HTML

AN INTRODUCTION TO WEB PAGE PROGRAMMING

INTRODUCTION TO HTML

- **With HTML you can create your own Web site**.
- HTML stands for **Hyper Text Markup Language**.
- HTML is not a programming language, it is a **Markup Language.**
- A markup language is a set of **markup tags.**
- HTML uses **markup tags** to describe web pages.
- HTML is **not case sensitive** language.
- HTML documents **contain HTML tags** and plain text.

HTML Elements and Tags

- A tag is always enclosed in angle bracket <>like <HTML>
- HTML tags normally **come in pairs** like <HTML> and </HTML> i.e.

Start tag = <HTML>
End tag =</HTML>

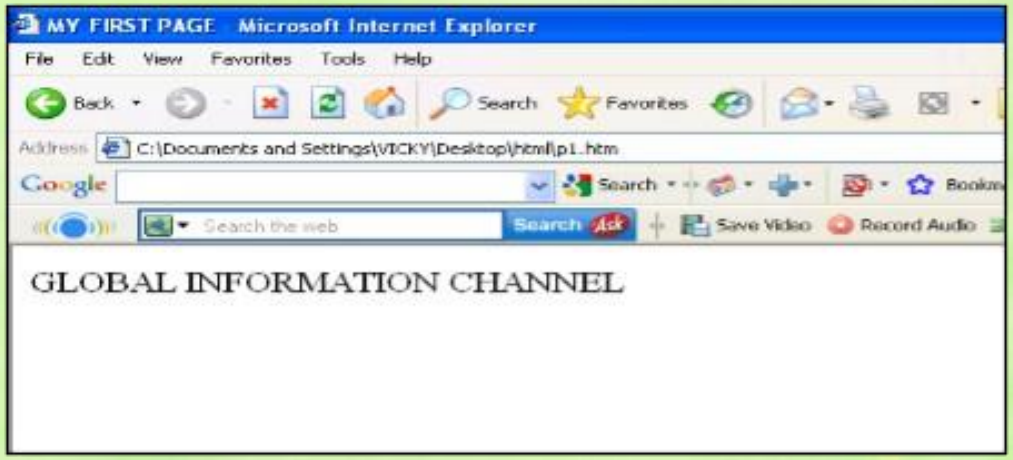
- Start and end tags are also called **opening tags** and **closing tags**

HOW TO START

- Write html code in notepad.
- Save the file with (.Html)/(.Htm) extension.
- View the page in any web browser viz. EXPLORER, NETSCAPE NAVIINTERNET GATOR etc.
- The purpose of a web browser (like internet explorer or firefox) is to read html documents and display them as web pages.

Code With HTML

```
<HTML>
<HEAD>
<TITLE>
MY FIRST PAGE
</TITLE>
</HEAD>
<BODY>
GLOBAL INFORMATION CHANNEL
</BODY>
</HTML>
```



Explain these tags

- **<HTML> -** Describe HTML web page that is to be viewed by a web browser.
- **<HEAD> -** This defines the header section of the page.
- **<TITLE> -** This shows a caption in the title bar of the page.
- **<BODY> -** This tag show contents of the web page will be displayed.

Types of HTML Tags

There are two different types of tags:->

Container Element:->
Container Tags contains **start tag** & **end tag** i.e.
<HTML>… </HTML>

Empty Element:->
Empty Tags contains **start tag** i.e.

Text Formatting Tags

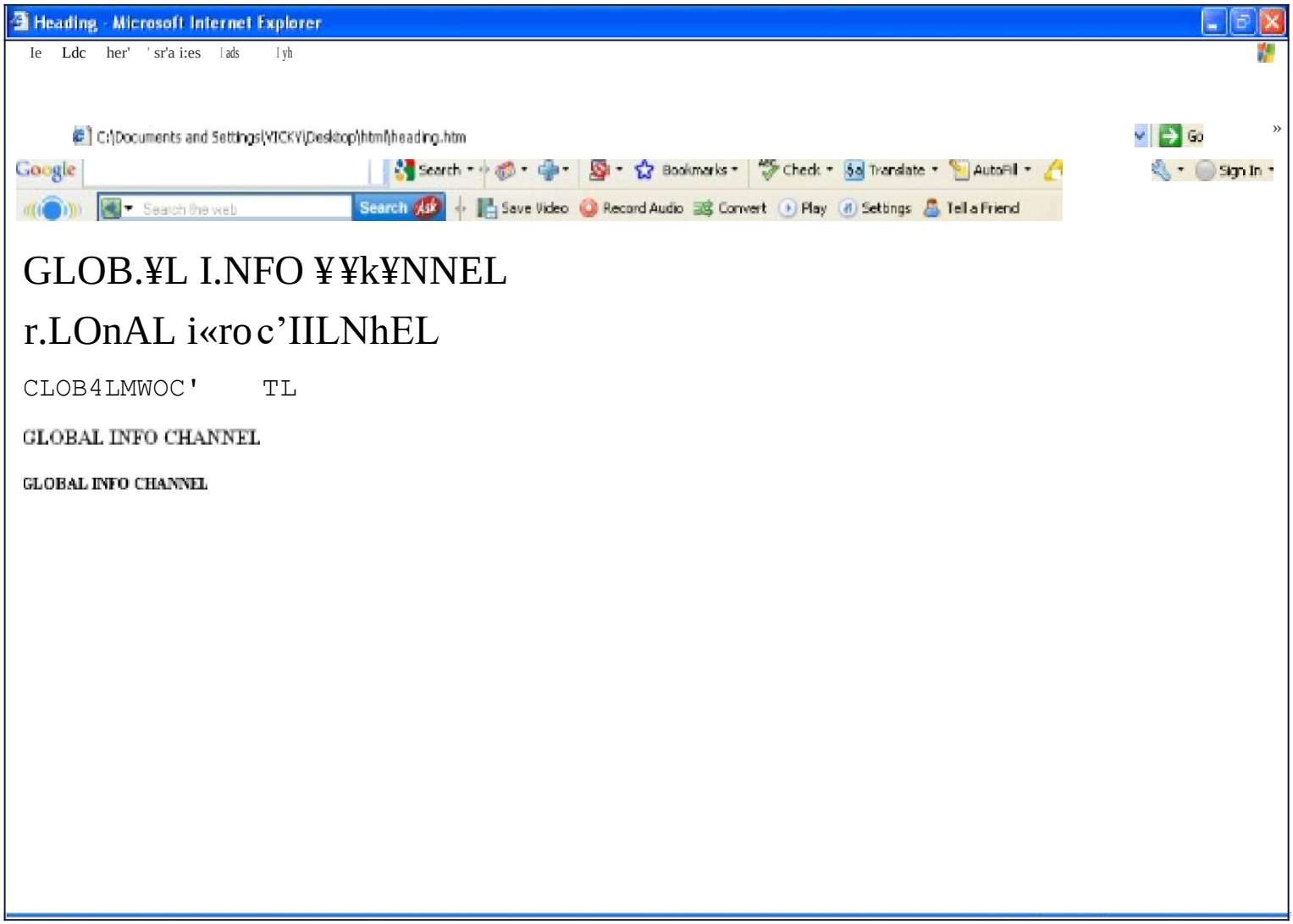
Heading Element:->

- There are six heading elements (<H1>,<H2>,<H3>,<H4>, <H5>,<H6>).
- All the six heading elements are container tag and requires a closing tag.
- **<h1>** will print the **largest heading**
- **<h6>** will print the **smallest heading**

Heading Tag Code

```
<html>
<head><title>heading</title></head>
<body>
<h1> GLOBAL INFO CHANNEL</h1>
<h2> GLOBAL INFO CHANNEL</h2>
<h3> GLOBAL INFO CHANNEL</h3>
<h4> GLOBAL INFO CHANNEL</h4>
<h5> GLOBAL INFO CHANNEL</h5>
<h6> GLOBAL INFO CHANNEL</h6>
</body>
</html>
```

Result of Heading Code



HTML Paragraph Tag

- HTML documents are divided into paragraphs.
- Paragraphs are defined with the **<p>** tag i.e.

```
<p>This is a paragraph</p>
<p>This is another paragraph</p>
<pre>This text is preformatted</pre>
```

Line Break & Horizontal Line Tag

- if you want a line break or a new line without starting a new paragraph Use the <br> tag.
- Defines a horizontal line use <hr>tag.

-
 <hr> element are empty HTML element i.e. Global Information Channel<hr>

Global Information
 Channel

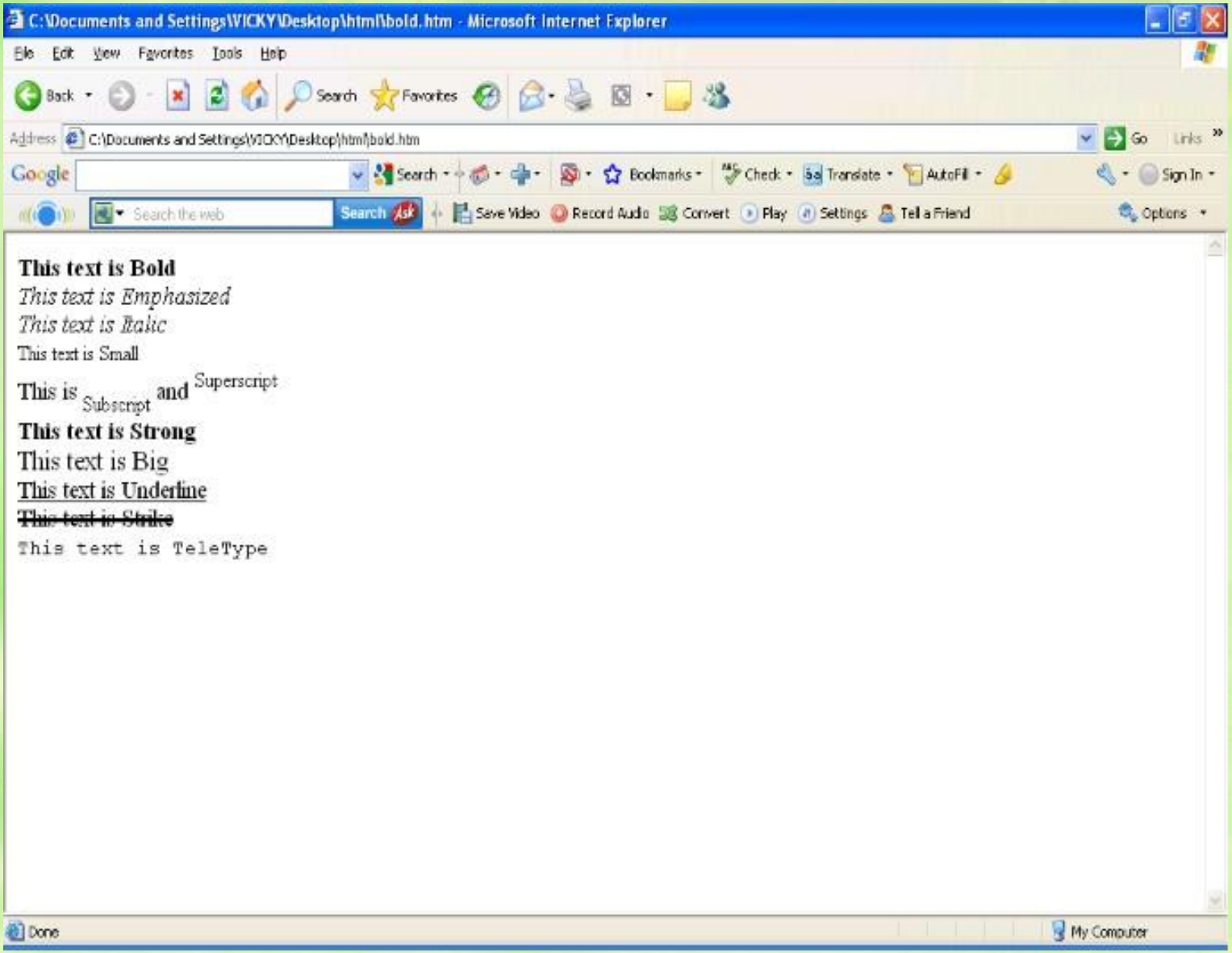
Text Formatting Tags

<b>	Defines bold text
<big>	Defines big text
****	Defines emphasized text
<i>	Defines italic text
<small>	Defines small text
****	Defines strong text
<sub>	Defines subscripted text
<super>	Defines superscripted text
<ins>	Defines inserted text
<del>	Defines deleted text
<tt>	Defines teletype text
<u>	Defines underline text
<strike>	Defines strike text

Text Formatting Code

```
<html>
<head></head>
<body>
<b>This text is Bold</b>
<br><em>This text is Emphasized</em>
<br><i>This text is Italic</i>
<br><small>This text is Small</small>
<br>This is<sub> Subscript</sub> and
<sup>Superscript</sup>
<br><strong>This text is Strong</strong>
<br><big>This text is Big</big>
<br><u>This text is Underline</u>
<br><strike>This text is Strike</strike>
<br><tt>This text is Teletype</tt>
</body>
</html>
```

Result of Text Formatting Code



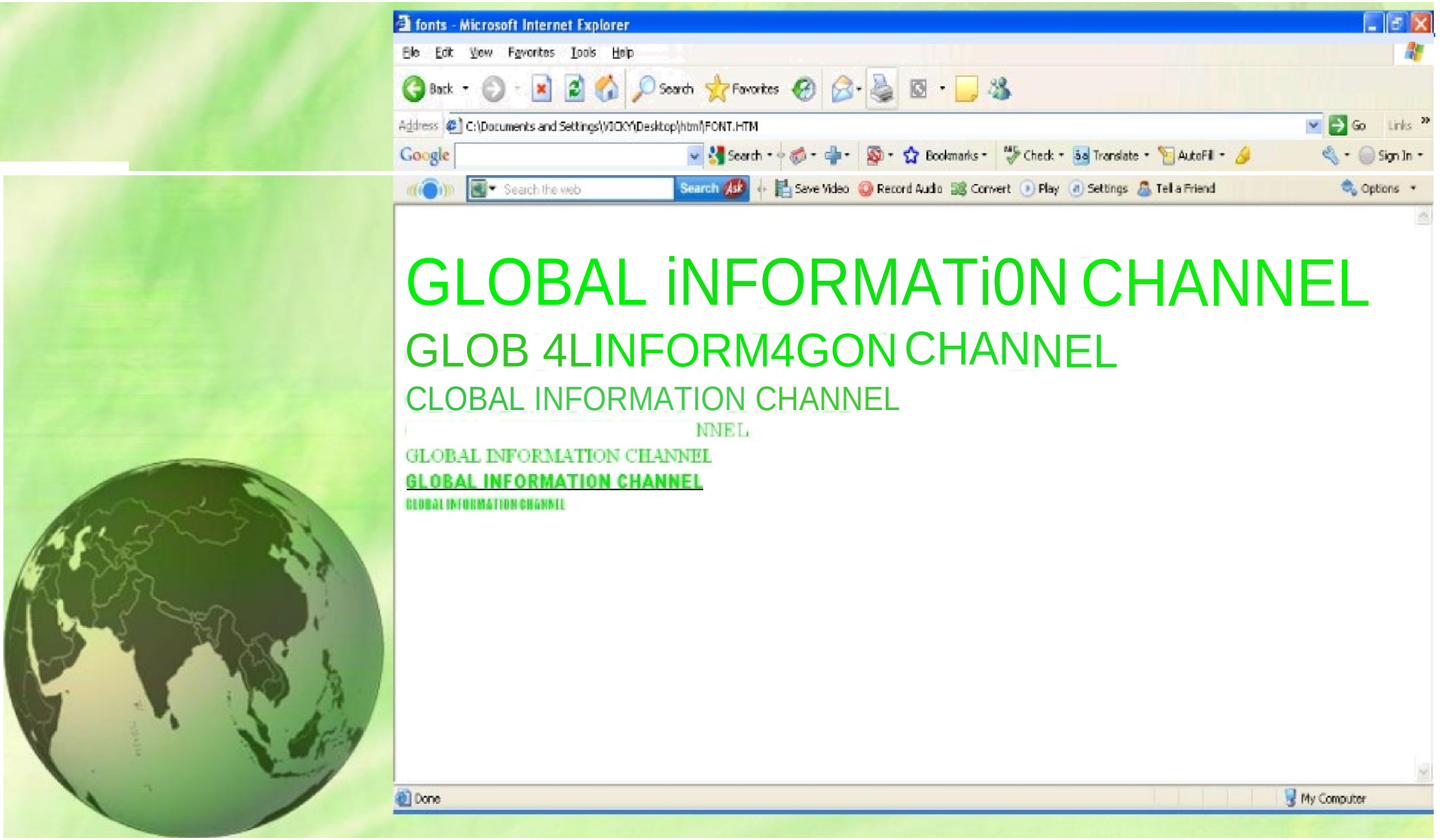
Font Tag

- This element is used to format the **size, typeface** and **color** of the enclosed text.
- The commonly used fonts for web pages are Arial, Comic Sans MS , Lucida Sans Unicode, Arial Black, Courier New, Times New Roman, Arial Narrow, Impact, Verdana.
- The size attribute in font tag takes values from **1 to 7**.

Font Tag Code

```
<html>
<head><title> fonts</title></head>
<body>
<br><font color=“green" size="7" face="Arial"> GLOBAL
INFORMATION CHANNEL </font>
<br><font color=“green" size="6" face="Comic Sans MS ">
GLOBAL INFORMATION CHANNEL </font>
<br><font color=“green" size="5" face="Lucida Sans Unicode">
GLOBAL INFORMATION CHANNEL </font>
<br><font color=“green" size="4" face="Courier New"> GLOBAL
INFORMATION CHANNEL </font>
<br><font color=“green" size="3" face="Times New Roman">
GLOBAL INFORMATION CHANNEL </font>
<br><font color=“green" size="2" face="Arial Black"> GLOBAL
INFORMATION CHANNEL </font>
<br><font color=“green" size="1" face="Impact"> GLOBAL
INFORMATION CHANNEL </font>
</body>
</html>
```

Result of Font Code



Background & Text Color Tag

- The attribute bgcolor is used for changing the back ground color of the page.

<body bgcolor="Green" >

- Text is use to change the color of the enclosed text.

<body text="White">

Text Alignment Tag

- It is use to alignment of the text.
    1. Left alignment <align="left">
    2. Right alignment <align="right">
    3. Center alignment <align="center">

Hyperlink Tag

- A hyperlink is a reference (an address) to a resource on the web.
- Hyperlinks can point to any resource on the web: an HTML page, an image, a sound file, a movie, etc.
- The HTML anchor element <a>, is used to define both hyperlinks and anchors.

Link text

- The **href attribute** defines the link address.

Visit globalinfochannel!

Result of Hyperlink Code

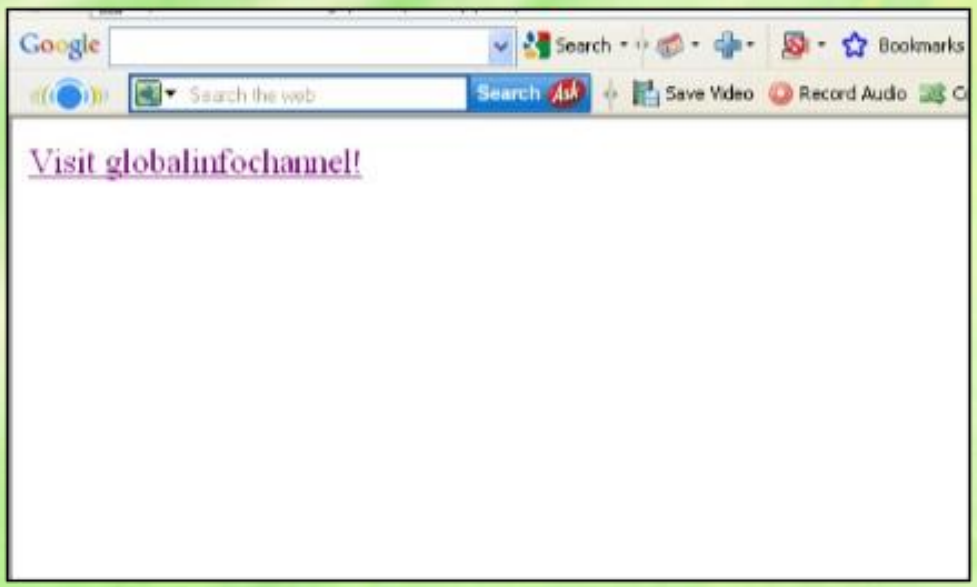


Image Tag

- To display an image on a page, you need to use the src attribute.
- src stands for "source". The value of the src attribute is the URL of the image you want to display on your page.
- It is a empty tag.

<IMG SRC ="url">

<IMG SRC="picture.gif“>
<IMG SRC="picture.gif“ HEIGHT="30" WIDTH="50">

Image attributes - <img> tag

<img>	Defines an image
<Src>	display an image on a page,Src stands for "source".
<Alt>	Define "alternate text" for an image
<Width>	Defines the width of the image
<Height>	Defines the height of the image
<Border>	Defines border of the image
<Hspace>	Horizontal space of the image
<Vspace>	Vertical space of the image
<Align>	Align an image within the text
<background>	Add a background image to an HTML page

Code & Result of the Image

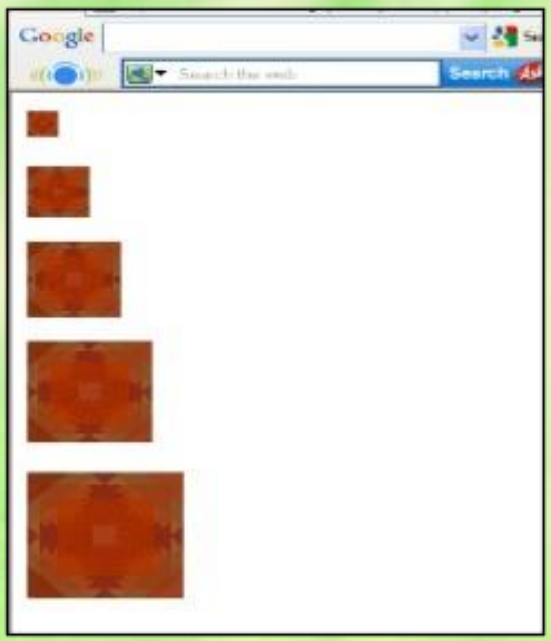
```
<html><body>
<p><img
src="file:///C:/WINDOWS/Zapotec.bmp"
align="left" width="48" height="48"> </p>
<p><img src
="file:///C:/WINDOWS/Zapotec.bmp"
align="right" width="48" height="48"></p>
</body></html>
```

```
<HTML>
<<body background="file:///C:/WINDOWS/Soap
%20Bubbles.bmp" text="white">
<br><br><br>
<h2> Background Image!</h2>
</BODY></HTML>
```

Code & Result of the Image


```
<html><body>
<p>An image
<img src="file:///C:/WINDOWS/Zapotec.bmp"
align="bottom" width="48" height="48"> in the text</p>
<p>An image
<img src ="file:///C:/WINDOWS/Zapotec.bmp"
align="middle" width="48" height="48"> in the text</p>
<p>An image
<img src ="file:///C:/WINDOWS/Zapotec.bmp"
align="top" width="48" height="48"> in the text</p>
<p>Note that bottom alignment is the default alignment</p>
<p><img src ="file:///C:/WINDOWS/Zapotec.bmp"
width="48" height="48">
An image before the text</p>
<p>An image after the text
<img src ="file:///C:/WINDOWS/Zapotec.bmp"
width="48" height="48"> </p>
</body></html>
```

Code & Result of the Image




```
<html><body>
<p><img src="file:///C:/WINDOWS/Zapotec.bmp"
align="bottom" width="20" height="20"> </p>
<p><img src ="file:///C:/WINDOWS/Zapotec.bmp"
align="middle" width="40" height="40"></p>
<p><img src ="file:///C:/WINDOWS/Zapotec.bmp"
align="top" width="60" height="60"></p>
<p><img src ="file:///C:/WINDOWS/Zapotec.bmp"
width="80" height="80"> </p>
<p><img src ="file:///C:/WINDOWS/Zapotec.bmp"
width="100" height="100"> </p>
</body></html>
```

HTML Table Tag

<table>	used to create table
<tr>	table is divided into rows
<td>	each row is divided into data cells
<th>	Headings in a table
<Caption>	caption to the table
<colgroup>	Defines groups of table columns
<col>	Defines the attribute values for one or more columns in a table
<thead>	Defines a table head
<tbody>	Defines a table body
<tfoot>	Defines a table footer
<Cellspacing>	amount of space between table cells.
<Cellpadding>	space around the edges of each cell
<Colspan>	No of column working with will span
<rowspan>	No of rows working with will span
<Border>	attribute takes a number

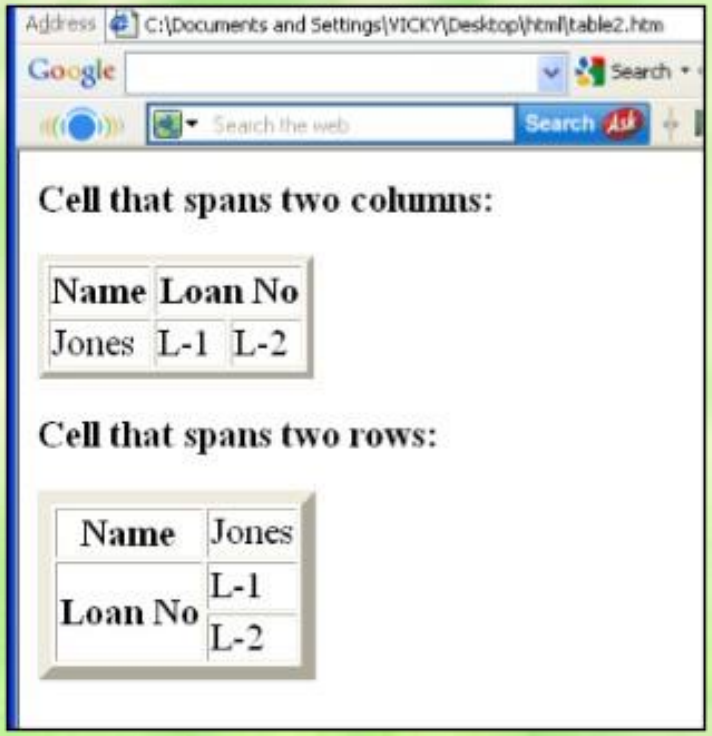
Code & Result of the Table

```
<html>
<body>
<h3>Table without
border</h3>
<table>
<tr> <td>MILK</td>
<td>TEA</td>
<td>COFFEE</td> </tr>
<tr> <td>400</td>
<td>500</td>
<td>600</td> </tr>
</table>
</body>
</html>
```

Header

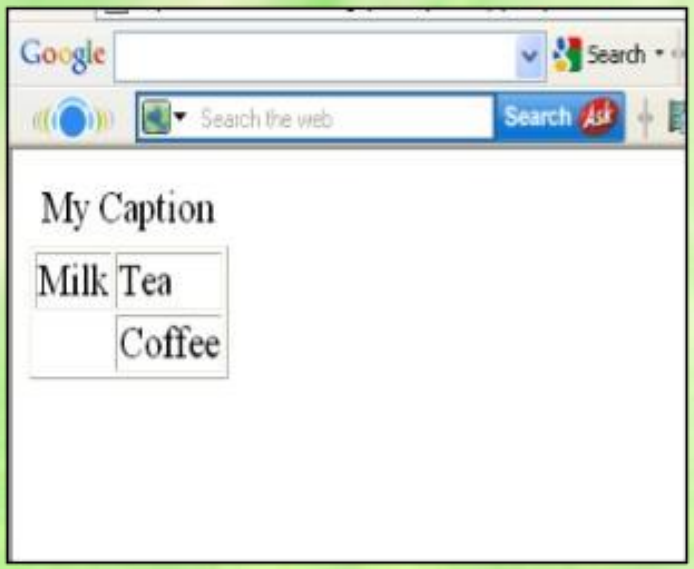
```
<html><body>
<h4>Horizontal Header:</h4>
<table border="1">
<tr> <th>Name</th>
<th>Loan No</th>
<th>Amount</th> </tr>
<tr> <td>Jones</td>
<td>L-1</td>
<td>5000</td></tr> </table><br><br>
<h4>Vertical Header:</h4>
<table border="5">
<tr> <th>Name</th>
<td>Jones</td> </tr>
<tr> <th>Loan No</th>
<td>L-1</td> </tr>
<tr> <th>Amount</th>
<td>5000</td></tr> </table>
</body></html>
```

Table Code with Colspan & Rowspan



```
<html><body>
<h4>Cell that spans two columns:</h4>
<table border="4">
<tr> <th>Name</th>
<th colspan="2">Loan No</th> </tr>
<tr> <td>Jones</td>
<td>L-1</td>
<td>L-2</td> </tr> </table>
<h4>Cell that spans two rows:</h4>
<table border="8">
<tr> <th>Name</th>
<td>Jones</td></tr><tr>
<th rowspan="2">Loan No</th>
<td>L-1</td></tr><tr>
<td>L-2</td></tr></table>
</body></html>
```

Table Code with Caption & ColSpacing




```
<html>
<body>
<table border="1">
<caption>My Caption</caption>
<tr>
<td>Milk</td>
<td>Tea</td>
</tr>
<tr>
<td></td>
<td>Coffee</td>
</tr>
</table>
</body>
</html>
```

Cellpadding,Image & Backcolor Code

```
<html><body>
<h3>Without cellpadding:</h3>
<table border="2" bgcolor="green">
<tr> <td>Jones</td>
<td>Smith</td></tr>
<tr> <td>Hayes</td>
<td>Jackson</td></tr></table>
<h4>With cellpadding:</h4>
<table border="8"
cellpadding="10"
background="file:///C:/WINDOWS/FeatherTexture.b
mp">
<tr> <td>Jones</td>
<td>Smith</td></tr>
<tr> <td>Hayes</td>
<td>Jackson</td></tr></table>
</body></html>
```

XML

Class X

What is XML?

- XML stands for EXtensible Markup Language
- XML is a markup language much like HTML
- XML was designed to carry data, not to display data
- XML tags are not predefined. You must define your own tags
- XML is designed to be self-descriptive
- XML is a W3C Recommendation

The Difference Between XML and HTML

- XML is not a replacement for HTML.
- XML and HTML were designed with different goals:
  - XML was designed to transport and store data, with focus on what data is
  - HTML was designed to display data, with focus on how data looks
- HTML is about displaying information, while XML is about carrying information.

XML Does Not DO Anything

- Maybe it is a little hard to understand, but XML does not DO anything.
- XML was created to structure, store, and transport information.

Look at the following example


```
<note>
 <to>Saloni</to>
 <from>Anita</from>
 <heading>Reminder</heading>
 <message> Don't forget my birthday
 party  this weekend! </message>
 </note>
```


CSS

What is CSS

- Cascading Style Sheets are known as CSS.
- CSS handles the look and feel part of a web page. Using CSS, we can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used and etc.,

Advantages of CSS

- CSS saves time
- Easy maintenance
- Multiple Device Compatibility
- Pages load faster
- Platform Independence

CSS Versions

- CSS1 was came out in Dec 1996. This version describes the CSS language as well as a simple visual formatting model for all the HTML tags.
- CSS2 was came out in May 1998.This version adds support for media-specific style sheets e.g. printers, element positioning and tables.
- CSS3 was came out in June 1999.This version adds new features in color, Transform, rounded corners

Creating and Applying Styles

- There are three ways of inserting a style sheet:
  - Inline (HTML Tags)
  - Internal Style sheets
  - External Style sheets

Inline styles

- An inline style may be used to apply a unique style for a single element.
- To use inline styles, add the style attribute to the relevant element. The style attribute can contain any CSS property.

- *Example*

```
<h1 style="color:blue;margin-left:30px;">This is a heading</h1>
```

Internal Style Sheet

- An internal style sheet may be used if one single page has a unique style.
- Internal styles are defined within the <style> element, inside the <head> section of an HTML page:
- This makes it easy to apply styles like classes or id's in order to reuse the code.

example

```
<head>
<style>
body {
    background-color: Silver;
}

h1 {
    color: red;
    margin-left: 40px;
}
</style>
</head>
```

External style sheets

- With an external style sheet, you can change the look of an entire website by changing just one file.

- Each page must include a reference to the external style sheet file inside the <link> element. The <link> element goes inside the <head> section.

<link rel="stylesheet" type="text/css" href="mystyle.css"

Style Builder

- Style Builder is Microsoft's way to quickly apply styles to our web documents.
- It's a dialog box with a number of screens that allow us to modify the appearance of text and objects in web documents.

Applying Styles using style Builder

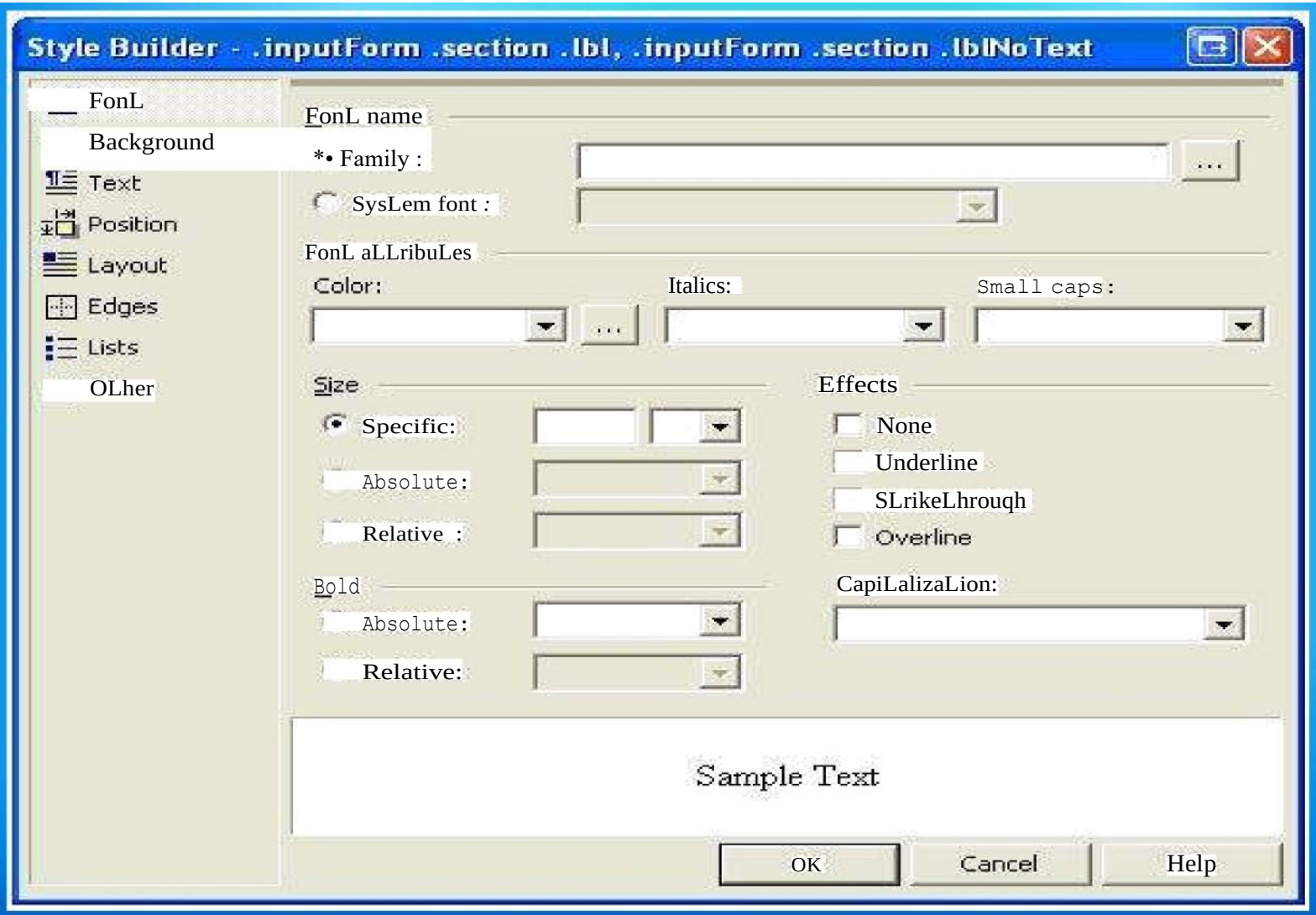
- Highlight the item where we want to apply the style.
- Right click and select Build style.
- Change the style settings to any desired setting within the style builder
- Select OK to apply style.

Style Builder

- The dialog box has the eight types of styles .

1) Font
2) Background
3) Text
4) Position
5) Layout
6) Edges
7) Lists
8) Other

Style Builder



CSS Basic Syntax

selector { property:value; property:value; }

selector,selector { property:value; }

selector.class { property:value }

selector#id { property:value }

CSS-Text

Property name	example	Possible values
Color	color: value;	color name, hexadecimal number
Letter Spacing	letter-spacing: value;	normal, Length
Text Align	text-align: value;	left, right, center, justify
Text Decoration	text-decoration: value;	None, underline, overline, line through, blink
Text Transform	text-transform: value;	None, capitalize, lowercase, uppercase
Word Spacing	word-spacing: value;	Normal, length

CSS-Font

Property name	example	Possible values
Font Size	font-size: value;	length
Font Style	font-style: value;	normal, italic, oblique
Font Variant	font-variant: value;	normal, small-caps
Font Weight	Font-weight: value;	Lighter, normal, 100, 200, 300, 400, 500, 600, 700, 800, 900, bold, bolder

CSS-Margin

Property name	example
margin	margin:10px margin:10px 15px 10px 15px
margin-bottom	margin-bottom:10px
margin-top	margin-top:10px
margin-left	margin-left:10px
margin-right	margin-right:10px

CSS-Border

Property name	example
border	border: 1px solid #333333;
border-color	border-color: red;
border-style	border-style: value; Values be dashed, dotted, double, groove, hidden, inset, none, outset, ridge, solid
border-width	border-width: value;

CSS Anchors and Links <a>

Property name and description	example
a:link sets the color of a link when no event is occurred	a:link {color: #009900;}
a:visited Sets the color of a link when the user has already visited	a:visited {color: #999999;}
a:hover sets the color of a link when user places their mouse pointer over the link	a:hover {color: #333333;}
a:focus same purpose as the last one, but this one is for users that are not using a mouse and are tabbing through the links via there keyboards tab key	a:focus {color: #333333;}

THANK YOU

Web Servers

Topics

- Web Server Definition
- Web Site versus Web Server
- Steps in Handling a Client Request
- Access Control
- Dynamically Generated Responses
- Passing Data to/from the Script
- Creating and Using Cookies
- Sharing Information Across Requests
- Server Architecture
- Server Hosting
- Case Study of the Apache Web Server

- A Web server is a program that generates and transmits responses to client requests for Web resources.
- Handling a client request consists of several key steps:
  - Parsing the request message
  - Checking that the request is authorized
  - Associating the URL in the request with a file name
  - Constructing the response message
  - Transmitting the response message to the requesting client

Web Server Definition

- The server can generate the response message in a variety of ways:
  - The server simply retrieves the file associated with the URL and returns the contents to the client.
  - The server may invoke a script that communicates with other servers or a back-end database to construct the response message.

Web Site versus Web Server

- ***Web site*** and ***Web server*** are different:
  - A ***Web site*** consists of a collection of Web pages associated with a particular hostname.
  - A ***Web server*** is a program to satisfy client requests for Web resources.

Steps in Handling a Client Request

- A Web server proceeds through the following steps in handling an HTTP request:
  - Read and parse the HTTP request message

    for example GET the resource /foo.htm
  - Translate the URL to a file name

    for example the resource be located in the base directory such as /www, where the URL http://www.bar.com/foo/index.html corresponds to the file of www/foo/index.html
  - Determine whether the request is authorized
  - Generate and transmit the response that includes header to show the status information

Access Control

- A Web server may limit which users can access certain resources. Access control requires a combination of ***authentication*** and ***authorization***.
  - Authentication identifies the user who originated the request.
  - Authorization determines which users have access to a particular resource.

AUTHENTICATION

- Most client-server systems authenticate a user by asking for a name and password.
- Web server must perform authentication for ***every*** request for a resource that has access restrictions.
- The server returns an HTTP response that indicates that the request requires authorization.
- The response also identifies what kind of authentication is required.
- The response also identifies the ***realm***
  - a string that associates a collection of resources at the server