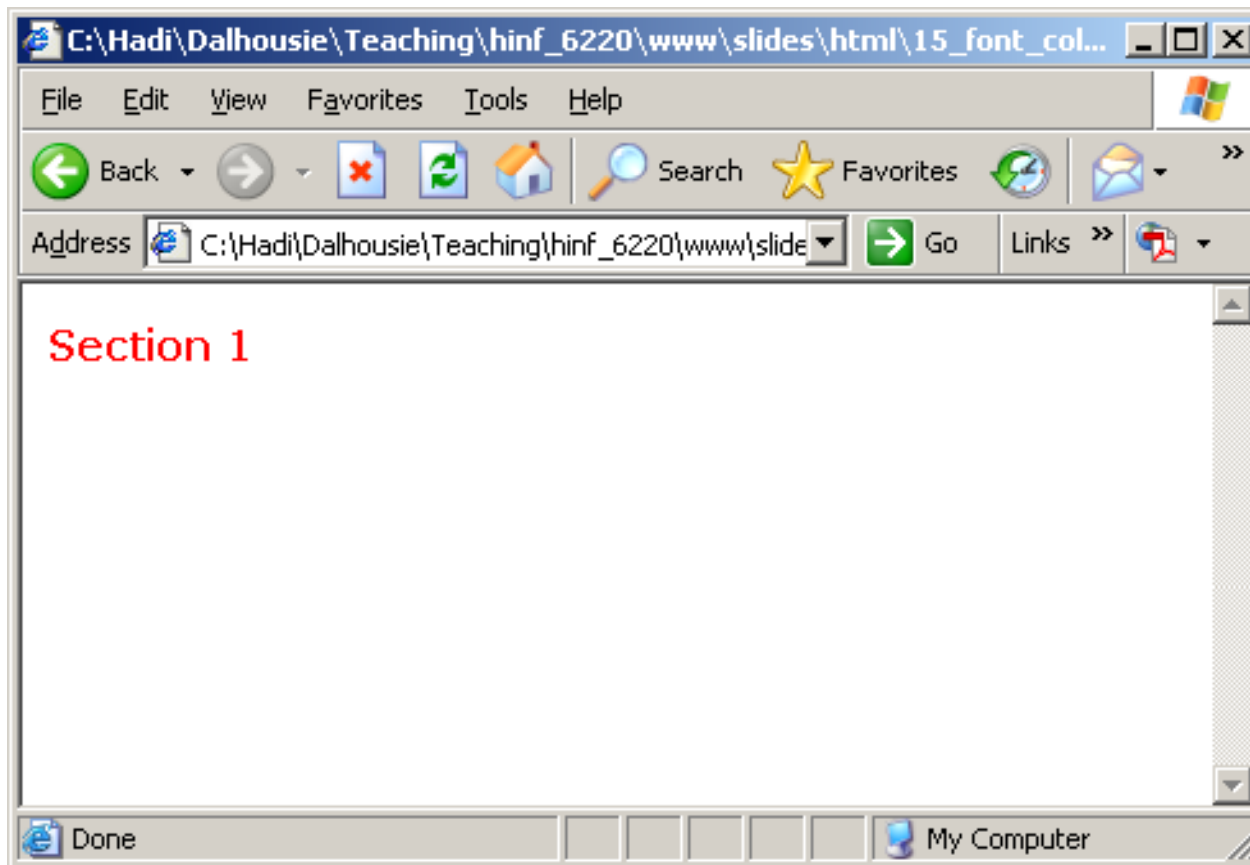
```
<html>
  <head></head>
  <body>

    <font face='Verdana' color= '#FF0000'>
    <b>Section 1</b>
    </font>
    <br>

  </body>
</html>
```

## HTML Fonts (cont.)

- The COLOR attribute – exact hex code:





## HTML Fonts (cont.)

- The COLOR attribute – named colors:

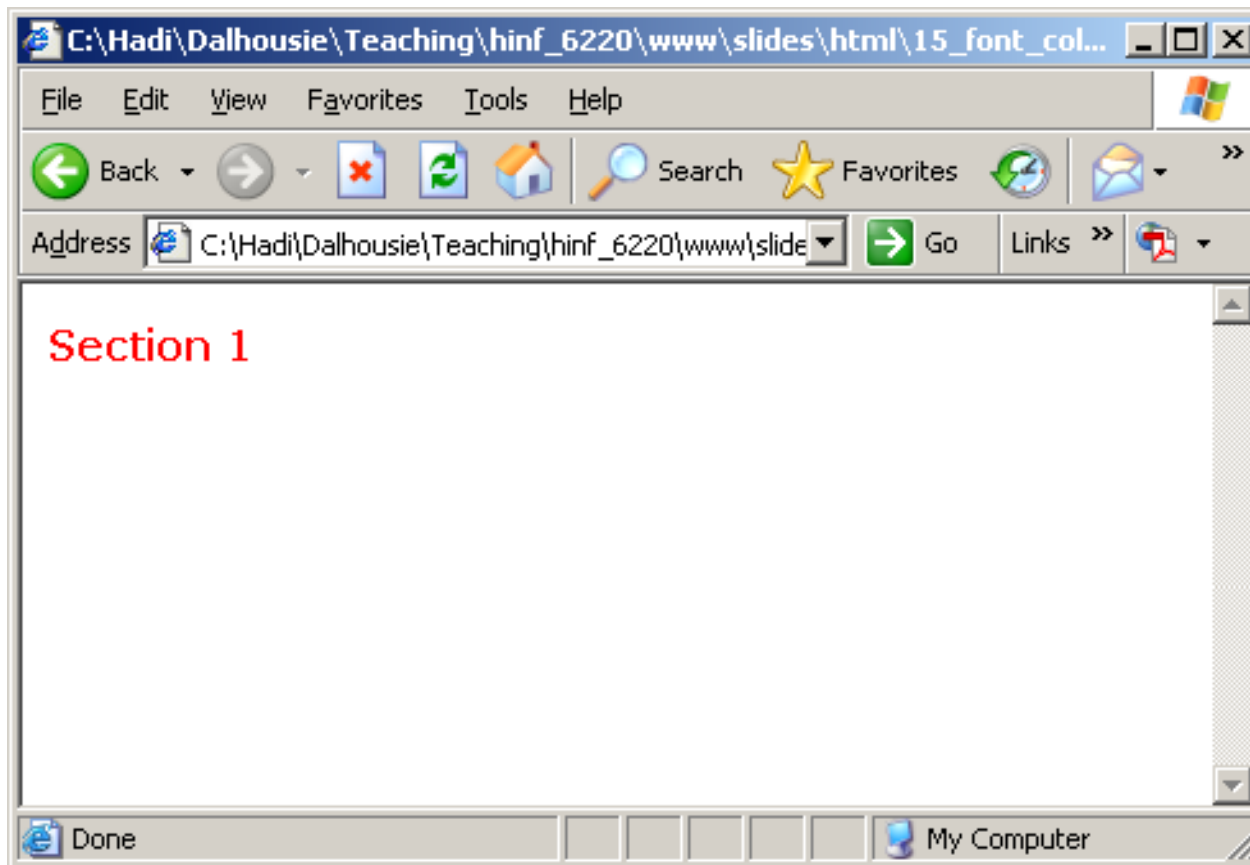
```
<html>
  <head></head>
  <body>

    <font face='Verdana' color= 'red'>
    <b>Section 1</b>
    </font>
    <br>

  </body>
</html>
```

## HTML Fonts (cont.)

- **The COLOR attribute – named colors:**



# 11. HTML Colors

- **Color Values**

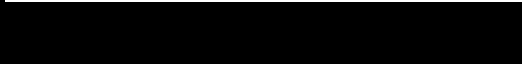








Colors are defined using a hexadecimal notation for the combination of Red, Green, and Blue color values (RGB). The lowest value that can be given to one light source is 0 (hex #00). The highest value is 255 (hex #FF).

```
<font face='Verdana' color= '#FF0000' >
```

## HTML Colors (cont.)

- Color Values**

This table shows the result of combining Red, Green, and Blue light sources:

Color	Color HEX	Color RGB
	#000000	rgb(0,0,0)
	#FF0000	rgb(255,0,0)
	#00FF00	rgb(0,255,0)
	#0000FF	rgb(0,0,255)
	#FFFF00	rgb(255,255,0)
	#00FFFF	rgb(0,255,255)
	#FF00FF	rgb(255,0,255)
	#C0C0C0	rgb(192,192,192)
	#FFFFFF	rgb(255,255,255)

## *HTML Colors (cont.)*

- **Color Names**

A collection of color names is supported by most browsers.

Note: Only 16 color names are supported by the W3C HTML 4.0 standard (aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white, and yellow). For all other colors you should use the Color HEX value.

```
<font face='Verdana' color= 'red'>
```

## 12. HTML Body Attributes

- **Background Color: Bgcolor**

The bgcolor attribute specifies a background-color for an HTML page. The value of this attribute can be a hexadecimal number, an RGB value, or a color name:

```
<body bgcolor="#000000">
```

```
<body bgcolor="rgb(0,0,0)">
```

```
<body bgcolor="black">
```

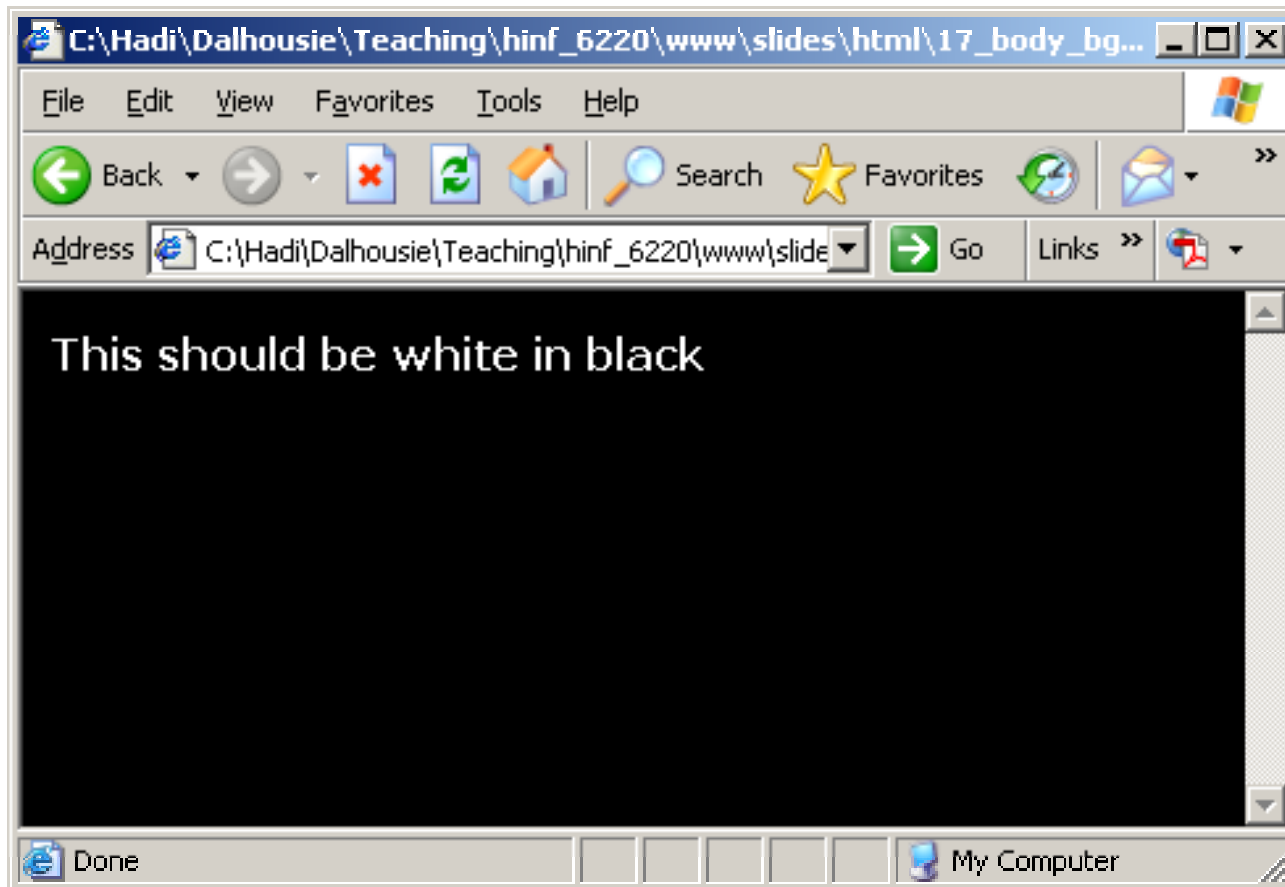
## HTML Body Attributes (cont.)

```
<html>
  <head></head>
  <body bgcolor='#000000'>

    <font face='Verdana' color= '#FFFFFF'>
    <b>This should be white in black</b>
    </font>
    <br>

  </body>
</html>
```

## HTML Body Attributes (cont.)





## *HTML Body Attributes (cont.)*

- **Background Image: Background**

The background attribute specifies a background-image for an HTML page. The value of this attribute is the URL of the image you want to use. If the image is smaller than the browser window, the image will repeat itself until it fills the entire browser window.

```
<body background="clouds.gif">
```

```
<body background="http://in-info-  
web4.informatics.iupui.edu/~kharrazi/tpl/images/p  
ics/header.jpg">
```

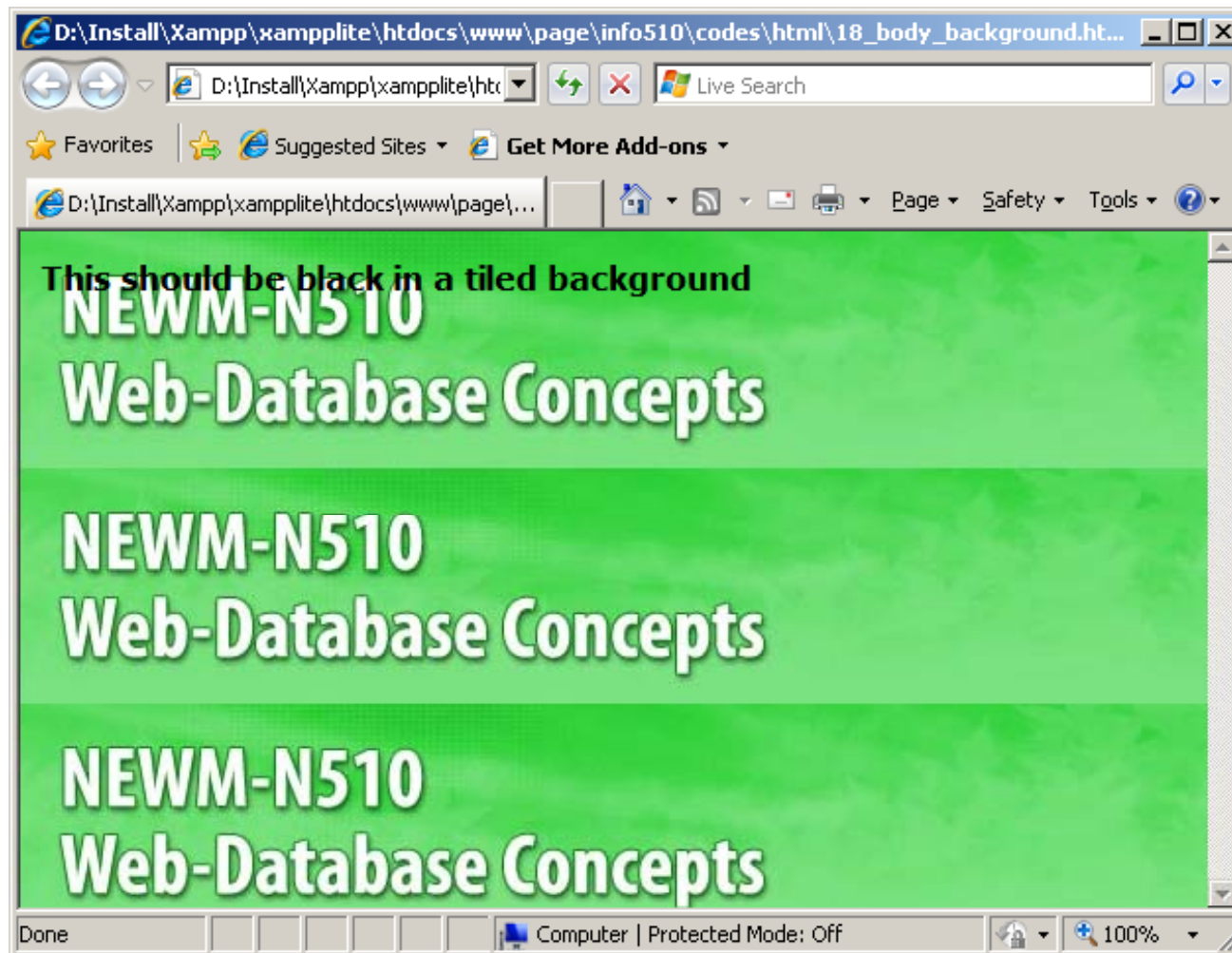
## HTML Body Attributes (cont.)

```
<html>
  <head></head>
  <body background="http://in-info-
web4.informatics.iupui.edu/~kharrazi/tpl/images/pics/head
er.jpg">

    <font face='Verdana' color= '#000000'>
    <b>This should be black in a tiled background</b>
    </font>
    <br>

  </body>
</html>
```

## HTML Body Attributes (cont.)



## *HTML Body Attributes (cont.)*

- **Margins: topmargin, leftmargin, rightmargin**

The body has a default margin of 10 pixels. In case you want to change (increase or decrease) you should change the margin settings.

```
<body topmargin=0>
```

```
<body leftmargin=0>
```

```
<body topmargin=0 leftmargin=0>
```

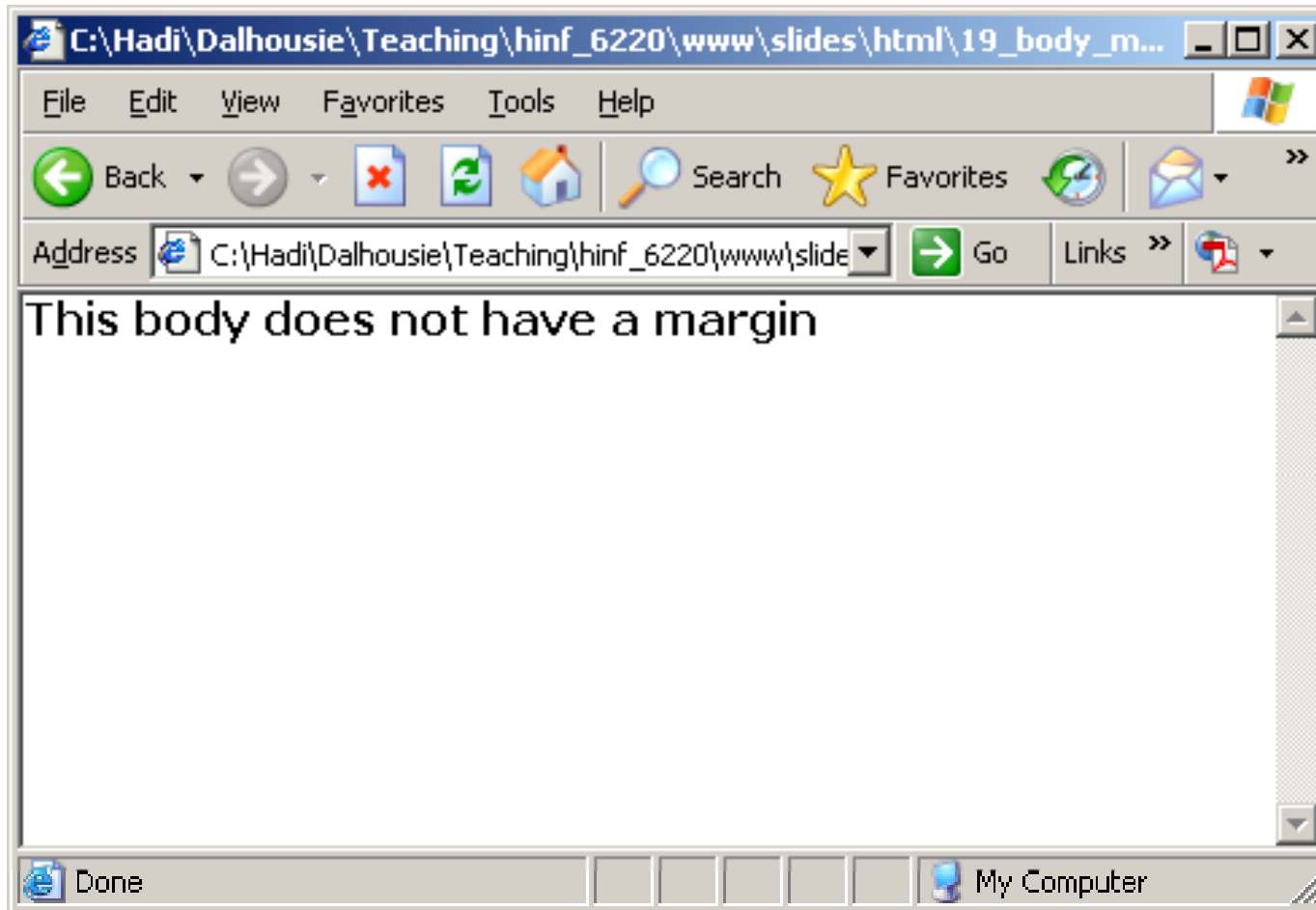
## HTML Body Attributes (cont.)

```
<html>
  <head></head>
  <body topmargin=0 leftmargin=0>

    <font face='Verdana'>
      <b>This body does not have a margin</b>
    </font>
    <br>

  </body>
</html>
```

## HTML Body Attributes (cont.)



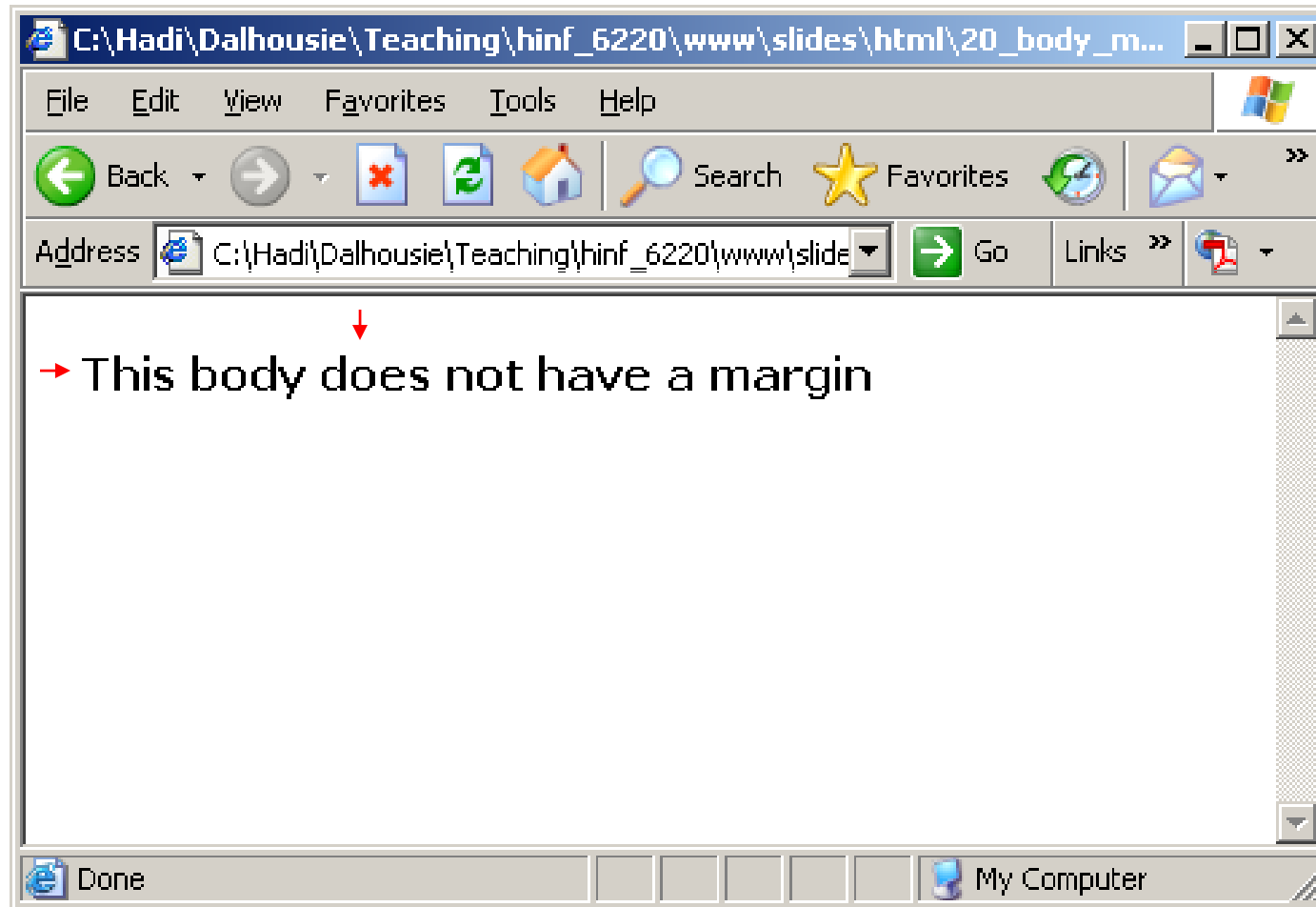
## HTML Body Attributes (cont.)

```
<html>
  <head></head>
  <body topmargin=20 leftmargin=20>

    <font face='Verdana'>
      <b>This body have 20 pixel top and left margin</b>
    </font>
    <br>

  </body>
</html>
```

## HTML Body Attributes (cont.)





# Summary

- Web Server Overview
- HTML Editor (NotePad+ +)
- FTP Client (FileZilla)
- html Introduction
- HTML: Elements
- HTML: Basic Tags
- HTML: Formatting
- HTML: Entities
- HTML: Links (URLs)
- HTML: Fonts
- HTML: Colors
- HTML: Body Attributes

## Next Session

- HTML: Images
- HTML: Lists
- HTML: Tables
- HTML: Block Elements

## Exercise

- Please refer to the available text file in the slides section for this session on the course website:
- [http://info510.com/core/public\\_page.php?page\\_name=slides](http://info510.com/core/public_page.php?page_name=slides)