

Web Design



HTML basic introduction

Third Stage/Semester 1

Lecture

1

©Copyright

Lecturer: Dezheen Hussein Abdulazeez

Email: dezheen.abdulazeez@uod.ac

Computer science Dept_UOD

2021-22

Outlines

- The Internet.
- The World Wide Web (WWW).
- Web Browser and Web Server.
- Some important terms in HTML.
- Basic structure of HTML documents.
- HTML text appearances.

What is the Internet?

- The Internet is a global networks connecting billion of devices that use the Internet protocol (TCP/IP) for sharing and transforming information.

What is the World Wide Web?

- It is a collections of interlinked documents on the internet and accessed via the common protocol(HTTP). It has also commonly become known as the Web.
- Individual document pages on the Web are called web pages.



World Wide Web (Web)

➤ The WWW is invented by Tim Berners Lee.

➤ Three major components:

✓ Protocol to request data: HTTP

-GET /path/to/file/index.html HTTP/1.0

✓ Address where data can be found: URL

-http://www.somehost.com/path/index.html

✓ Markup language which displays data in a form “humans” can interpret it: HTML

HTTP

- **HTTP**(Hypertext transfer protocol) is used for transferring web pages from a server to the user's browser.

URL

- **URL** (Uniform Resource Locator) is a text address that uniquely identifies a WWW pages on the internet.
 - - **`http://www.internet.com/index.html`**
- To view / read the WWW pages you must have a special application, which is commonly called a web browser.



HTML

- **HTML** (Hypertext Markup Language) is the markup language used for structuring and presenting WWW contents .
 - ✓ hypertext refers to the fact that Web pages are more than just text can contain multimedia, provide links for jumping within the same document and to other documents.
 - ✓ Markup refers to the fact that it works by augmenting text with special symbols (tags) that identify structure and content type.

Web Browser

- A Web browser is an application that enables users to view individual web page or the collections of linked web pages that comprise websites.

The most Common Web Browsers are:



internet explorer



Mozilla Firefox



opera



Google chrome

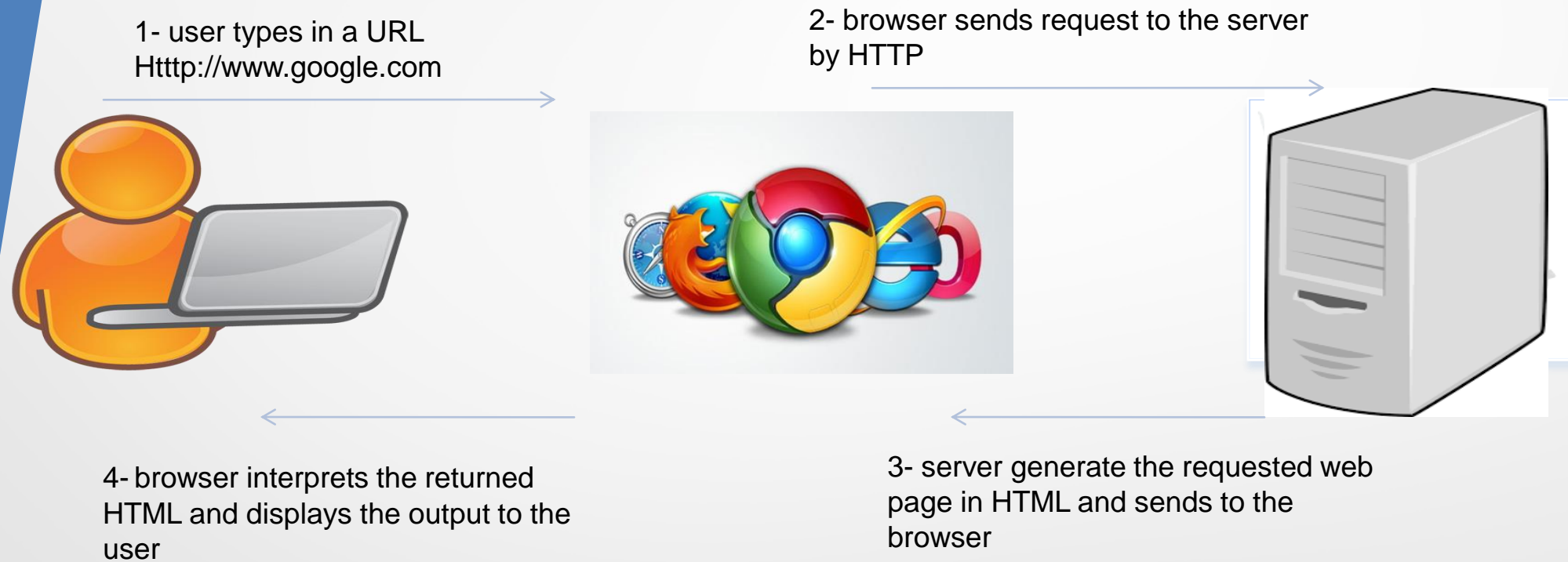


safari

Web Server

- To publish and deliver information on the web you need a web Server.
- A web server is a program that runs on websites and is responsible for replying to a web browsers request for files.

How the web works?



HTML5

- HTML- Hypertext Mark up Language
- HTML5- Version 5 of HTML



Some HTML terms



The diagram consists of three colored ovals arranged in a descending staircase pattern from top-left to bottom-right. The top oval is blue and contains the word 'Tag'. The middle oval is orange and contains the word 'Element'. The bottom oval is green and contains the word 'Attribute'. All text is in white, bold font. On the left side of the image, there are several parallel diagonal lines in dark blue and black, suggesting a computer monitor or a stylized background element.

Tag

Element

Attribute

HTML5 Tags

- Tags are HTML codes enclosed in angle brackets with the tag name in between. Eg:

`<tagName>`



Start tag

End tag

- Tags could come in pairs like `<p>` and `</p>`. The first tag called start tag and the second tag is called end tag preceded by the symbol forward slash.

-Start tag: `<startTag>`

-End tag: `</endTag>`

- The HTML content will be declared between start and end tag.
- `<startTag> HTML Content </endTag>`



```
graph TD; Tag(Tag) --> P["<p>"]
```

Tag

<p>

HTML5 Elements

- The HTML element is everything from the start tag to the end tag.
- Following is the example of an HTML5 element:
 - `<p>My First paragraph </p>`
 - The `<p>` element defines a paragraph.
 - It has a start tag `<p>` and an end tag `</p>`.
 - The element content is: My first paragraph.

Element

`<p>`This my first paragraph`</p>`

Start Tag
Opening Tag

End Tag
Closing Tag

`
`

Example of an HTML5 element

➤ HTML5 tag names are case-insensitive.

-
 Tag as an example, case-insensitive which means that
 and
and
 are all equivalent.

➤ HTML elements with no content are called empty elements.

-
 is an empty element which means that it has no closing tag (the
 tag defines a line break).

Nested HTML Elements

- All HTML documents consist of nested HTML elements.
- HTML elements can be nested (elements can contain elements).
- All HTML elements should be nested properly.

Example: `<P><H1>--- Content---<H1></P>`

HTML5 Attributes

- HTML elements may contain attributes that are used to set various properties of an element.
- Attributes provide additional information about HTML elements.
- Attributes are always specified in the start tag and never be used in end tags.
- Attributes come in name/value pairs like: `title="main"`

Attributes Example

- The title Attribute
- In this example, the **<p>** element has a **title** attribute. The value of the attribute is **"main"**:

```
<p title="main">The main Paragraph</p>
```

Attribute

A diagram illustrating an HTML attribute. A green oval labeled "Attribute" has a purple arrow pointing down to a brown rectangular box containing an HTML paragraph tag. The tag is `<p title="main">The main paragraph</p>`, with the opening and closing tags in blue and the content in white.

`<p title="main">The main paragraph</p>`

The Basic Structure of HTML Documents

1. The HTML document starts by declaring `<!DOCTYPE html>`.

- It defines the document type and HTML version.

2. The HTML document itself begins with `<html>` and ends with `</html>`.

The `<html>` tag is the root tag in HTML document and the rest of other HTML code are contained between opening and closing `<html>` tags.

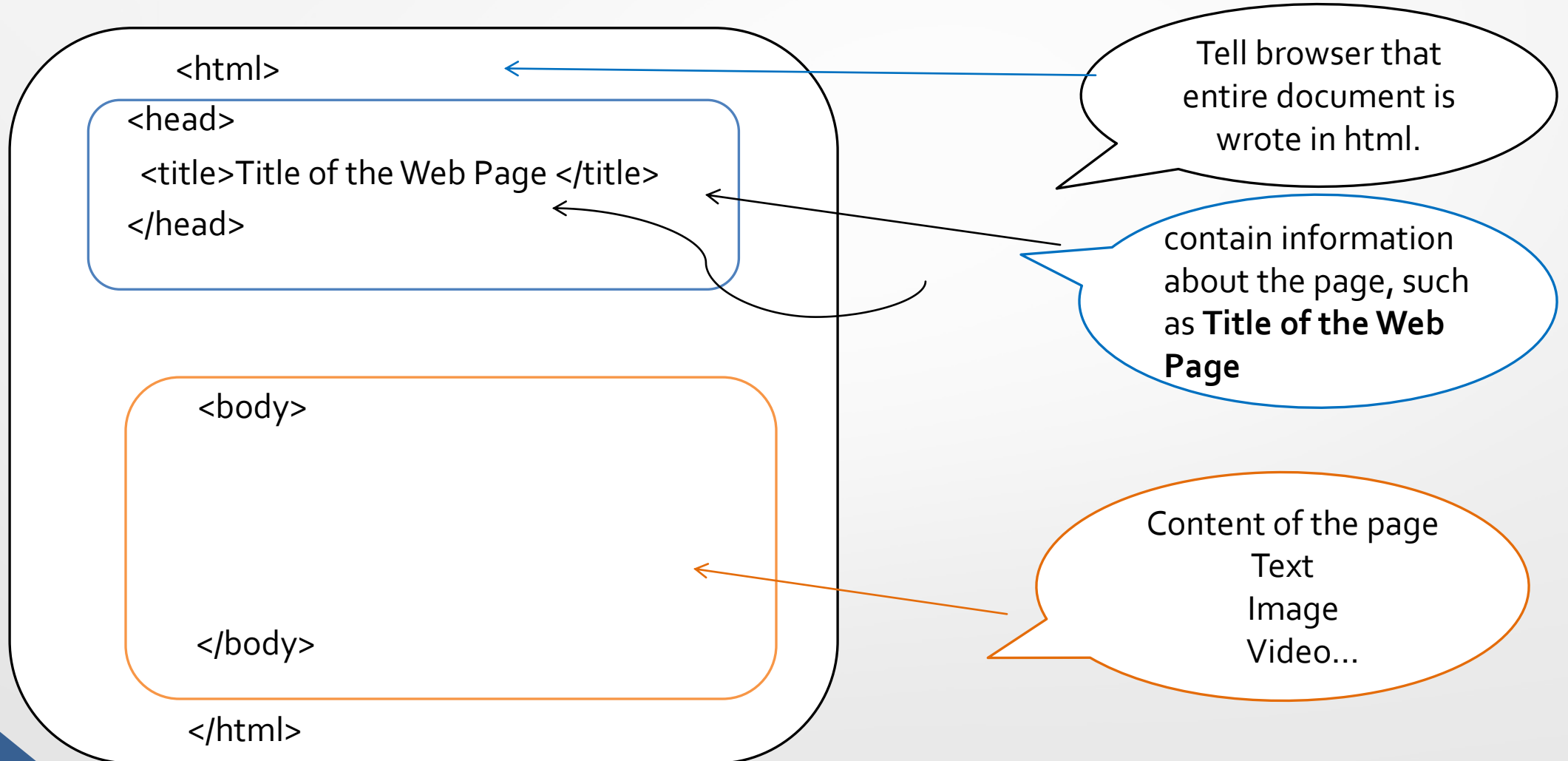
3. Inside HTML element contains two sections

- Head section which contains information about the html document such as a title of the document, meta information, JavaScript code, CSS information and more.

- Body section contains all the contents of an HTML document that will be displayed in the web page including text, hyperlinks, images, tables, lists, PHP code, JavaScript code and other embedded objects.

➤ Comments appear between `<!--This is a comment -->`

The Basic Structure of HTML Documents



The Basic Structure of HTML Documents

Example1: HTML Basic structure

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<meta name="keywords" content="HTML" />
```

```
<title>My First HTML Document</title>
```

```
</head>
```

```
<body>
```

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

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

```
</body>
```

```
</html>
```

HTML <meta> & <title> element inside head section

- Metadata is data (information) about data.
- It provides metadata about the HTML document.
- Metadata will not be displayed on the page, but will be machine readable.
- Meta elements are typically used to specify page description, keywords, author of the document, last modified, and other metadata.



```
<head>
```

```
  <meta name="description" content="Web Programming">
```

```
  <meta name="keywords" content="HTML,CSS, JavaScript">
```

```
  <meta name="author" content="David">
```

```
</head>
```

- HTML <title> element is used to specify the title of the document and it is displayed in the browser tab.

In Laboratory

- Follow the 4 steps below to create your first web page with Notepad ++.
- Step 1: Start open Notepad++.
 - Step 2: Write Some HTML code into Notepad++.
 - Step 3: Save Your HTML Select Save as in Notepad's ++ file menu. Save the file's name with html or htm extension.
 - Step 4: View HTML Page in Your Browser. Open the saved HTML file or right-click, choose open with and select the browser.

Text Layout

- `<p>` tag used to specify a new paragraph.
- `
` tag defines a line break.
- non breaking space (` `) symbol is used to insert space in HTML document.

Example2:Text layout

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>Text Layout</title>
```

```
</head>
```

```
<body>
```

```
<p>This is a paragraph about the current address.</p>
```

```
<p> Name<br> Address<br>City and State<br>Zip code</p>
```

```
<p> My name is : &nbsp; &nbsp; &nbsp; &nbsp; Azad</p>
```

```
</body>
```

```
</html>
```


Headings and Horizontal Rules

➤ HTML headings are defined with the **<h1>** to **<h6>** tags:

- `<h1>... </h1>` elements produce a large and bold heading.
- `<h2> ... </h2>` elements produce a slightly smaller heading.

.....

- `<h6> ... </h6>` elements produce a tiny heading.

➤ `<hr>` tag can insert rule to divide sections.

- `<hr>` draws line across window.

Example3: Heading

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head> <title>Headings</title> </head>
```

```
  <body>
```

```
    <h1> This is a heading1 </h1>
```

```
    <h2> This is a heading2 </h2>
```

```
    <h3> This is a heading3 </h3>
```

```
    <h4> This is a heading4 </h4>
```

```
    <h5> This is a heading5 </h5>
```

```
    <h6> This is a heading6 </h6>
```

```
    <p> This is some sample text inside of the P element</p>
```

```
  </body>
```

```
</html>
```

Example4: Heading & horizontal line

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>  <title>Heading And Horizontal Rule</title> </head>
```

```
  <body>
```

```
    <h1> HTML Basic Introduction</h1>
```

```
    <h2> First Paragraph </h2>
```

```
    <p> This is some sample text inside of the Paragraph1 element</p>
```

```
      <hr>
```

```
    <h2> Second Paragraph</h2>
```

```
    <P> This is some sample text inside of the Paragraph 2 element</p>
```

```
  </body>
```

```
</html>
```

HTML text appearances

- `...` tag specify bold.
- `<i>...</i>` tag specify italic.
- `<pre>...</pre>` tag include ready-formatted text and useful for code or whenever you want text to fit a specific layout.
- `_{...}` tag defines subscript text.
- `^{...}` tag defines superscript text
- `<q> ... </q>` tag defines a short quotation.

Example5: Text appearances

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>  <title> HTMLText Appearances</title> </head>
```

```
  <body>
```

```
    <p> University of <b> Duhok</b></p>
```

```
    <pre>
```

```
      sum=0;
```

```
      for (i = 0; i < 10; i++) {
```

```
        sum = sum + i<sup>2</sup>;
```

```
      }
```

```
    </pre>
```

```
    <p> Albert Einstein states that<q> Imagination is more important than knowledge</q></p>
```

```
  </body>
```

```
</html>
```

HTML Styles Attribute

- To change the default style of an HTML element, this can be done by **style attribute**.
- The **style attribute** used to change background color, text colors, text fonts, text sizes and text alignment.

Example6: Styles attribute

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>HTML Styles Attribute</title>
```

```
</head>
```

```
<body style="background-color:blue" >
```

```
<h1 style=" text-align: center; color:red" >This is a Heading</h1>
```

```
<p style="font-size:300% ;font-family:Arial" >This is a paragraph.</p>
```

```
</body>
```

```
</html>
```