



# Introduction to Web Design

Part 1

w. Mike Tyler

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# Web Components



- **Clients and Servers**
- **Internet Service Providers**
- **Web Site Hosting Services**
- **Domains Names, URL's and Ips**
- **Registrars**

# Clients & Servers



## Clients (Browser)

- Internet Explorer
- Firefox
- Mozilla
- Netscape
- Opera
- Amaya
- AOL
- MSN

## Servers

- Apache
- Microsoft
- Netscape
- zeus
- AOLserver
- AV
- JavaWebServer
- Oracle

# Web Components



- Clients and Servers
- **Internet Service Providers**
- Web Site Hosting Services
- Domains Names, URL's and Ips
- Registrars

# Internet Service Providers



Connect Clients to the Internet

- Phone Company
- AOL
- Earthlink
- Verizon
- NetZero
- Basic internet connection
- Dialup/DSL/Cable/Sat
- Email

# Web Components



- Clients and Servers
- Internet Service Providers
- **Web Site Hosting Services**
- Domains Names, URL's and Ips
- Registrars

# Web Hosting Services



Connects Web Sites to the Internet

- Computer (server) farm
- Web server software
- Firewall hardware and software
- IT services
  - (Backup, troubleshooting, hardware repair)
- Disk space
- Bandwidth / connection to internet
- Routers and switchers
- Email server / storage



# Web Components



- Clients and Servers
- Internet Service Providers
- Web Site Hosting Services
- **Domains Names, URL's and Ips**
- Registrars



# Domain's URL's and IPs

- Domain name: The specific address of a computer on the Internet
  - microsoft.com
- Uniform Resource Locator (URL):
  - <http://www.microsoft.com/faq.html>
- Internet protocol (IP) address
  - 192.168.1.1

# Web Components



- **Clients and Servers**
- **Internet Service Providers**
- **Web Site Hosting Services**
- **Domains Names, URL's and Ips**
- **Registrars**

# Domain Registrar



- A company that provides domain name registration services for a fee.
- Maintain database which maps domain names to IP's
- Propagate new domain name/IP address information across the internet

# Creating a Web Site



1. Choose a domain name
2. Register with a Registrar
3. Choose a hosting service
4. Tell Registrar the IP address
5. Create web content
6. Store (publish) onto hosting server (FTP)
7. Submit new site to search engines

# 12 Principles of good web design

- 1. Visitor-centric, clear purpose**
- 2. Progressive disclosure**
- 3. Displays quickly**
- 4. Browser compatible**
- 5. Intuitive navigation**
- 6. Spelling, grammar, writing**
- 7. Secure (eCommerce)**
- 8. Attractive design, easy to read**
- 9. Cultural bias? (Regional? Domestic? International?)**
- 10. No technical problems (broken links, buggy scripts)**
- 11. Maintainable (separate content from style)**
- 12. Search Engine Accessible**

# Creating your Web Site

## Technologies & Tools

- Markup Languages
  - HTML, DHTML, XML, XSLT, etc....
- Cascading Style Sheets (CSS)
- Scripting languages
  - perl, javascript, php, etc....
- Web creation and editing software
  - Notepad, FrontPage, Coldfusion, Flash, Hotmetal, Site Builder, etc..



# Markup Languages - HTML

Derived from SGML

(Standard Generalized Markup Language )

- **HyperText Markup Language**



# HTML Fundamentals



- Clear text, case insensitive
- Ignores white space
- Comprised of tags `<tag />`
- Open tags and closed tags

# HTML - Fundamentals

- Open tags

- `<name attributes/>`

- `<hr/>`, `<br/>`

- ``

- Closed tags

- `<name attributes> stuff </name>`

- `<b>text to be bolded</b>`

- `<h1>level 1 heading text</h1>`

- Comments

- `<!-- comment text -->`

# HTML – Fundamentals

## Document Structure

**< HTML >**

**Header**

**Body**

**< / HTML >**

# HTML – Fundamentals

## Basic Structure

```
<html>  
  <head>  
    <title> The title of your html page </title>  
    <meta_tags/>  
  </head>  
  <body>  
  
    <! - - your web page content and markup - ->  
  
  </body>  
</html>
```



# HTML - Fundamentals

*header*

```
<body>
```

Hello world

```
</body>
```



# HTML - Fundamentals

*header*

<body>

Mike Tyler

PO Box 190387

Hungry Horse, Mt 59919

</body>



# HTML - Fundamentals

*header*

`<body>`

`<b>Mike Tyler</b><br>`

`PO Box 190387<br>`

`Hungry Horse, Mt 59919<br>`

`</body>`

# HTML - Fundamentals

*header*

```
<body>
```

```
<font face="Arial,Times,Courier" color="red" size="3">
```

```
<b>Mike Tyler</b><br>
```

```
PO Box 190387<br>
```

```
Hungry Horse, Mt 59919<br></font>
```

```
</body>
```



# HTML - Fundamentals

*header*

```
<body>
```

```
  <p align='center'>
```

```
    <font face="Arial, Lucida Sans" color="red" size="3">
```

```
      <b>Mike Tyler</b><br>
```

```
      PO Box 190387<br>
```

```
      Hungry Horse, Mt 59919<br></font>
```

```
    </p>
```

```
</body>
```

# HTML - Fundamentals

*header*

```
<body>
```

```
  <p align='center'>
```

```
  <font face="Arial, Lucida Sans" color="red" size="3">
```

```
    <b>Mike Tyler</b><br>
```

```
    PO Box 190387<br>
```

```
    Hungry Horse, Mt 59919<br></font>
```

```
  </p>
```

```
  <img src='http://www.myserver.com/images/mike.jpg' />
```

```
</body>
```

# HTML - Fundamentals

*header*

```
<body>
```

```
<p align='center'>
```

```
<font face='Arial, Lucida Sans' color='red' size=3>
```

```
<b>Mike Tyler</b><br>
```

```
PO Box 190387<br>
```

```
Hungry Horse, Mt 59919<br></font>
```

```
</p>
```

```
<img src='http://www.domain.com/images/mike.jpg'>
```

```
<a href='biopage.html'>Read my Bio</a>
```

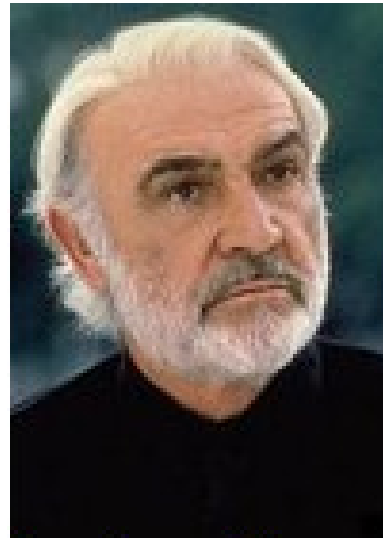
```
</body>
```

# HTML - Fundamentals

**Mike Tyler**

PO Box 190387

Hungry Horse, Mt 59919



[Read my Bio](#)



# HTML - Fundamentals

## ANCHORS (Hypertext Link)

`<A href="url" attributes>Displayed text </A>`

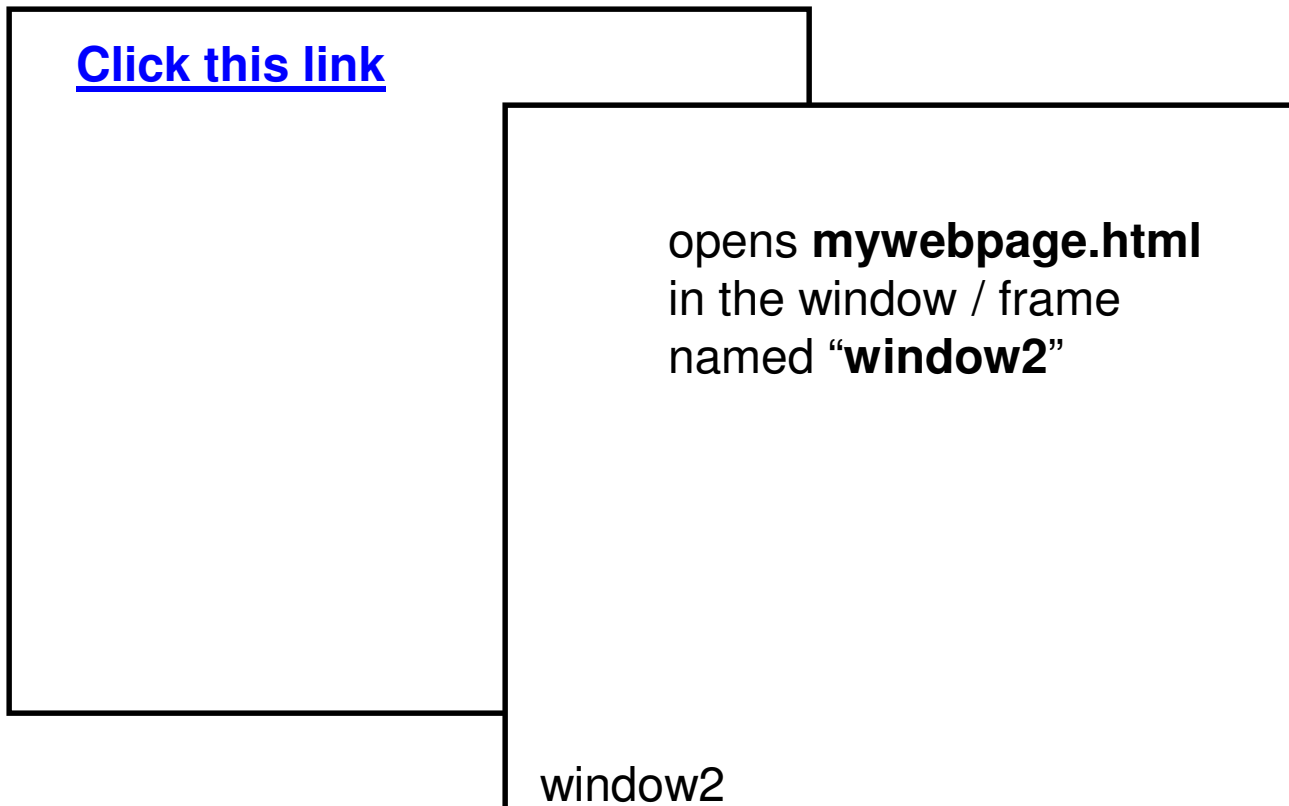
### Attributes

- NAME = "text"
- TITLE = "text"
- TARGET = "frame\_name|window\_name"

# HTML – Fundamentals

Hypertext links

`<a href="mywebpage.html" target="window2" >Click this link </a>`



# HTML – Fundamentals

## Hyperlink Colors

`<BODY LINK=color, VLINK=color, ALINK=color >`

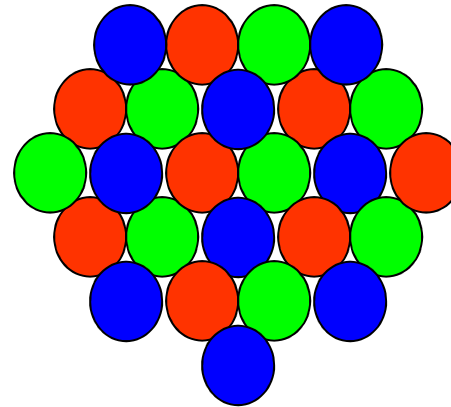
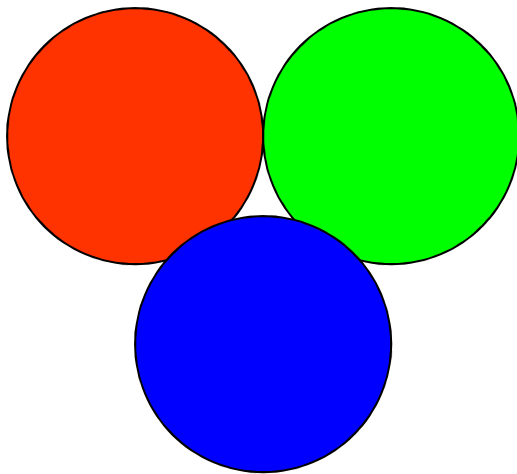
`<BODY LINK=“blue”, VLINK=“purple”, ALINK=“red” >`

`<BODY LINK=“#0000FF”, VLINK=“#FF00FF”, ALINK=“#FF0000” >`

# HTML – Fundamentals

## Colors

- Cathode Ray Tubes (CRT)





# HTML – Fundamentals

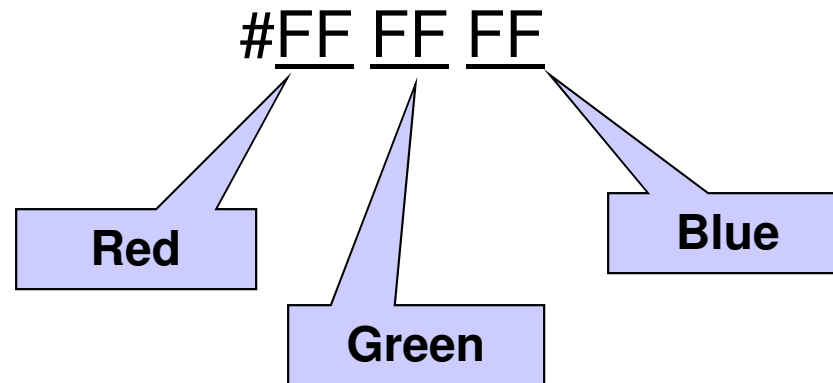
## Colors

color = “red” (Browser compatibility issues)

color = “#FF0000”

values vary from 00 to FF (hexadecimal)

0,1,2,3,4,5,6,7,8,9,a,b,c,d,e,f



# HTML – Fundamentals

## Headings



- Renders text as a heading, the rendering depending on the level of heading selected. Headings should be automatically spaced from the body text.

`<h1>Heading 1 level text</h1>`

`<h2>Heading 2 level text</h2>`

`<h3>Heading 3 level text</h3>`

`<h4>Heading 4 level text</h4>`

`<h5>Heading 5 level text</h5>`

`<h6>Heading 6 level text</h6>`

# HTML – Fundamentals

## Lists

### Unordered list

```
<ul>  
  <li>apples</li>  
  <li>bananas</li>  
  <li>grapes</li>  
  <li>strawberries</li>  
</ul>
```

### Ordered list

```
<ol type='i' start='2'>  
  <li>apples</li>  
  <li>bananas</li>  
  <li>grapes</li>  
  <li>strawberries</li>  
</ol>
```

# HTML – Fundamentals

## Lists

### Unordered list

- apples
- bananas
- grapes
- strawberries

### Ordered list

- II. apples
- III. bananas
- IV. grapes
- V. strawberries

# HTML – Fundamentals

## Tables

```
<TABLE>
  <CAPTION ALIGN="bottom">Class Grades</CAPTION>
  <TR>
    <TH>Student</TH>
    <TH>Grade</TH>
  </TR>
  <TR>
    <TD>Tom</TD>
    <TD>B+</TD>
  </TR>
  <TR>
    <TD>Sue</TD>
    <TD>A-</TD>
  </TR>
</TABLE>
```

# HTML – Fundamentals

## Tables

<b>Student</b>	<b>Grade</b>
Tom	B+
Sue	A-

Class Grades

# HTML – Fundamentals

## Tables

- `BORDER=value`
- `ALIGN=left|right|center`
- `CELLSPACING=value`
- `CELLPADDING=value`
- `WIDTH=value|percent`

# HTML – Fundamentals

## Tables

```
<TABLE BORDER=1 WIDTH="50%" CELLPADDING="6"
  CELLSPACING="2" ALIGN="RIGHT">
  <CAPTION ALIGN="bottom">Class Grades</CAPTION>
  <TR>
    <TH>Student</TH>
    <TH>Grade</TH>
  </TR>
  <TR>
    <TD>Tom</TD>
    <TD>B+</TD>
  </TR>
  <TR>
    <TD>Sue</TD>
    <TD>A-</TD>
  </TR>
</TABLE>
```



# HTML – Fundamentals

## Tables

<b>Student</b>	<b>Grade</b>
Tom	B-
Sue	A+

Class Grades

# HTML – Fundamentals

## Tables

rowspan and colspan

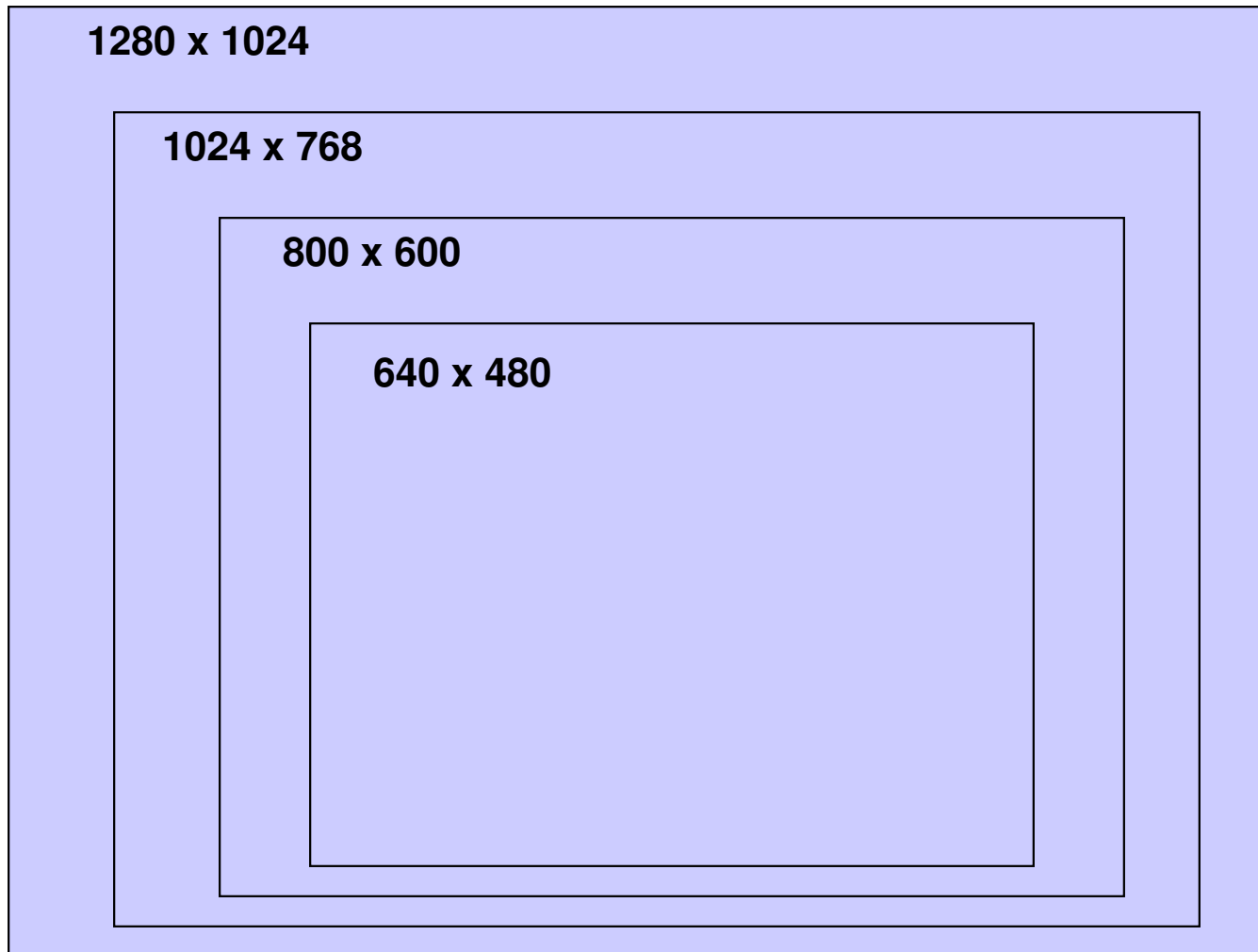

# HTML – Fundamentals

```
<TABLE BORDER=1 WIDTH="50%" CELLPADDING=5 ALIGN="center">
  <TR>
    <TD colspan=2 align='center'>
      <font color="red"><b>Student Grades</b></font>
    </TD>
  </TR>
  <TR>
    <TD><b>Student</b></TD>
    <TD><b>Grade</b></TD>
  </TR>
  <TR>
    <TD>Tom</TD>
    <TD rowspan=2>A</TD>
  </TR>
  <TR>
    <TD>Sue</TD>
  </TR>
</TABLE>
```

# HTML – Fundamentals

<b>Student Grades</b>	
Student	Grade
Tom	A
Sue	

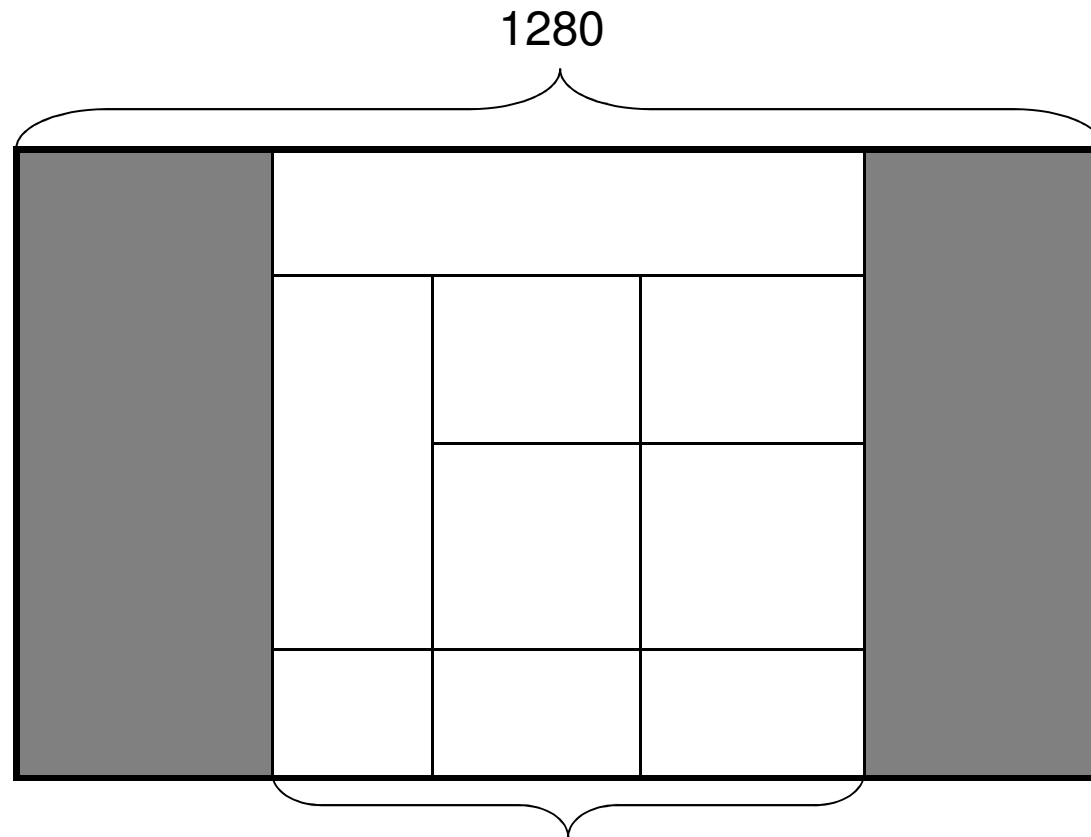
# Screen Compatibility



# HTML – Fundamentals

## Tables

- Tables are frequently used to layout the basic web page design.



# HTML – Fundamentals

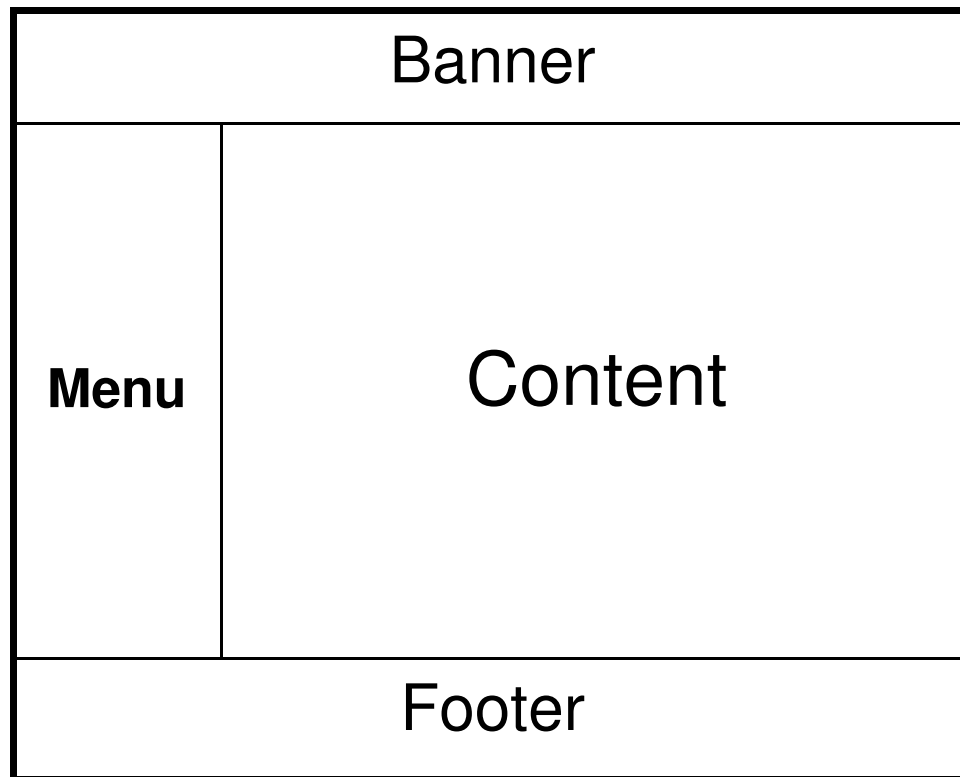
## Frames



- Basic Frames
- Floating Frames (inline frames)
- Picture in picture
  
- Frames let you divide a screen into windows with each window viewing a different web page.

# HTML – Fundamentals

## Basic Frames





# HTML – Fundamentals

## Basic Frames

### Basic tags

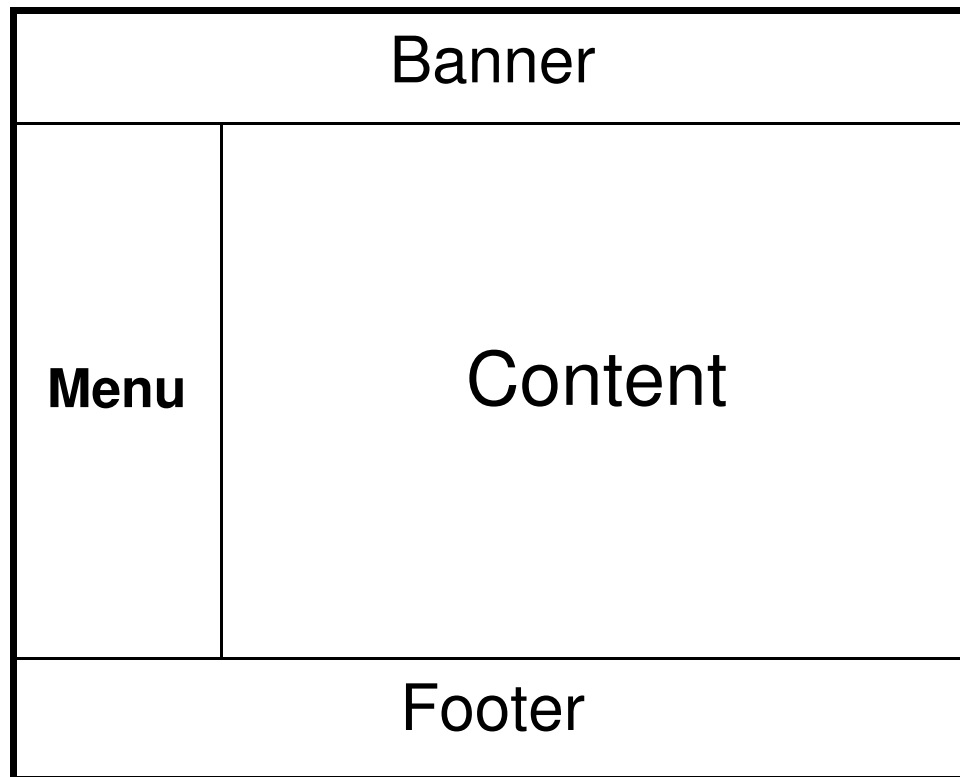
- `<frameset> ..</frameset>`
- `<frame />`
- `<noframes> .. </noframes>`

### Basic attributes

- `cols = “values”`
- `rows = “values”`
- `name = “frame_name”`
- `src = “frame_source(url)”`
- `target = “frame_name”`

# HTML – Fundamentals

## Basic Frames



# HTML – Fundamentals

## Basic Frames

```
<frameset rows="80,* ,80">  
  <frame src="banner.html" />  
  <frameset cols = "25%,75%" >  
    <frame src="menu.html" />  
    <frame src="content.html" />  
  </frameset>  
  <frame src="footer.html" />  
</frameset>
```

# HTML – Fundamentals

## Basic Frames

```
<frameset rows="80,* ,80">  
  <frame src="banner.html" />  
  <frameset cols = "25%,75%" >  
    <frame src="menu.html" />  
    <frame src="content.html" />  
  </frameset>  
</frameset>  
<frame src="footer.html" />
```

**<noframes>**

**<body>**

**Welcome to my page.**

**<A HREF="noframes.htm">Continue</A>**

**to the frame-free version.**

**</body>**

**</noframes>**

**</frameset>**

# HTML – Fundamentals

## Basic Frames

### FRAMESET attributes

- FRAMEBORDER="*yes|no*"|0
- BORDER=*pixels*
- BORDERCOLOR="*#hexcolor|colorname*"

```
< frameset rows="80,* ,80" border=2  bordercolor="red" >  
  ..  
  ..  
</frameset>
```

# HTML – Fundamentals

## Basic Frames

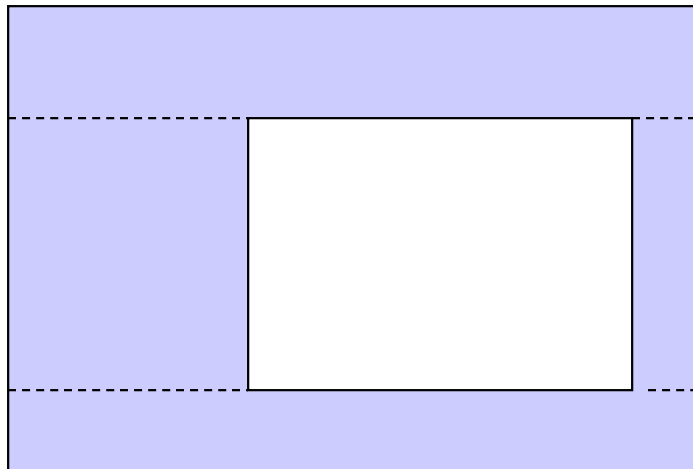
### Individual FRAME attributes

- SCROLLING="yes|no|auto"
- NORESIZE
- MARGINWIDTH=pixels
- MARGINHEIGHT="pixels"
- BORDERCOLOR="color"
- FRAMESPACING="pixels"
- FRAMEBORDER="yes|no"|0
- NAME="frame\_name"

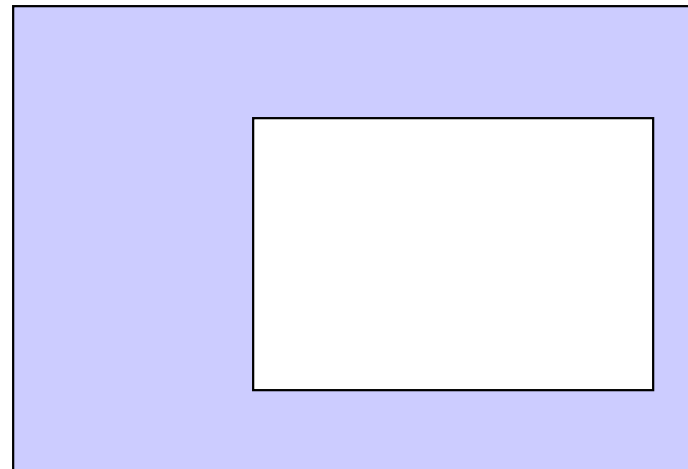
# HTML – Fundamentals

## Floating Frames

- Floating frames allow you to create a frame within the boundaries of a page



**Basic Frames**



**Floating Frames**

# HTML – Fundamentals

## Floating Frames

`<IFRAME attributes ></IFRAME>`

### Attributes

- SRC=URL
- HEIGHT=pixels|percent,
- WIDTH=pixels|percent
- HSPACE=pixels
- VSPACE=pixels
- ALIGN=left|right
- FRAMEBORDER=0



# HTML – Fundamentals

## Floating Frames

<IFRAME

NAME="frame\_name"

ALIGN="right"

HSPACE="40"

VSPACE="40"

WIDTH="75%"

HEIGHT="150"

FRAMEBORDER=0

SRC=<http://www.mysite/mypage.htm> >

</IFRAME>

# HTML – Fundamentals

Hypertext links

`<a href="page.html" target="blank" >Click this link </a>`

- Creates new window for the page

`<a href="page.html" target="parent" >Click this link </a>`

- Opens page in the parent frame/wind of this frame/window

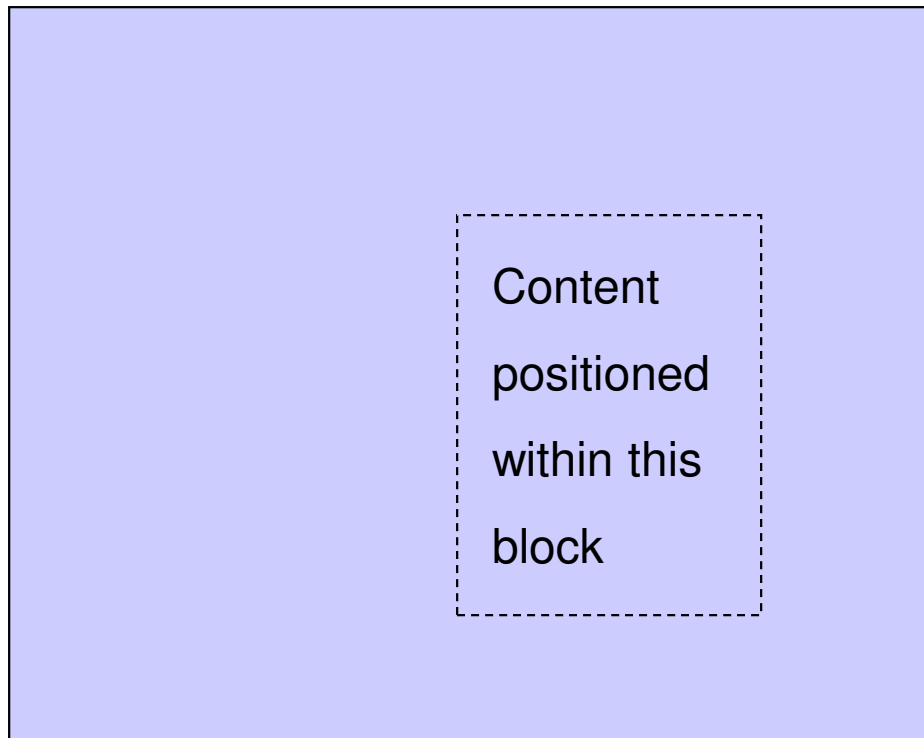
`<a href="page.html" target="top" >Click this link </a>`

- Opens page in top most frame/window

# HTML – Fundamentals

DIV and IFRAME

- Allows you create a position-able block of content.



# HTML – Fundamentals

DIV

`<div attributes> content </div>`

attributes

- ID="name"
- STYLE = "style parameters re: CSS"

# HTML – Fundamentals

DIV

```
< DIV ID="fred"
```

```
  STYLE = "POSITION:absolute|relative;
```

```
    VISIBILITY:visible:hidden;
```

```
    Z-INDEX:number;
```

```
    WIDTH:width in pixels;
```

```
    HEIGHT:height in pixels;
```

```
    TOP:pixels from top of page or block;
```

```
    LEFT:pixels from left edge of page or block;
```

```
    PADDING:margin in pixels;
```

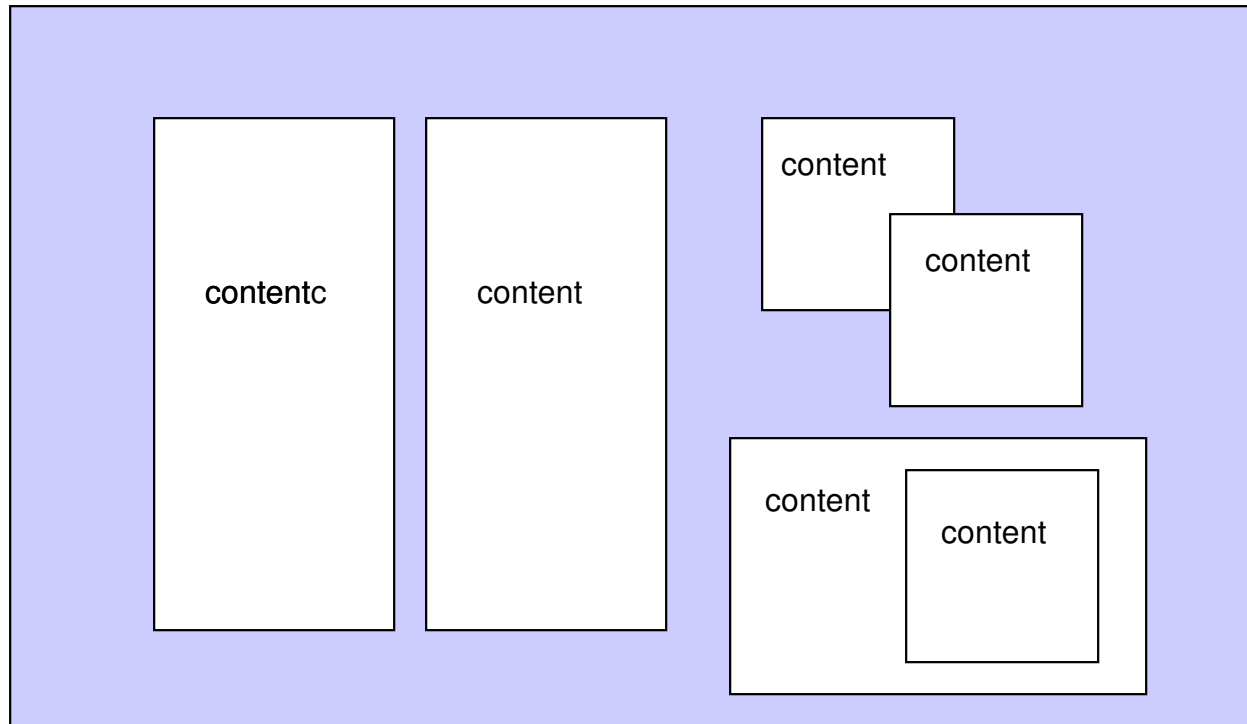
```
    other style attributes; " >
```

content

```
</DIV>
```

# HTML – Fundamentals

DIV



# HTML – Fundamentals

DIV

```
<div style="position:absolute; left:100px;  
top:100px; width:100px; height:100px;  
background-color:#ffffff; ">
```

# HTML – Fundamentals

## CASCADING STYLE SHEETS (CSS)

- Styles enable you to define a consistent 'look' for your documents by describing **once** how headings, paragraphs, quotes, etc. should be displayed.
- Style sheet syntax is made up of three parts:

selector {property: value}

selector = element.class



# HTML – Fundamentals

## CASCADING STYLE SHEETS (CSS)

```
H1 {text-align: center; color: blue}
```

```
A {color:green; font-family:arial,courier; font-weight:bold;}
```

```
td { align:center; background-color:grey; border-color:red;}
```

```
div {position:absolute; visibily:hidden; margin:10px }
```

```
font {color:navy; font-size:2pt; font-face:trebuchet; }
```

```
hr {color:#ff0000; width:80%; align:center; }
```

```
table {width:80%; align:center; border:2px; padding:5px; }
```

# HTML – Fundamentals

## CASCADING STYLE SHEETS (CSS)

```
H1 {text-align: center; color: blue}
```

```
H1.widget {text-align: center; color: red; font-size:80%; }
```

```
A {color:green; font-familiy:arial,courier; font-weight:bold;}
```

```
A.menu {color:cyan; font-familiy:arial,courier; font-style:italics;}
```

```
td { align:center; background-color:grey; border-color:red;}
```

```
td.figure { align:right; background-color:white; border-color:black;}
```

```
font {color:navy; font-size:2pt; font-face:trebuchet; }
```

```
font.fred {color:blue; font-size:2pt; font-face:trebuchet; font-weight:bold; }
```

**element.class {property:value; }**

# HTML – Fundamentals

CASCADING STYLE SHEETS (CSS)

Embedded

```
<head>
```

```
  <title> My Page Title </title>
```

```
  <style TYPE="text/css >
```

```
  <! - -
```

```
  element.class { property:value; }
```

```
  element.class { property:value; }
```

```
  - - >
```

```
  </style>
```

```
</head>
```

# HTML – Fundamentals

CASCADING STYLE SHEETS (CSS)

Linked

Styles can be defined in a separate file

```
<font style="property:value; "> text </font>
```

```
<font class="fred"> text </font>
```

mystyles.css

```
<head>
```

```
<LINK REL="stylesheet" HREF="mystyles.css"  
  TYPE="text/css">
```

```
</head>
```

# HTML – Fundamentals

## CASCADING STYLE SHEETS (CSS)

```
/* Example style sheet file (note how this comment was created) */
```

```
BODY {background: #FFFFD8; margin-top: 20}
```

```
A:link {color: #400080; background: #FFFFD8}
```

```
H1 {font-weight: bold; text-align: center; color: #006000;  
background: #FFFFD8; font-family: Gill Sans, Arial, sans-serif; }
```

```
font.caption {font-family: Gill Sans, Arial, sans-serif; font-style: italic; }
```

```
/* End of example style sheet file */
```

# HTML – Fundamentals

CASCADING STYLE SHEETS (CSS)

Inline

Styles can be placed within individual elements

```
<font style="color:red; font-face:arial;" >
```

# HTML – Fundamentals

## CASCADING STYLE SHEETS (CSS)

Inline > Embedded > Linked

Defining the style of your text

- linked -> `font-family:arial,georgia;`
- embedded -> `color:navy;`
- inline -> `font-size:2pt;`

# HTML – Fundamentals

## CASCADING STYLE SHEETS (CSS)

### Using IDs

- IDs enable you to define a unique style which you can apply to a number of elements.

```
<STYLE>
```

```
<!--
```

```
    #copyright {font-style:italic; font-size:smaller; }
```

```
-->
```

```
</STYLE>
```

```
<p ID="copyright"> Any textual content </p>
```



# HTML – Fundamentals

## Images

```

```

```

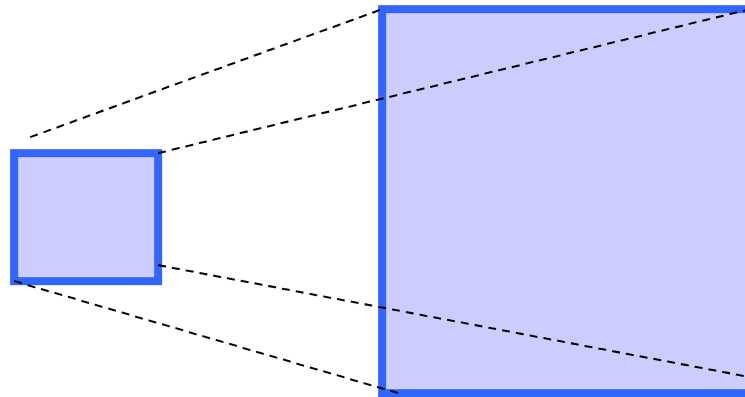
```

```
img.pics { width:75px; height:50px; border-width:3px }
```

# HTML – Fundamentals

## Using Images

- Images take longer to download than text
- The larger the image, the slower the page
- Use optimization software
- Use thumb nail images



# HTML – Fundamentals

## Other uses of Images

- Page background (not recommended)

- `<body background-image = “url” >`

- `<body class=“background”>`

- `body.background { background-image:$url; }`

- Table background

- `<table background-image=“url”>`

- `<table class=“background”>`

- `table.background { background-image:url; }`

- DIV background

- `<div style={ background-image:url; } >`

# Resources

<http://www.w3schools.com/>

- **HTML Tutorials**

- Learn HTML
- Learn XHTML
- Learn CSS
- Learn TCP/IP

- **Browser Scripting**

- Learn JavaScript
- Learn DHTML
- Learn VBScript
- Learn HTML DOM
- Learn WMLScript

- **Server Scripting**

- Learn SQL
- Learn ASP
- Learn ADO
- Learn PHP

- **XML Tutorials**

- Learn XML
- Learn XSL
- Learn XSLT
- Learn XSL-FO
- Learn XPath
- Learn XQuery
- Learn XLink
- Learn XPointer
- Learn DTD
- Learn Schema
- Learn XML DOM
- Learn XForms
- Learn SOAP
- Learn WSDL
- Learn RDF
- Learn RSS
- Learn WAP

- **.NET (dotnet)**

- .NET Microsoft
- .NET ASP
- .NET Mobile

- **Multimedia**

- Learn Media
- Learn SMIL
- Learn SVG
- Learn Flash

- **Web Building**

- Web Building
- Web W3C
- Web Browsers
- Web Quality
- Web Semantic
- Web Careers
- Web Hosting
- Web Certification

# Courses at FVCC



- Introduction to Web Design
- FrontPage Web Design
- Intermediate Web Design
- Advanced Topics in Web Design
- Web Site Promotion
- Basic Perl Programming
- Using Macromedia Studio MX