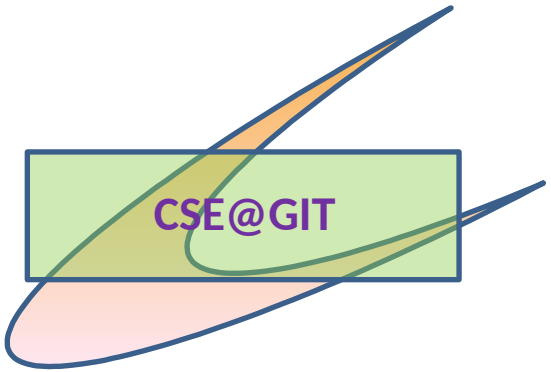
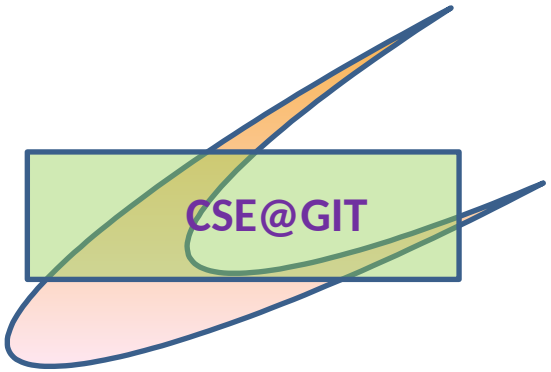
Experiment No. 0

Problem Definition: Introduction to Web , HTML



Objectives of the Experiment:

1. To demonstrate the use of HTML.
2. To develop an understanding of tags in HTML.
3. To be able to build simple web pages.



Theoretical Background of the Experiment

- **The World-Wide Web**

  Web or Internet?

  The Web uses one of the protocols, http, that runs on the Internet

  Others – FTP , telnet, mailto

- **Web Browsers**

- Browsers are Clients - always initiate,

  - Servers react (although sometimes servers require responses)
  - Most requests are for existing documents, using HyperText Transfer Protocol (HTTP)
  - But some requests are for program execution, with the output being returned as a document

Theoretical Background of the Experiment

- **Domain names**
- **Web Servers**

➢ Provide responses to browser requests, either existing documents or dynamically built documents

➢ Browser-server connection is now maintained through more than one request-response cycle

➢ All communications between browsers and servers use Hypertext Transfer Protocol (HTTP)

➢ CERN , NCSA

➢ Apache , IIS


WHERE THE
WEB
WAS BORN
In the offices of this corridor, all the fundamental technologies of the World Wide Web were developed.
Started in 1990 from a proposal made by Tim Berners-Lee in 1989, the effort was first divided between an office in building 31 of the Computing and Networking Division (CN) and one in building 2 of the Electronics and Computing for Physics Division (ECP).
In 1991 the team came together in these offices, then belonging to ECP. It was composed of two CERN staff members, Tim Berners-Lee (GB) and Robert Cailliau (BE), aided by a number of Fellows, Technical Students, a Coopérant and Summer Students.
At the end of 1994 Tim Berners-Lee left CERN to direct the WWW Consortium (W3C), a world-wide organization devoted to leading the Web to its full potential. The W3C was founded with the help of CERN, the European Commission, the Massachusetts Institute of Technology (MIT), the Institut National pour la Recherche en Informatique et en Automatique (INRIA), and the Advanced Research Projects Agency (ARPA).
In 1995 Tim Berners-Lee and Robert Cailliau received the ACM Software System Award for the World Wide Web. In 2004, Tim Berners-Lee was awarded the first Millenium Technology Prize by the Finnish Technology Award Foundation.
The CERN Library
June 2004

Theoretical Background of the Experiment

- CERN – Where the WEB was born by Max Braun

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The CERN Library, June 2004

Theoretical Background of the Experiment

Internet is:

- A world-wide network of computer networks
- At the lowest level, since 1982, all connections use TCP/IP
- TCP/IP hides the differences among devices connected to the Internet
- IETF - Internet Engineering Task Force
- How many versions of TCP/IP protocols are present ?
- RFC - Request for Comments

Theoretical Background of the Experiment

Cailliau , Abramatic, Berners Lee, 10 years WWW consortium by Robert Cailliau

Theoretical Background of the Experiment

HTTP

- Request
  - GET
  - POST
- Response
  - Status
  - Content

[Wireshark , Fiddler]

Structure of HTML

W3C Consortium - World Wide Web Consortium (W3C)

HTML5

W3C also oversee - CSS, SVG, WOFF, the Semantic Web stack, XML,

and a variety of APIs.

[Logos and Icons – W3C http://www.w3.org/Consortium/Legal/logo-usage-20000308.html

W3C - https://www.w3.org/html/logo/index.html]

Structure of HTML

Markup language.

Tags are elements of the HTML language.

Almost every kind of tag has an opening symbol and a closing symbol.

Attributes.

<HTML></HTML>

Element tells browsers that the file is a HTML document.

Each HTML document starts with the tag <HTML>.

This tag should be first thing in the document.

It has an associate closing tag </HTML> which must be the last tag in the file.

Structure of HTML

<HEAD></HEAD>

The head contains important information about the document.

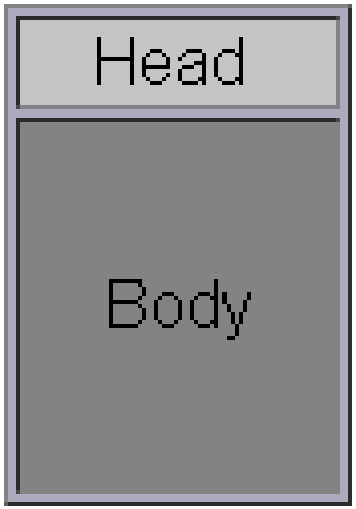
<TITLE></TITLE>

It is used to display a title on the top of browser window.

Both the opening and the closing tags go between the head tags.

Structure of HTML

- The **head** is used for text and tags that do not show directly on the page.
- The **body** is used for text and tags that are shown directly on the page.



Steps to render HTML document

1. Create a folder by your name in any directory

2. Open notepad | Notepad++ | Sublime Text | gedit

Save the file with .html extension

Type the HTML document and save

3. Right click on html fiel and select open with browser

or

Open the Internet Explorer | Firefox | Chrome web browser and type the URL as directoryname:\foldername\filename.html in the address bar

Ex: E:\cse\data.html

4. HTML page will render on browser

[On Firefox or Chrome - Press **F12** , explore !

Right click on web page and click View Source – What do you see ?]

HTML Example

example1.html

```
<html>
 <head>

  <title>Homepage</title>

 </head>

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

HTML Example

example1.html

```
<html>
 <head>

  <title>Homepage</title>

 </head>

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

example2.html

```
<html>
 <body>

  <h1>My First Heading</h1>

  <p>My first paragraph.</p>

 </body>
</html>
```

More Examples - heading

```
<html>
 <body>

  <h1>This is heading 1</h1>
  <h2>This is heading 2</h2>
  <h3>This is heading 3</h3>
  <h4>This is heading 4</h4>
  <h5>This is heading 5</h5>
  <h6>This is heading 6</h6>

 </body>
</html>
```

More Examples – scrolling text

```
<html>
 <body>

  <marquee>This is scrolling text</marquee>

 </body>
</html>
```

Character Style

Character styles include physical and logical character styles, and Face, Size, and Color. Following is character style table.

Physical styles:

<b>	**Make text bold.**
<i>	Make text *italic.*
<u>	Make text underline.
<strike>	Make text ~~strikethrough.~~
<sup>	Make text superscript.
<sub>	Make text subscript.
teletype	Make text teletype

Character Style

Logical styles:

	Indicate the text is very important.
	Indicate the text is important.
<cite>	Indicate that the text is from a book or other document.
<address>	Indicate that the text is an address.
<dfn>	Indicate that the text is a definition.
<samp>	Indicate that the text is a sequence of literal characters.
Keyboard	Indicate that the text is keyboard input.
<var>	Indicate that the text is a variable.
<code>	Indicate that the text is code.

More Examples – HTML5 , XHTML

Stricter Markup language

<!-- For **HTML5 , include DOCTYPE as first line** -->
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "
http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<!-- For , **XHTML - subset and extends HTML4** -->
<!-- **The root element of an XHTML document must be html** -->
<!-- **Must contain an xmlns attribute to associate it with the XHTML namespace.** -->
<html xmlns = "http://www.w3.org/1999/xhtml">

More Examples – anchor , hyperlink

```
<!-- link.html An example to illustrate a link     -->
<html xmlns = "http://www.w3.org/1999/xhtml">
  <head> <title> Links </title>
  </head>
  <body>
    <h1> Aidan's Airplanes </h1>
    <h2> The best in used airplanes </h2>
    <h3> "We've got them by the hangarful"
    </h3>
    <h2> Special of the month </h2>
    <p> 1960 Cessna 210 <br />  <a href = "C210data.html">
        Information on the Cessna 210 </a>
    </p>
  </body>
</html>
```

More Examples - image

```
<!-- An example to display image -->
<html>
 <body>
  <h2>Spectacular Mountain</h2>

  <!-- image pic_mountain.jpg should be in same folder -->
  <!--   as the html page , else mention -->
  <!--   either relative or absolute path -->

  <!--  No image in system ? Take Print Screen ! -->
  <img src="pic_mountain.jpg" alt="Mountain View” />

 </body>
</html>
```

More Examples - image

```
<!-- An example to display image -->

<html>
 <body>

  <h2>Spectacular Mountain</h2>
  <img src="pic_mountain.jpg" alt="Mountain View”
        width="128" height="128" />

 </body>
</html>
```

More Examples - list

```
<!-- An example to ordered list -->
<html>
 <body>
  <h2> Ordered List </h2>
   <ol>
    <li>Coffee</li>
    <li>Tea</li>
    <li>Milk</li>
   </ol>

   <!-- Now for unordered list? -->
 </body>
</html>
```

More Examples - table

```
<html>
 <body>
  <h2>HTML Tables</h2>
  <p>HTML tables start with a table tag.</p>
  <p>Table rows start with a tr tag.</p>
  <p>Table data start with a td tag.</p>

  <hr>
  <h2>1 Column:</h2>

  <table>
    <tr>
      <td>100</td>
    </tr>
  </table>
 </body>
</html>
```

More Examples - table

```
<html>
 <body>
  <h2>HTML Tables</h2>
  <p>HTML tables start with a table tag.</p>
  <p>Table rows start with a tr tag.</p>
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  <hr>
  <h2>1 Column:</h2>

  <table>
    <tr>
      <td>100</td>
    </tr>
  </table>

<!-- How about 1 Row and 3 Columns ? -->
 </body>
</html>
```

More Examples - table

```
<html>
 <body>
  <h2>HTML Tables</h2>
  <p>HTML tables start with a table
tag.</p>
  <p>Table rows start with a tr tag.</p>
  <p>Table data start with a td tag.</p>

  <hr>
  <h2>1 Column:</h2>

  <table>
    <tr>
      <td>100</td>
    </tr>
  </table>
```

```
  <hr>
  <h2>1 Row and 3
Columns:</h2>
  <table>
    <tr>
      <td>100</td>
      <td>200</td>
      <td>300</td>
    </tr>
  </table>

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

More Examples - table

```
<html>
 <body>
  <h2>HTML Tables</h2>
  <p>HTML tables start with a table
tag.</p>
  <p>Table rows start with a tr tag.</p>
  <p>Table data start with a td tag.</p>

  <hr>
  <h2>1 Column:</h2>

  <table>
    <tr>
      <td>100</td>
    </tr>
  </table>
```

```
  <hr>
  <h2>1 Row and 3
Columns:</h2>
  <table>
    <tr>
      <td>100</td>
      <td>200</td>
      <td>300</td>
    </tr>
  </table>
<!-- Now how about 3 Row and
3 Columns ? -->
  <hr>
 </body>
</html>
```

More Examples - table

```
<html>
 <body>
  <h2>HTML Tables</h2>
  <p>HTML tables start with
a table tag.</p>
  <p>Table rows start with a
tr tag.</p>
  <p>Table data start with a td
tag.</p>
  <hr>  <h2>1 Column:</h2>
  <table>
    <tr>
      <td>100</td>
    </tr>
  </table>
  <hr>
  <h2>1 Row and 3
Columns:</h2>
  <table>
    <tr>
      <td>100</td>
      <td>200</td>
      <td>300</td>
    </tr>
  </table>

  <hr>
  <h2>3 Rows and 3
Columns:</h2>
  <table>
    <tr>
      <td>100</td>
      <td>200</td>
      <td>300</td>
    </tr>
    <tr>
      <td>400</td>
      <td>500</td>
      <td>600</td>
    </tr>

    <tr>
      <td>700</td>
      <td>800</td>
      <td>900</td>
    </tr>
  </table>

  <hr>

 </body>
</html>
```

Learning Outcomes of the Experiment

At the end of the session, students should be able to :

1. Understand the working of Client and Server.
2. Write and display simple HTML programs.