



Web Technologies and Programming

Lecture 06

Introduction to HTML

Summary of Previous Lecture

- **Software system architecture**
- **Specifics of web application architecture**
- **Layered web architecture**
 - **2-layered architecture**
 - **3-layered architecture**
 - **N-layered architecture**

Outline

- **Introduction to HTML**
- **Basic Structure of a HTML page**
- **Text formatting tags in HTML**
- **Lists in HTML**

1. Introduction to HTML...

- HTML – **Hyper-Text Markup Language** – The Language of Web Pages on the World Wide Web
- **Hypertext:**
 - Allows for non-linear linking to other documents
- **Markup Language:**
 - Content is “marked up” or tagged to tell the browser how to display it

1. Introduction to HTML...

- It is called markup language because it contains a set of markup tags
- **HTML is a text formatting language**
- HTML standards are developed under the authority of the World Wide Web Consortium (W3C), headed by Tim Lee
 - <http://www.w3c.org>

1. Introduction to HTML...

- It defines the **structure** of webpages and **determines** how data is displayed online
- It has a set of special instructions that can be added in the text to add **formatting** and **linking information**
- It is directly interpreted by the **browser**
- HTML is described by different **HTML tags**
- Each HTML tag **describes** different document content

1. Introduction to HTML...

- HTML was created in **1991** by **Tim Berners-Lee** at CERN in Switzerland
- It was designed to allow scientists to display and share their research
- **1995- HTML 2**
- lots of browsers had added their own bits to HTML
- **Dan Connolly** and colleagues collected all the HTML tags that were widely used and collated them into a draft document

1. Introduction to HTML...

- **1997- HTML 3.2**
- It was the first version developed and standardized exclusively by the W3C
- HTML 3.2 included the support for **applets, text flow around images, subscripts** and **superscripts** etc
- **1999 – HTML 4.1**
- extends HTML with mechanisms for **style sheets, scripting, frames** etc.
- **HTML5**

1. Introduction to HTML...

- **HTML Tags:**
- Tags are instruction that are directly embedded into the text of the document
- Is a signal to a browser to do something before just throwing text on the screen
- Begin with open angle bracket **<** and ends with close angle bracket **>**
 - **For example <HTML>**

1. Introduction to HTML...

- **HTML Tags:**
- HTML tags normally come in **pairs** like `<p>` and `</p>`
- The first tag in a pair is the **start tag**, the second tag is the **end tag**
- The end tag is written like the start tag, but with a **slash** before the tag name
- **Paired Tags :** `<HTML>` `</HTML>`
- **Singular Tags:** `
`

1. Introduction to HTML...

- HTML is not case-sensitive
- Blank and new lines are ignored
- Comment can be added as

<!-- comments -- >

- HTML files have .html extension

2. Structure of HTML Page

```
<html>
```

```
<head>
```

```
<title>Page title</title>
```

```
</head>
```

```
<body>
```

```
<h1>This is a heading</h1>
```

```
<p>This is a paragraph.</p>
```

```
<p>This is another paragraph.</p>
```

```
</body>
```

```
</html>
```

2. Structure of HTML Page

- The entire web page is enclosed within **<HTML>** and **</HTML>**
- Within these tags two distinct sections are created **head** and **body**
- **Head:** **<HEAD>**
 <TITLE> **</TITLE>**
 </HEAD>
- **<TITLE>** shows the title of the webpage

2. Structure of HTML Page

- **Body:** indicate the start and end of main body of textual information

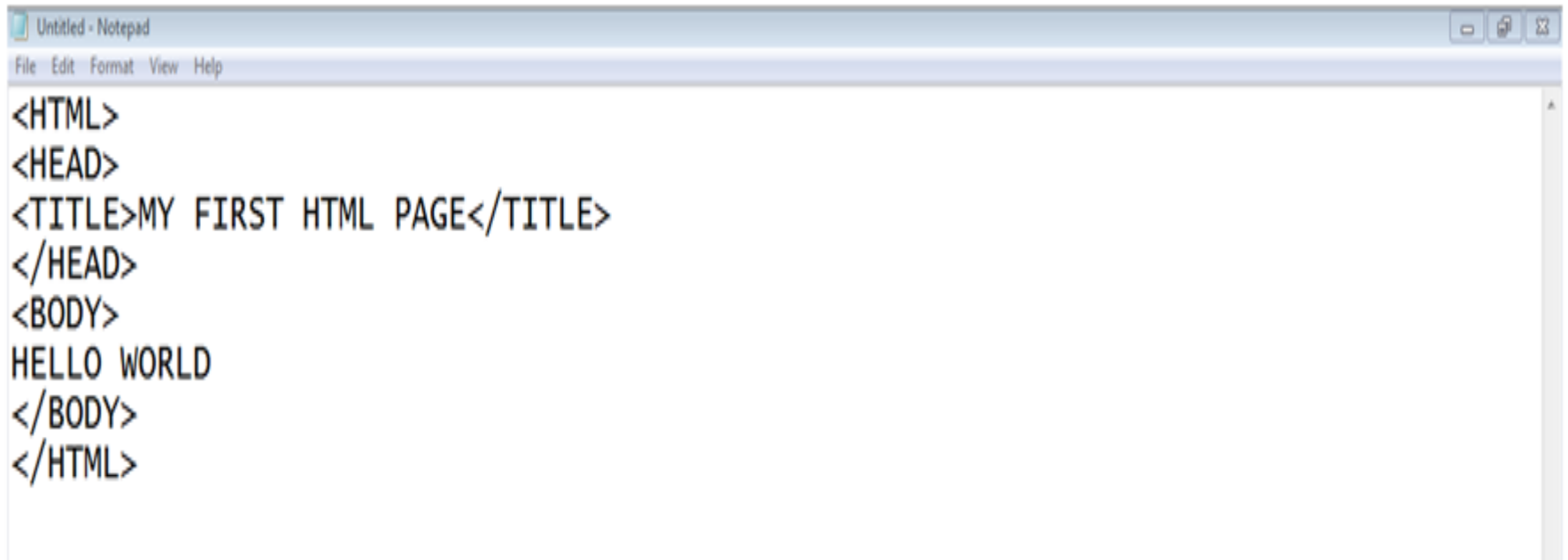
`<BODY>`

`</BODY>`

- Body is the part of html page which is displayed by web browser.

2. Structure of HTML Page...

- **Example - First HTML page:**

A screenshot of a Notepad window titled 'Untitled - Notepad'. The window has a menu bar with 'File', 'Edit', 'Format', 'View', and 'Help'. The text area contains the following HTML code:

```
<HTML>
<HEAD>
<TITLE>MY FIRST HTML PAGE</TITLE>
</HEAD>
<BODY>
HELLO WORLD
</BODY>
</HTML>
```

2. Structure of HTML Page...

- **Example Output- First HTML page:**



2. Structure of HTML Page

- **<!DOCTYPE> Declaration**
- The <!DOCTYPE> declaration helps the browser to display a web page correctly depending on doctype.
- To display a document correctly, the browser must know both type and version.
- The doctype declaration is not case sensitive.

2. Structure of HTML Page

- Common DOCTYPE Declaration
- HTML5

```
<!DOCTYPE html>
```

- HTML 4.01

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01  
Transitional//EN"  
"http://www.w3.org/TR/html4/loose.dtd">
```

- XHTML 1.0

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0  
Transitional//EN"  
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-  
transitional.dtd">
```

3. The BODY Tag

Attributes:

- **BGCOLOR:** Change the background color
- **BACKGROUND:** Place an image at background
- **TEXT:** Change the color of the body text

Example:

- `<BODY BGCOLOR=123345 TEXT=Red>`
- `<BODY BACKGROUND="img.jpg" TEXT=Red>`

3. The BODY Tag

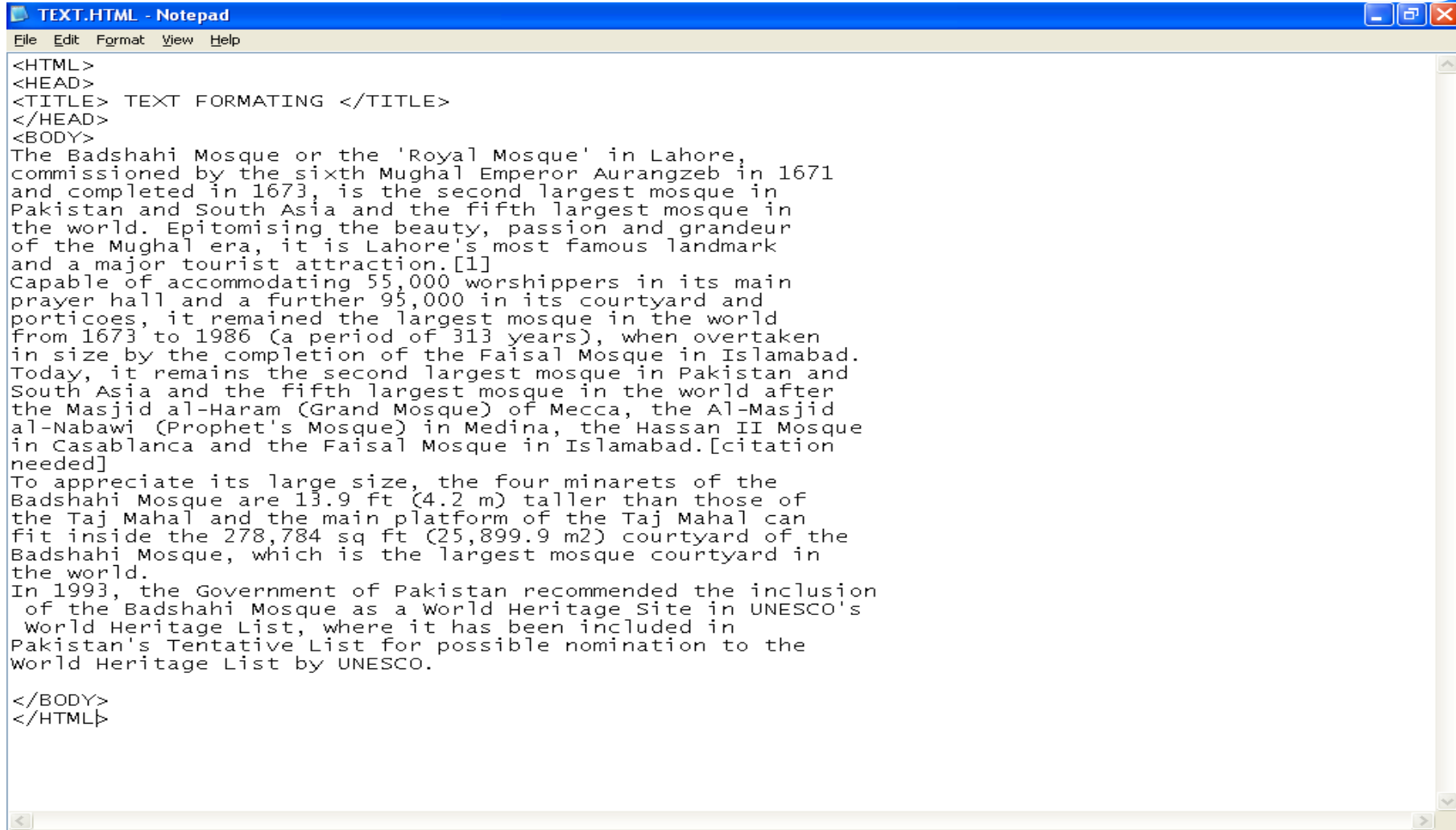


Contents of the body

Text="red"

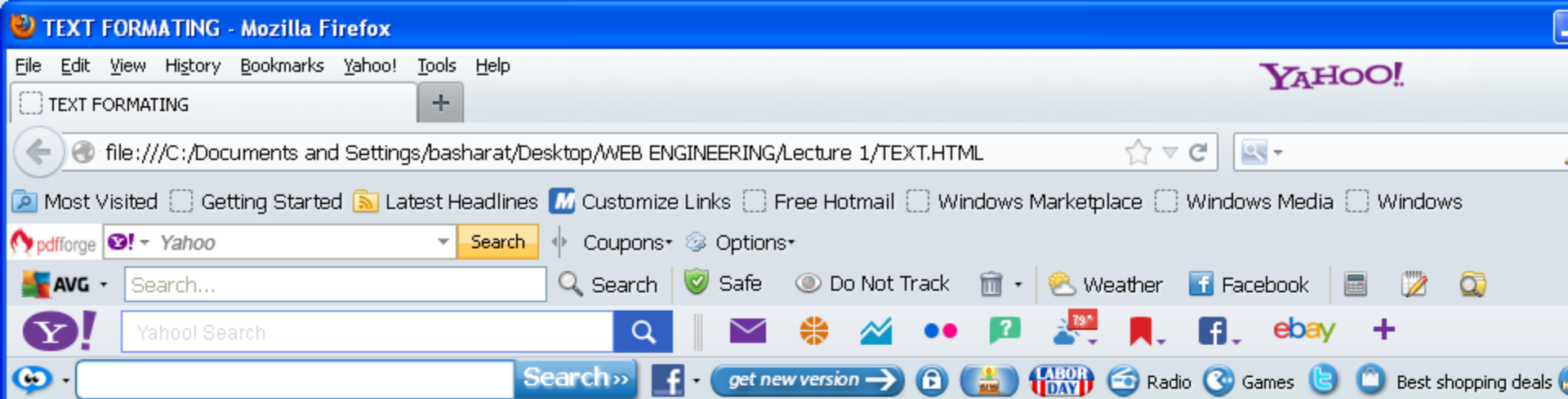
bgcolor="pink"

4. Formatting text



```
TEXT.HTML - Notepad
File Edit Format View Help
<HTML>
<HEAD>
<TITLE> TEXT FORMATING </TITLE>
</HEAD>
<BODY>
The Badshahi Mosque or the 'Royal Mosque' in Lahore,
commissioned by the sixth Mughal Emperor Aurangzeb in 1671
and completed in 1673, is the second largest mosque in
Pakistan and South Asia and the fifth largest mosque in
the world. Epitomising the beauty, passion and grandeur
of the Mughal era, it is Lahore's most famous landmark
and a major tourist attraction.[1]
Capable of accommodating 55,000 worshippers in its main
prayer hall and a further 95,000 in its courtyard and
porticoes, it remained the largest mosque in the world
from 1673 to 1986 (a period of 313 years), when overtaken
in size by the completion of the Faisal Mosque in Islamabad.
Today, it remains the second largest mosque in Pakistan and
South Asia and the fifth largest mosque in the world after
the Masjid al-Haram (Grand Mosque) of Mecca, the Al-Masjid
al-Nabawi (Prophet's Mosque) in Medina, the Hassan II Mosque
in Casablanca and the Faisal Mosque in Islamabad.[citation
needed]
To appreciate its large size, the four minarets of the
Badshahi Mosque are 13.9 ft (4.2 m) taller than those of
the Taj Mahal and the main platform of the Taj Mahal can
fit inside the 278,784 sq ft (25,899.9 m2) courtyard of the
Badshahi Mosque, which is the largest mosque courtyard in
the world.
In 1993, the Government of Pakistan recommended the inclusion
of the Badshahi Mosque as a World Heritage Site in UNESCO's
World Heritage List, where it has been included in
Pakistan's Tentative List for possible nomination to the
World Heritage List by UNESCO.

</BODY>
</HTML>
```



The Badshahi Mosque or the 'Royal Mosque' in Lahore, commissioned by the sixth Mughal Emperor Aurangzeb in 1671 and completed in 1673, is the second largest mosque in Pakistan and South Asia and the fifth largest mosque in the world. Epitomising the beauty, passion and grandeur of the Mughal era, it is Lahore's most famous landmark and a major tourist attraction.[1] Capable of accommodating 55,000 worshippers in its main prayer hall and a further 95,000 in its courtyard porticoes, it remained the largest mosque in the world from 1673 to 1986 (a period of 313 years), when overtaken in size by the completion of the Faisal Mosque in Islamabad. Today, it remains the second largest mosque in Pakistan and South Asia and the fifth largest mosque in the world after the Masjid al-Haram (Grand Mosque) of Mecca, the Al-Masjid al-Nabawi (Prophet's Mosque) in Medina, the Hassan II Mosque in Casablanca and the Faisal Mosque in Islamabad.[citation needed] To appreciate its large size, the four minarets of the Badshahi Mosque are 13.9 ft (4.2 m) taller than those of the Taj Mahal and the main platform of the Mahal can fit inside the 278,784 sq ft (25,899.9 m²) courtyard of the Badshahi Mosque, which is the largest mosque courtyard in the world. In 1993, the Government of Pakistan recommended the inclusion of the Badshahi Mosque as a World Heritage Site in UNESCO's World Heritage List, where it has been included in Pakistan's Tentative List for possible nomination to the World Heritage List by UNESCO.

4. Formatting text...

- **<P>..... </p>**: starts a new paragraph

Attributes of paragraph (values)

- **Align (left, right, center and justify)**
- **
**: gives an one line break. After this, tag start from next line
- **Text Styles:**
 - ** , <I> </I>, <U> </U>**
- **<HR>**: draws horizontal line

Attributes

- **ALIGN (LEFT,CENTER,RIGHT)**
- **SIZE=2**
- **WIDTH=100%**
- **color**

4. Formatting text...

- **Headings (6 sizes)**
- **<H1> </H1>**
- **<H2> </H2>**
- **<H3> </H3>**
- **<H4> </H4>**
- **<H5> </H5>**
- **<H6> </H6>**

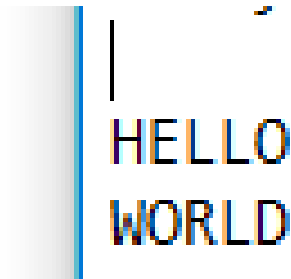
4. Formatting text...

- **<CENTER>....</CENTER>**
- **.....**
 - FONTFACE: Sets the specified font name
 - SIZE: Size of the text (between 1 and 7)
 - COLOR: Set the color of the text
- **Example:**
 - **
Welcome**

4. Formatting text...

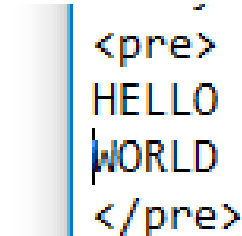
- **<pre>..... </pre>:**
 - Spaces and line breaks are supported
 - Text is displayed in mono-spaced format
 - Text is shown in same format as written in editor

Without **<pre>... </pre>**



HELLO WORLD

With **<pre>... </pre>**

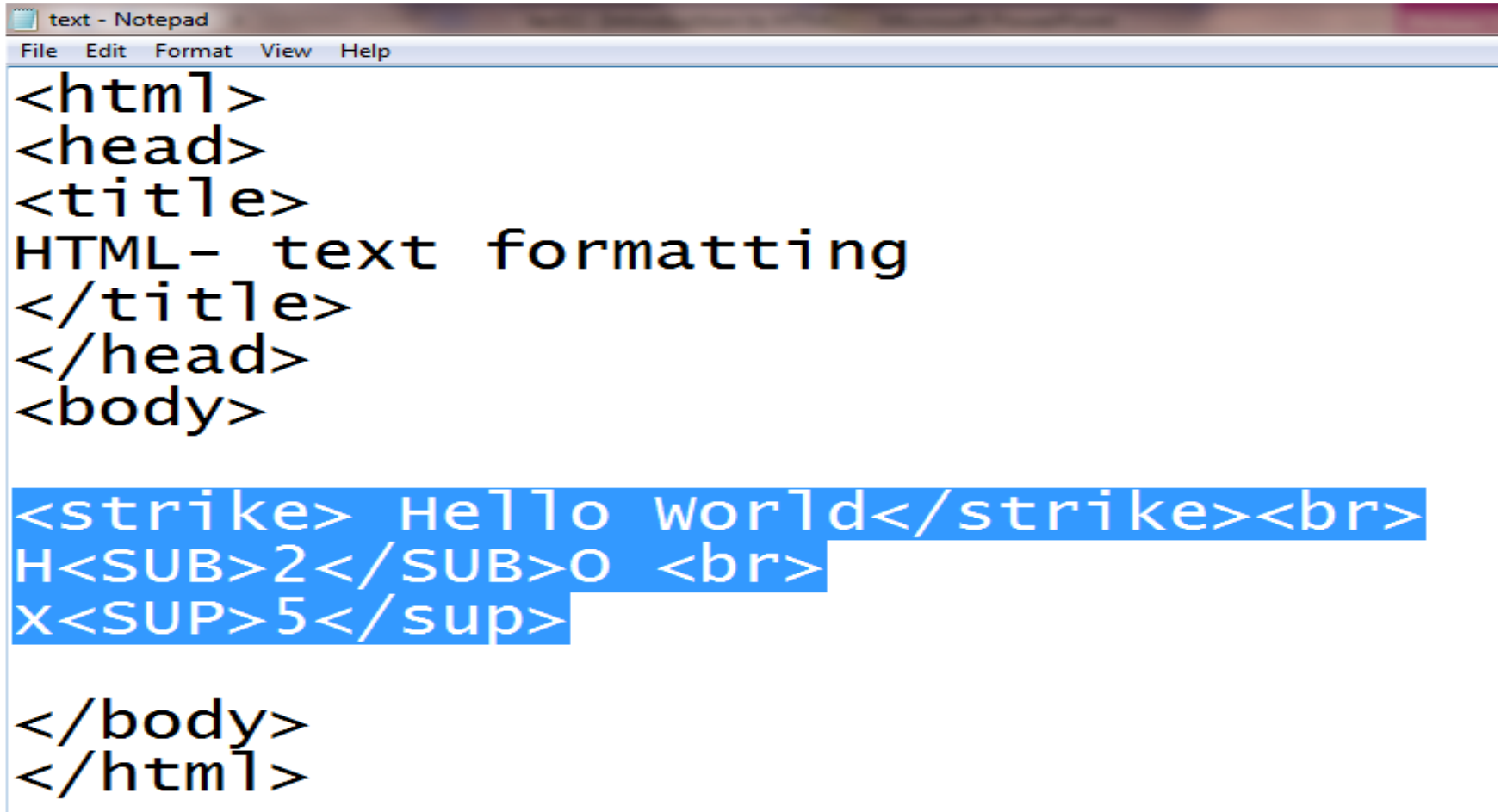


HELLO
WORLD

4. Formatting text...

- **<Strike>.....</Strike>:**
 - DEL is also used in modern browsers
- **_{.....}:**
- **^{.....}:**

4. Formatting text...

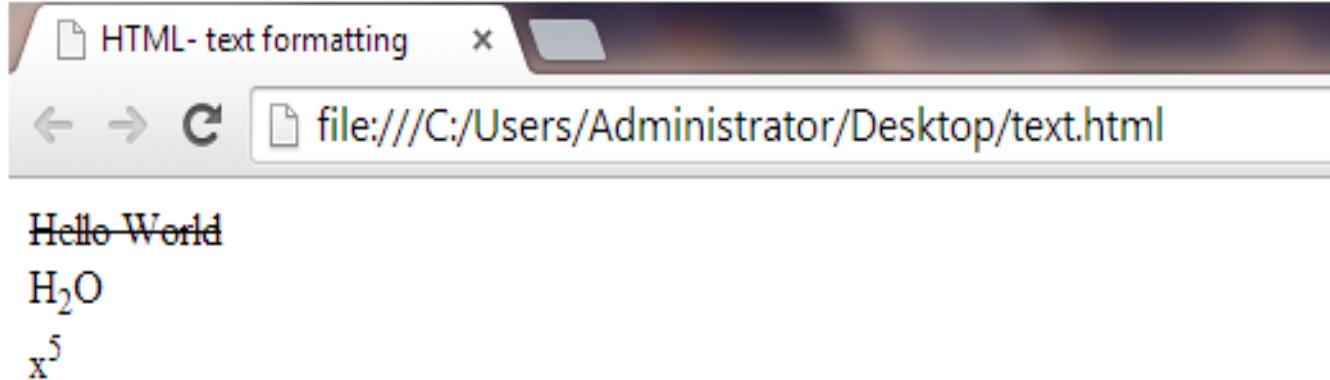


```
text - Notepad
File Edit Format View Help
<html>
<head>
<title>
HTML- text formatting
</title>
</head>
<body>

<strike> Hello world</strike><br>
H<SUB>2</SUB>O <br>
x<SUP>5</sup>

</body>
</html>
```

4. Formatting text...

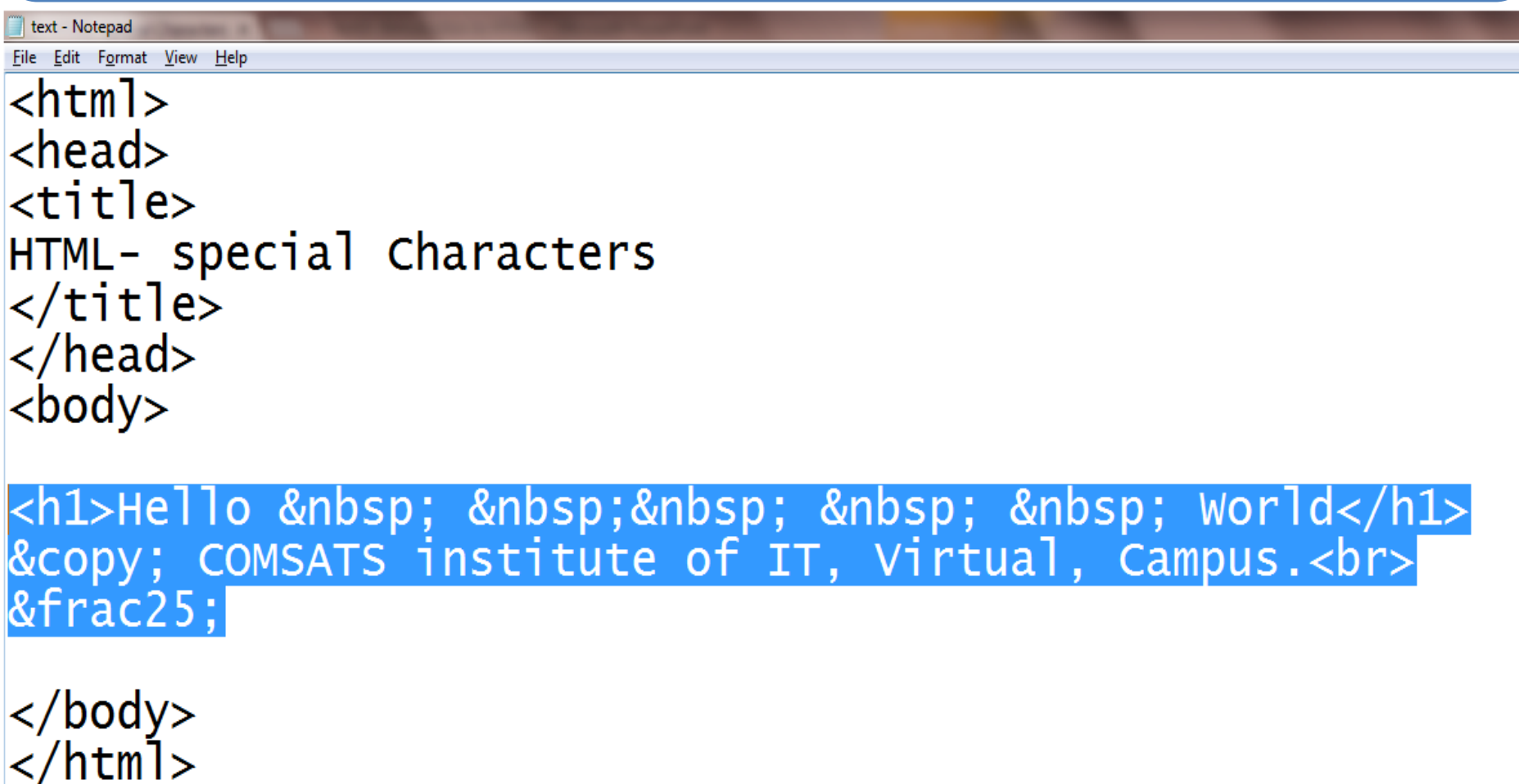


4. Formatting text...

- **Special Characters:**

- Non-breaking space: ` `
- Copyright: `©` ©
- Registration mark: `®` ®
- Fraction one qtr: `¼` ¼
- Greater-than sign: `>` >
- Less-than sign: `<` <
- Trademark sign: `™` TM

4. Formatting text...



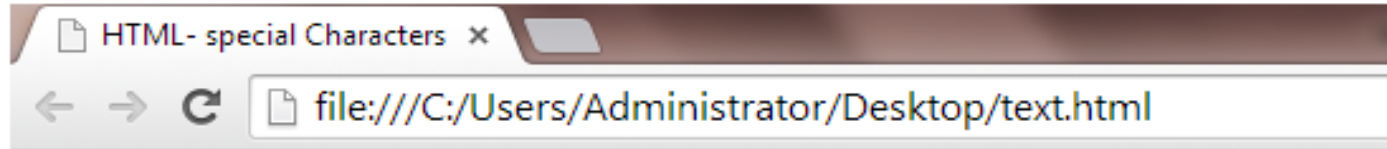
A screenshot of a Notepad window titled "text - Notepad". The window has a menu bar with "File", "Edit", "Format", "View", and "Help". The text area contains the following HTML code:

```
<html>
<head>
<title>
HTML- special characters
</title>
</head>
<body>

<h1>Hello &nbsp; &nbsp;&nbsp;&nbsp;&nbsp; world</h1>
&copy; COMSATS institute of IT, Virtual, Campus.<br>
&frac25;

</body>
</html>
```

4. Formatting text...



Hello World

© COMSATS institute of IT, Virtual, Campus.

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5. Lists in HTML

- **Two type of list**
- **Un-ordered Lists:**
 - Starting Tag ``, Ending Tag ``
 - List Items ``
 - Type (FILLROUND, SQUARE)
- **Ordered Lists:**
 - Starting Tag ``, Ending Tag ``
 - List Items ``
 - Type ("1", "A", "a", "I", "i")
 - Start (Alerts the numbering Sequence)
 - Value (Changes the number sequence in the middle of an ordered list)

5. Lists in HTML

- **Un-ordered Lists Example:**

```
<!DOCTYPE html>
<html>
<body>

<h2>Unordered List with Default Bullets</h2>

<ul>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>

</body>
</html>
```

Unordered List with Default Bullets

- Coffee
- Tea
- Milk

5. Lists in HTML

- **Ordered Lists Example:**

```
<!DOCTYPE html>
<html>
<body>

<h2>Ordered List</h2>

<ol>
  <li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>

</body>
</html>
```

Ordered List

1. Coffee
2. Tea
3. Milk

5. Lists in HTML...

- **Definition Lists:**
 - Starting Tag <DL>
 - Ending Tag </DL>
 - Definition Term <DT>
 - Definition Description <DD>

5. Lists in HTML...

- **Differences Between HTML 4.01 and HTML5**
- In HTML 4.01, the `<dl>` tag defines a definition list.
- In HTML 5, the `<dl>` tag defines a description list.

5. Lists in HTML...

- **Definition Lists Example:**

```
<!DOCTYPE html>
<html>
<body>
```

```
<dl>
  <dt>Coffee</dt>
  <dd>Black hot drink</dd>
  <dt>Milk</dt>
  <dd>White cold drink</dd>
</dl>
```

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

Coffee	
	Black hot drink
Milk	
	White cold drink

5. Lists in HTML...

- **Nested List:**
- **We can nest multiple list to make sub-lists**

```
<!DOCTYPE html>
<html>
<body>

<h2>A Nested List</h2>

<ul>
  <li>Coffee</li>
  <li>Tea
    <ul>
      <li>Black tea</li>
      <li>Green tea</li>
    </ul>
  </li>
  <li>Milk</li>
</ul>

</body>
</html>
```

A Nested List

- Coffee
- Tea
 - Black tea
 - Green tea
- Milk

5. Lists in HTML...

- **Nested List:**
- **We can nest multiple list to make sub-list**

```
<!DOCTYPE html>
<html>
<body>

<h2>A Nested List</h2>

<ul>
  <li>Coffee</li>
  <li>Tea
    <ul>
      <li>Black tea</li>
      <li>Green tea</li>
    </ul>
  </li>
  <li>Milk</li>
</ul>

</body>
</html>
```

A Nested List

- Coffee
- Tea
 - Black tea
 - Green tea
- Milk

Summary

- **What is HTML?**
- **Basic Structure of HTML page**
- **Body tag attributes**
- **Text formatting tags**
- **Lists**

THANK YOU