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Web technology
Unit 2: Hyper Text Markup Language

Syllabus:

Unit 2: Hyper Text Markup Language(10 Hrs.)

Introduction to HTML; Elements of HTML Document; HTML Elements and HTML Attributes, Headings, Paragraph, Division, Formating: b, i, small, sup, sub; Spacing: Pre, Br; Formatting Text Phrases: span, strong, tt; Image element; Anchors; Lists: Ordered and Unordered and Definition; Tables; Frames; Forms: Form Elements, ID attributes, Class Attributes of HTML Elements; Meta Tag, Audio, Video, Canvas, Main, Section, Article, Header, Footer, Aside, Nav, Figure Tags; HTML Events: Window Events, Form Element Events, Keyboard Events, Mouse Events

Introduction to HTML

HTML, or Hypertext Markup Language, is a markup language for documents designed to be displayed in a web browser. HTML files are text files which represent the content and the layout of a web page. When used in conjunction with other technologies like CSS and JavaScript, it creates the vast majority of content seen on websites. Let's see what is meant by Hypertext Markup Language, and Web page.

Hyper Text: HyperText simply means "Text within Text." A text has a link within it, is a hypertext. Whenever you click on a link which brings you to a new webpage, you have clicked on a hypertext. HyperText is a way to link two or more web pages (HTML documents) with each other.

Markup language: A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.

Web Page: A web page is a document which is commonly written in HTML and translated by a web browser. A web page can be identified by entering an URL. A Web page can be of the static or dynamic type. With the help of HTML only, we can create static web pages.

Hence, HTML is a markup language which is used for creating attractive web pages with the help of styling, and which looks in a nice format on a web browser. An HTML document is made of many HTML tags and each HTML tag contains different content. So, it can be summarized as....

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

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How to Write HTML Code and Execute

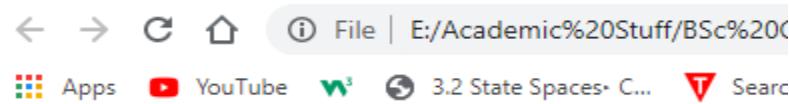
- **Step 1:** Open Notepad
- **Step 2:** Write the HTML code
- **Step 3:** Save the HTML Page with either .htm or .html as file extension
- **Step 4:** View the HTML Page in Your Browser

Simple example of HTML.

```
<!DOCTYPE>
<html>
  <head>
    <title>Web page title</title>
  </head>

  <body>
    <h1>Write Your First Heading</h1>
    <p>Write Your First Paragraph.</p>
  </body>
</html>
```

Output:



Write Your First Heading

Write Your First Paragraph.

Code Explanation:

- **<!DOCTYPE>:** It defines the document type or it instructs the browser about the version of HTML.
- **<html >:** This tag informs the browser that it is an HTML document. Text between html tag describes the web document. It is a container for all other elements of HTML except <!DOCTYPE>
- **<head>:** It should be the first element inside the <html> element, which contains the metadata (information about the document). It must be closed before the body tag opens.
- **<title>:** As its name suggested, it is used to add title of that HTML page which appears at the top of the browser window. It must be placed inside the head tag and should close immediately. (Optional)
- **<body> :** Text between body tag describes the body content of the page that is visible to the end user. This tag contains the main content of the HTML document.
- **<h1> :** Text between <h1> tag describes the first level heading of the webpage.
- **<p> :** Text between <p> tag describes the paragraph of the webpage.

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Features of HTML

- It is a very easy and simple language. It can be easily understood and modified.
- It is very easy to make an effective presentation with HTML because it has a lot of formatting tags.
- It is a markup language, so it provides a flexible way to design web pages along with the text.
- It facilitates programmers to add a link on the web pages (by html anchor tag), so it enhances the interest of browsing of the user.
- It is platform-independent because it can be displayed on any platform like Windows, Linux, and Macintosh, etc.
- It facilitates the programmer to add Graphics, Videos, and Sound to the web pages which makes it more attractive and interactive.
- HTML is not a case-insensitive language, which means we can use tags either in lower-case or upper-case.

The History of HTML

- HTML was invented by Tim Berners-Lee, a physicist at the CERN research institute in Switzerland. He came up with the idea of an Internet-based hypertext system.
- He published the first version of HTML in 1991, consisting of 18 HTML tags. Since then, each new version of the HTML language came with new tags and attributes to the markup.
- According to Mozilla Developer Network's HTML Element Reference, currently, there are 140 HTML tags, although some of them are already obsolete.
- Due to a quick rise in popularity, HTML is now considered an official web standard. The HTML specifications are maintained and developed by the World Wide Web Consortium (W3C).
- The biggest upgrade of the language was the introduction of HTML5 in 2014. It added several new semantic tags to the markup, that reveal the meaning of their own content, such as <article>, <header>, and <footer>.

HTML Versions

Since the time HTML was invented, there are lots of HTML versions in market, the brief introduction about the HTML version is given below:

- ❖ **HTML 1.0:** The first version of HTML was 1.0, which was the barebones version of HTML language, and it was released in 1991.
- ❖ **HTML 2.0:** This was the next version which was released in 1995, and it was standard language version for website design. HTML 2.0 was able to support extra features such as form-based file upload, form elements such as text box, option button, etc.

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- ❖ **HTML 3.2:** HTML 3.2 version was published by W3C in early 1997. This version was capable of creating tables and providing support for extra options for form elements. It can also support a web page with complex mathematical equations. It became an official standard for any browser till January 1997. Today it is practically supported by most of the browsers.
- ❖ **HTML 4.01:** HTML 4.01 version was released on December 1999, and it is a very stable version of HTML language. This version is the current official standard, and it provides added support for stylesheets (CSS) and scripting ability for various multimedia elements.
- ❖ **HTML5:** HTML5 is the newest version of HyperText Markup language. The first draft of this version was announced in January 2008. There are two major organizations one is W3C (World Wide Web Consortium), and another one is WHATWG (Web Hypertext Application Technology Working Group) which are involved in the development of HTML 5 version, and still, it is under development.

Version	Years
HTML	1991
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML	2000
HTML 5	2014

Type text here

XHTML

XHTML stands for Extended Hyper Text Mark Up Language based on XML. It is a cross between HTML and XML language. XHTML is a stricter, more XML-based version of HTML. Strict syntactic rule of XHTML imposed a consistent structure on all XHTML document.

XHTML was developed to make HTML more extensible and flexible to work with other data formats (such as XML). In addition, browsers ignore errors in HTML pages, and try to display the website even if it has some errors in the markup. So, XHTML comes with a much stricter error handling.

In XHTML, strict syntactic rule implies that all the syntax should be written without mistake i.e. all tags should be properly closed, all attributes should be properly enclosed, all nested should be done properly and all the empty tags should be closed properly.

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For example:

```
<!DOCTYPE html>
<html>
    <head>
        <title> this is html document </html>
        <meta charset = “utf- 8” />
    </head>
    <body>
        <h1> this is heading one
        <p> this is first paragraph
        <br>
        <img src = “a.jpg” alt = “my text”>
    </body>
</html>
```

In above example, the syntax for heading, paragraph, image and break is incorrect because tags are not closed properly but the output is generated or displayed if HTML is used. If XHTML is used then the above code will generate error because strictness of code in XHTML needs every tag to be closed properly. All the tags and attribute are required to be written in lower case in XHTML.

Syntactic Difference Between HTML and XHTML:

- **Case Sensitivity:**

In HTML, tag and attribute names are not case insensitive i.e. `<FORM>`, `<form>`, `<BODY>`, `<body>`, `<Body>` are equivalent. In XHTML, all the tag name and attributes should be in lower case.

- **Closing Tag:**

In HTML, closing tag may be omitted if the browser can infer their presence. For e.g.
`<p>`
`<P>`

In above example, another opening of paragraph tag is used to relate closing tag of previous paragraph. But in XHTML, there should be closing tag for each opening tag. For any tag which do not includes content should have slash at the end of tag. for e.g. `
`, `<hr/>` etc.

- **Quoted Attribute Value:**

In HTML, attribute values must be quoted only if there are embedded special characters or white space characters. Numeric attribute values are rarely quoted. In XHTML, all attribute values must be double quoted.

- **Id and Name Attribute:**

HTML markup often uses the name attribute for elements. This attribute was deprecated for some elements in HTML 4.0 which added the id attribute to nearly all elements. In, XHTML, the use of id is encouraged and name is discouraged.

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- **Explicit Attribute Values:**

In HTML, some attribute values are implicit i.e. they need not to be explicitly stated. For example: we can use “multiple” in select tag without its value i.e. <select multiple> But in XHTML, attribute must be assigned a string of the name of attributes. For e.g. <select multiple = “multiple”>

Elements of HTML Document

HTML document

It's a text document saved with the extension .html or .htm that contains texts and some tags written between "<>" which give the instructions needed to configure the web page. These tags are fixed and definite.

An HTML Document is mainly divided into two parts:

- **HEAD:** This contains the information about the HTML document. For Example, Title of the page, version of HTML, Meta Data etc.
- **BODY:** This contains everything you want to display on the Web Page.

```
<!DOCTYPE html>
<html>

<head>
    <title>Page Title</title>
</head>

<body>
    <h2>Heading Content</h2>
    <p>Paragraph Content</p>
</body>

</html>
```

HTML ELEMENT:
the HTML element is everything from the start tag to the end tag:
<tagname>Content goes here...</tagname>
its start tag , element content and endtag

<!DOCTYPE html>: This tag is used to tell the HTML version.

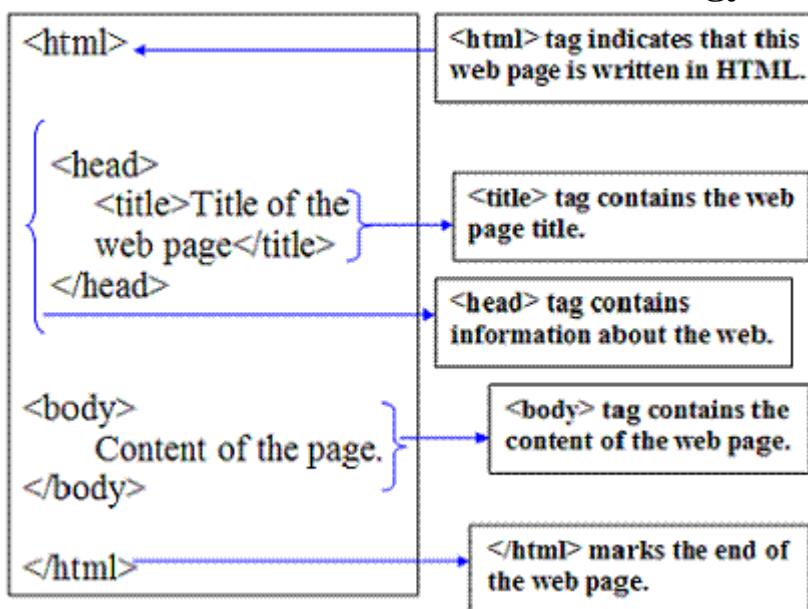
<html>: This is called HTML root element and used to wrap all the code.

<head>: Head tag contains metadata, title, page CSS etc. All the HTML elements that can be used inside the <head> element.

<body>: Body tag is used to enclose all the data which a web page has from texts to links. All the content that you see rendered in the browser is contained within this element.

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Document Type Definition – DTD

- All HTML documents should follow a formal structure defined by the World Wide Web Consortium (W3C), which is the primary organization that defines Web standards.
- Traditionally, the W3C defined HTML as an application of the Standard Generalized Markup Language (SGML).
- SGML is a technology used to define markup languages by specifying the allowed document structure in the form of a document type definition (DTD).
- A Document Type Definition (DTD) describes the tree structure of a document and something about its data. It is a set of **markup affirmations** that actually define a **type of document** for the SGML family, like GML, SGML, HTML, XML.
- A DTD indicates the syntax that can be used for the various elements of a language such as HTML.
- A DTD can be declared inside an XML document as inline or as an external recommendation. DTD determines how many times a node should appear, and how their child nodes are ordered.

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Document Type Statements and Language Versions

HTML documents should begin with a <!DOCTYPE> declaration. This statement identifies the type of markup that is supposedly used in a document.

For example,

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
```

Above syntax indicates that we are using the transitional variation of HTML 4.01 that starts with a root element html. In other words, an <html> tag will serve as the ultimate parent of all the content and elements within this document.

A <!DOCTYPE> declaration might get a bit more specific and specify the URI (Uniform Resource Identifier) of the DTD (document type definition) being used as shown here:

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

There are numerous doctype declarations that are found in HTML as shown in Table below.

HTML Version	!DOCTYPE Declaration
HTML 2.0	<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML//EN">
HTML 3.2	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2 Final//EN">
HTML 4.0	Transitional <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
HTML 4.0 Frameset	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Frameset//EN" "http://www.w3.org/TR/html4/frameset.dtd">
HTML 4.0 Strict	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0//EN" "http://www.w3.org/TR/html4/strict.dtd">
HTML 4.01 Transitional	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
HTML 4.01 Frameset	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Frameset//EN" "http://www.w3.org/TR/html4/frameset.dtd">
HTML 4.01 Strict	<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
HTML5	<!DOCTYPE html>

TABLE: Common HTML Doctype Declarations

Note: There are many different versions of HTML, the good news is that the rough document structure defined for each is pretty similar; of course, the bad news is that little details will be different from version to version, so you need to be precise with your syntax.

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HTML Document Structure

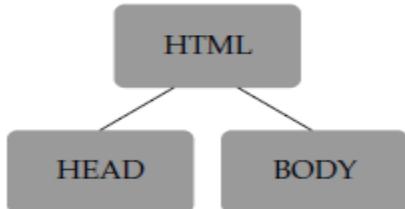
The DTDs define the allowed syntax for documents written in that version of HTML. The core structure of these documents is fairly similar. Given the HTML 4.01 DTD, a basic document template can be derived from the specification, as shown here:



In above diagram, the <!DOCTYPE> indicator, which, as previously mentioned, shows the particular version of HTML being used, in this case 4.01 Transitional. Within a root html element, the basic structure of a document reveals two elements: the **head** and the **body**. The head element contains information and tags describing the document, such as its title, while the body element houses the document itself, with associated markup required to specify its structure.

Roughly speaking, the structure of a non-framed HTML document breaks out like so:

Some <!DOCTYPE> statement



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The Document Head

The information in the head element of HTML document is very important because it is used to describe the content of the document. The element acts like the front matter or cover page of a document.

The information contained within the head element is information about the page that is useful for visual styling, defining interactivity, setting the page title, and providing other useful information that describes or controls the document.

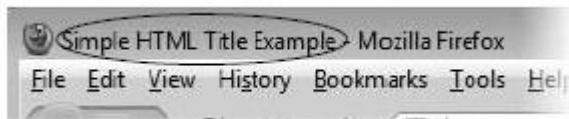
The title Element

A single title element is required in the head element and is used to set the text that most browsers display in their title bar. The value within a title is also used in a browser's history system, recorded when the page is bookmarked, and consulted by search engine robots to help determine page meaning.

Example:

```
<title>Simple HTML Title Example</title>
```

you will see something like this:



When a title is not specified, most browsers display the URL path or filename instead:



To set the appropriate character set, you should include a <meta> tag before the page title even though traditionally title is considered the first element.

<meta>: Specifying Content Type, Character Set, and More

A <meta> tag has a number of uses. For example, it can be used to specify values that are equivalent to HTTP response headers.

For example, if you want to make sure that your MIME (Multipurpose Internet Mail Extensions) type and character set for an English-based HTML document , you could use

```
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
```

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Because meta is an empty element, you would use the trailing-slash syntax shown here:

```
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />
```

Most people would agree that using the UTF-8-character set is probably a good idea for Western-language page authors because it gives them access to international character glyphs when needed without causing them any trouble:

```
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" >
```

Deciding which MIME type to use isn't as straightforward. For standard HTML, the MIME type is always text/html.

Other Elements in the head

In addition to the title and meta elements, under the HTML 4.01, the other elements include base, link, object, script, and style. Comments are also allowed. A brief discussion of the other head elements and comments follows.

<base> tag

A `<base>` tag specifies an absolute URL address that is used to provide server and directory information for partially specified URL addresses, called relative links, used within the document:

```
<base href="http://htmlref.com/basexexample" >
```

Because of its global nature, a `<base>` tag is often found right after a `<title>` tag as it may affect subsequent `<script>`, `<link>`, `<style>`, and `<object>` tag referenced URIs.

<link> tag

A `<link>` tag specifies a special relationship between the current document and another document. Most commonly, it is used to specify a style sheet used by the document.

```
<link rel="stylesheet" media="screen" href="global.css" type="text/css" >
```

However, the `<link>` tag has a number of other interesting possible uses, such as to set up navigation relationships and to hint to browsers about pre-cacheable content.

<object> tag

An `<object>` tag allows programs and other binary objects to be directly embedded in a Web page. Here, for example, a **nonvisible Flash object** is being referenced for some use:

```
<object classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000"
width="0" height="0" id="HiddenFlash" >
<param name="movie" value="flashlib.swf" />
</object>
```

it is used to embed multimedia files with html
document
attribute data rw type chai afae tab handa nae sangae
aauxa.
example:
`<object data="intro.mp4" type="video"></object>`

Using an `<object>` tag involves more than a bit of complexity, and there are numerous choices of technology, including Java applets, plug-ins, and ActiveX controls.

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<script> tag

A <script> tag allows scripting language code to be either directly embedded within,

```
<script type="text/javascript">
  alert("Hi from JavaScript!");
  /* more code below */
</script>
```

or, more appropriately, linked to from a Web page:

```
<script type="text/javascript" href="ajaxter.js"></script>
```

Nearly always, JavaScript is the language in use, though other languages such as VBScript are possible.

<style> tag

A <style> tag is used to enclose document-wide style specifications, typically in Cascading Style Sheet (CSS) format, relating to fonts, colors, positioning, and other aspects of content presentation:

```
<style type="text/css" media="screen">
  h1 {font-size: xx-large; color: red; font-style: italic;}
  /* all h1 elements render as big, red and italic */
</style>
```

Comments

Comments are often found in the head of a document. A comment starts with <!-- and ends with --> and may encompass many lines:

```
<!-- Hi I am a comment -->
```

```
<!--
```

Author: Thomas A. Powell

Book: web technology

Edition: 10th

```
-->
```

The Document Body

After the head section, the body of a document is delimited by <body> and </body>. The body element is optional, but you should always include it, particularly because it is required in stricter markup variants. Only one body element can appear per document.

Within the body of a Web document is a variety of types of elements. For example, **block** level elements define structural content blocks such as paragraphs (p) or headings (h1-h6) and unordered lists (ul) etc.

Within nonempty blocks, inline elements are found. There are numerous inline elements, such as bold (b), italic (i), strong (strong), emphasis (em), and numerous others.

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HTML Elements and HTML Attributes

Html tag

An HTML tag is a piece of markup language used to indicate the beginning and end of an HTML element in an HTML document. It is an html command that show the layout or displays the desired output of a whole or part of the web page. HTML tag is bounded by angular brackets (< >) that always open with a < (less then) sign and close with a > (greater than) sign. It controls the appearance layout and flow of the web page.

For every tag, a browser has default presentation specification for the specified content. All the tags should be written in lower case. Whatever appears between an opening and closing tags are content of the tag.

Types of Tags:

- **Empty tag/ Singular Tags:**

Empty tag also known as stand-alone or singular tag; is a kind of tags in which there is no any content and are closed in single tag or does not have closing tag. For example:

<hr/>: it will create horizontal line

: use for breaking a line of paragraph

- **Paired/container tags:**

This type of tag generally comes with pair i.e. opening tag and closing tag. The opening tags and its closing tags together specify a container for the content they enclosed. The container and its content together are called an **element**.

For example:

```
<html>
<head> </head>
<body>
<h1> this is heading 1 </h1>
<h2> this is heading 2 </h2>
```

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

HTML Elements

- An HTML file or html document is made of html elements. **An HTML element is an individual component of an HTML document.** These elements are responsible for creating web pages and define content in that webpage.
- An element in HTML usually consists of a start tag <tag name>, close tag </tag name> and content inserted between them.
- Elements can also contain attributes that defines its additional properties.
- Technically, an element is a collection of start tag, attributes, end tag, content between them.

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For example, a paragraph, which is represented by the p element, would be written as:



Void element:

All the elements in HTML do not require to have start tag and end tag, some elements does not have content and end tag such elements are known as Void elements or empty elements. These elements are also called as unpaired tag.

Some Void elements are

- `
` (represents a line break) ,
- `<hr>`(represents a horizontal line), etc.

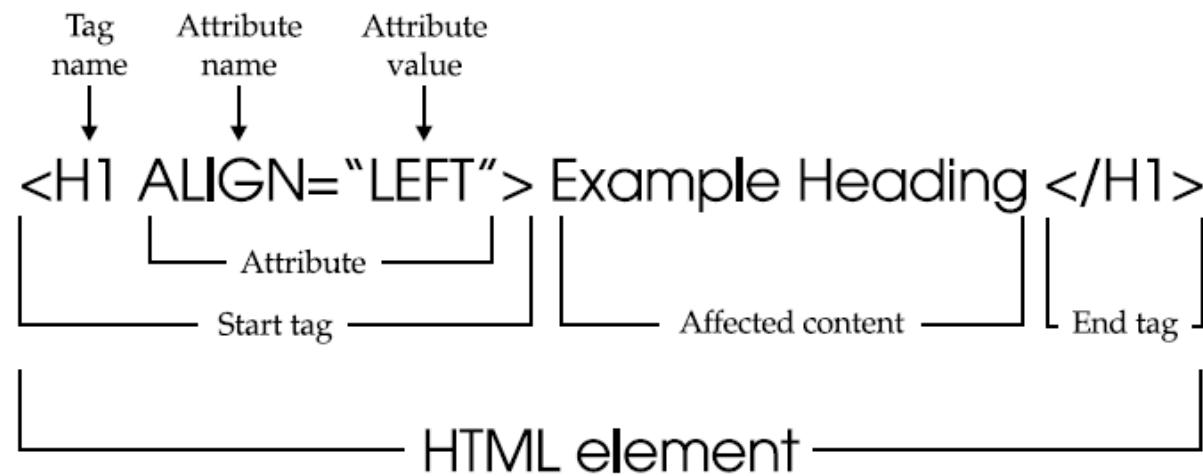


Figure: HTML element overview

HTML Attributes

Attributes define additional characteristics or properties of the element such as width and height of an image. Attributes are always specified in the start tag (or opening tag) and usually consists of name/value pairs like `name="value"`. Attribute values should always be enclosed in quotation marks.

Also, some attributes are required for certain elements. For instance, an `` tag must contain a `src` and `alt` attributes. Let's take a look at some examples of the attributes usages:

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Example

```

<a href="https://www.google.com/" title="Search Engine">Google</a>
<abbr title="Hyper Text Markup Language">HTML</abbr>
<input type="text" value="John Doe">
```

In the above example **src** inside the `` tag is an attribute and image path provided is its value. Similarly, **href** inside the `<a>` tag is an attribute and the link provided is its value, and so on.

General Purpose Attributes

There are some attributes, such as id, title, class, style, etc. that you can use on the majority of HTML elements. The following section describes their usages.

The **id** Attribute

The **id** attribute is used to give a unique name or identifier to an element within a document. This makes it easier to select the element using CSS or JavaScript.

Example

```
<input type="text" id="firstName">
<div id="container">Some content</div>
<p id="infoText">This is a paragraph.</p>
```

The **class** Attribute

Like **id** attribute, the **class** attribute is also used to identify elements. But unlike id, the class attribute does not have to be unique in the document. This means you can apply the same class to multiple elements in a document, as shown in the following example:

Example

```
<input type="text" class="highlight">
<div class="box highlight">Some content</div>
<p class="highlight">This is a paragraph.</p>
```

The **title** Attribute

The title attribute to is used to provide advisory text about an element or its content. Try out the following example to understand how this actually works.

The title attribute specifies extra information about an element.
The information is most often shown as a tooltip text when the mouse moves over the element.

Example

```
<abbr title="World Wide Web Consortium">W3C</abbr>
<a href="images/kites.jpg" title="Click to view a larger image">
  
</a>
```

example:

<abbr title="World health organization">WHO</abbr>

aba WHO matra aauxa output ma ani mouse lai who
ko mathi hover garesi world health organization dekhauxa

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The style Attribute

The style attribute allows you to specify CSS styling rules such as colour, font, border, etc. directly within the element. Let's check out an example to see how it works:

Example

```
<p style="color: blue;">This is a paragraph.</p>

<div style="border: 1px solid red;">Some content</div>
```

The attributes we've discussed above are also called global attributes.

HTML Heading

- The heading elements are used to create “headlines” in documents. A HTML heading or HTML <h> tag can be defined as a title or a subtitle which you want to display on the webpage.
- When you place the text within the heading tags <h1>.....</h1>, it is displayed on the browser in the bold format and size of the text depends on the number of heading.
- There are six different HTML headings which are defined with the <h1> to <h6> tags, from highest level h1 (main heading) to the least level h6 (least important heading). h1 is the largest heading tag and h6 is the smallest one. So h1 is used for most important heading and h6 is used for least important.
- Headings in HTML helps the search engine to understand and index the structure of web page.

Example:

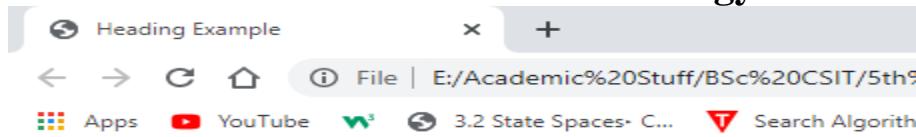
```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<HTML>
    <HEAD>
        <TITLE>Heading Example</TITLE>
    </HEAD>

    <BODY>
        <H1>Heading 1</H1>
        <H2>Heading 2</H2>
        <H3>Heading 3</H3>
        <H4>Heading 4</H4>
        <H5>Heading 5</H5>
        <H6>Heading 6</H6>
    </BODY>
</HTML>
```

Output

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Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6

An attribute that aligns the text left, right, or center can be added to the heading elements. By default, headings are usually left-aligned, but by setting the ALIGN attribute of the various heading elements, the text may be aligned to the right, left, or centre of the screen.

Example:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<HTML>
    <HEAD>
        <TITLE>Heading Alignment Example</TITLE>
    </HEAD>
    <BODY>
        <H1 ALIGN="left">Aligned Left</H1>
        <H1 ALIGN="center">Aligned Center</H1>
        <H1 ALIGN="right">Aligned Right</H1>
    </BODY>
</HTML>
```

Output:

HTML Paragraphs

Paragraph element is used to publish text on the web pages. Paragraphs are defined with the `<p>` tag. Paragraph tag is a very basic and typically the first tag you will need to publish your text on the web pages. A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph. The ALIGN attribute makes to specify a left, right, or centre alignment.

Example:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<HTML>
    <HEAD>
        <TITLE>Paragraph Example</TITLE>
```

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</HEAD>

<BODY>

<P>This is the first paragraph in the example about the P tag.
There really isn't much to say here.</P>

<P ALIGN="center">This is the second paragraph. This time the paragraph is aligned in the center. This might not be such a good idea as it makes the text hard to read. </P>

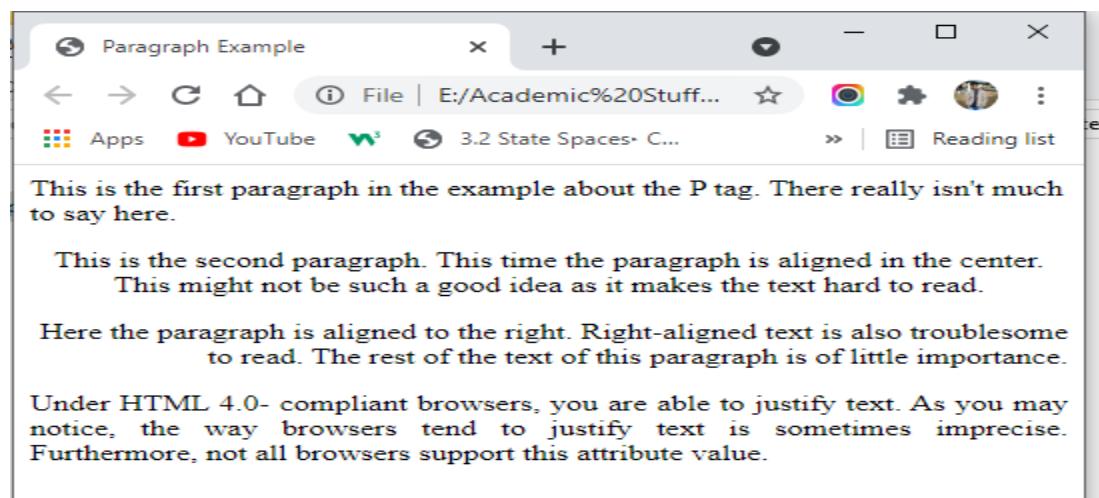
<P ALIGN="right">Here the paragraph is aligned to the right. Right-aligned text is also troublesome to read. The rest of the text of this paragraph is of little importance.</P>

<P ALIGN="justify">Under HTML 4.0- compliant browsers, you are able to justify text. As you may notice, the way browsers tend to justify text is sometimes imprecise. Furthermore, not all browsers support this attribute value.</P>

</BODY>

</HTML>

Output:



Space inside HTML Paragraph

If you put a lot of spaces inside the HTML <p> tag, browser removes extra spaces and extra line while displaying the page. The browser counts number of spaces and lines as a single one.

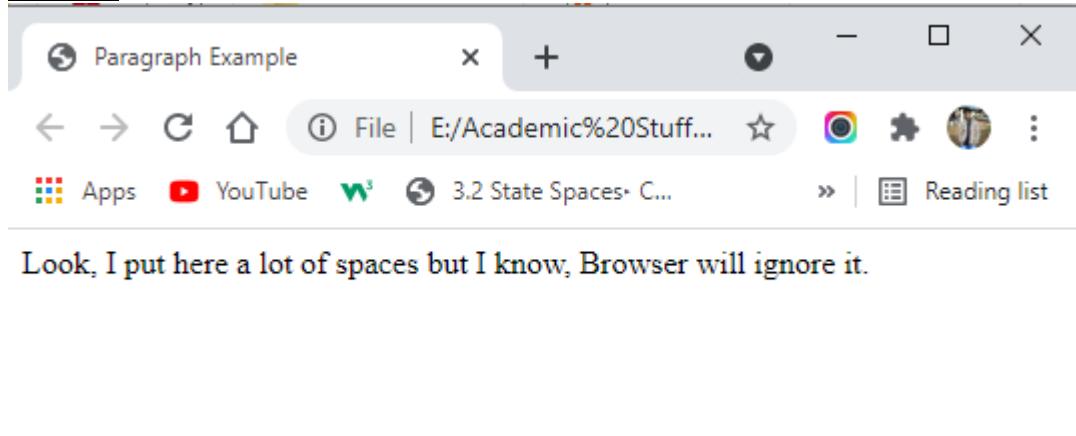
Example:

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```
<!DOCTYPE >
<HTML>
    <HEAD>
        <TITLE>Paragraph Example</TITLE>
    </HEAD>
    <BODY>
        <p>
            Look, I put here a lot
            of spaces           but      I know, Browser will ignore it.
        </p>
    </BODY>
</HTML>
```

Output:



Division

The `<DIV>` element is used to structure HTML documents into unique sections or divisions. Adding the `ALIGN` attribute enables you to align a portion of the document to the left, right, or centre. By default, content within the `<DIV>` element is left-aligned. Divisions are also useful when used in conjunction with style sheets.

The `<DIV>` tag is the most usable tag in web development because it helps us to separate out data in the web page and we can create a particular section for particular data or function in the web pages.

- Div tag is Block level tag
- It is a generic container tag
- It is used to group various tags of HTML so that sections can be created and styles can be applied to them.

The following example shows the use of `<CENTER>` and `<DIV>`:

Example:

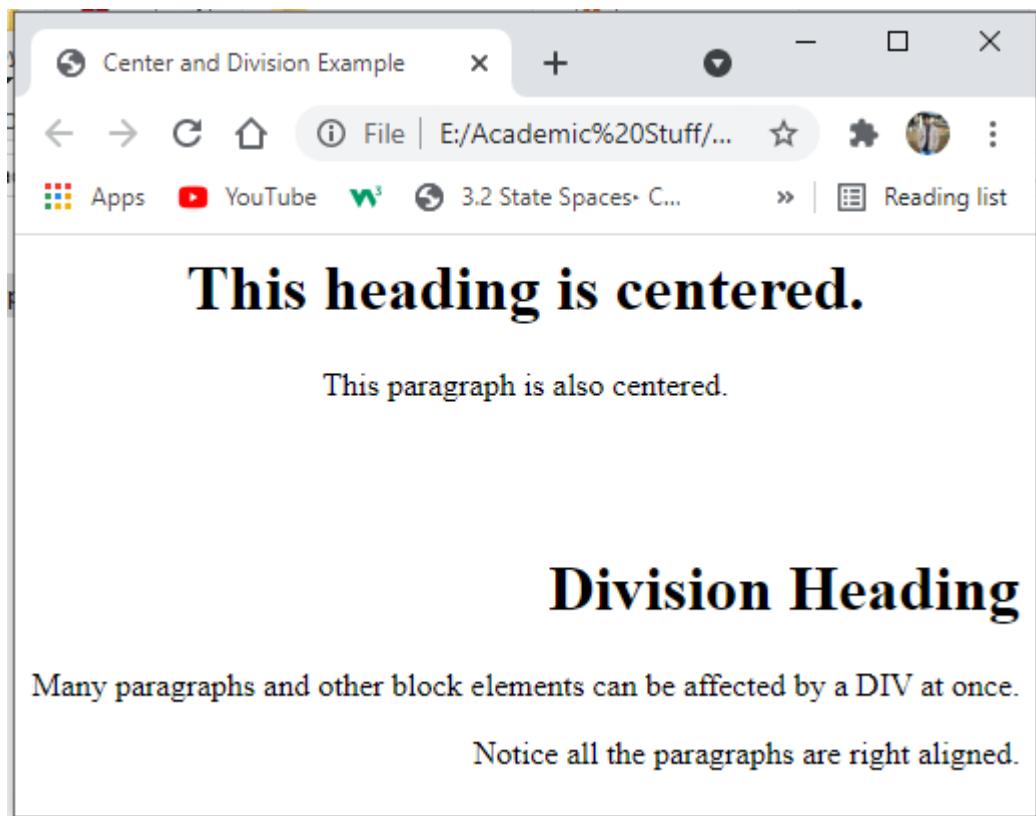
```
<!DOCTYPE>
<HTML>
    <HEAD>
```

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```
<TITLE>Center and Division Example</TITLE>
</HEAD>
<BODY>
    <CENTER>
        <H1>This heading is centered.</H1>
        <P>This paragraph is also centered.</P>
    </CENTER>
    <BR><BR>
    <DIV ALIGN="right">
        <H1>Division Heading</H1>
        <P>Many paragraphs and other block elements
        can be affected by a DIV at once.</P>
        <P>Notice all the paragraphs are right aligned.</P>
    </DIV>
</BODY>
</HTML>
```

Output:



HTML Formatting

HTML Formatting basically refers to the enhancing of text in order to increase the visual appeal. It is a process of formatting text for better look and feel. HTML provides us ability to format text without using CSS. HTML provides a range of formatting tags that can be used to make the text attractive to the users. There are many options available that can be used for formatting, just like any other text editor.

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There are many formatting tags in HTML. These tags are used to make text bold, italicized, or underlined.

In HTML the formatting tags are divided into two categories:

1. Physical tag: These tags are used to provide the visual appearance to the text. For example, bold, italic, underlined, etc.
2. Logical tag: These tags are used to add some logical or semantic value to the text. For example, the **** tag.

<u>Element name</u>	<u>Description</u>
1. 	This is a physical tag, which is used to bold the text written between it.
2. 	This is a logical tag, which tells the browser that the text is important.
3. <i>	This is a physical tag which is used to make text italic.
4. 	This is a logical tag which is used to display content in italic.
5. <mark>	This tag is used to highlight text.
6. <u>	This tag is used to underline text written between it.
7. <tt>	This tag is used to appear a text in. (not supported in HTML5)
8. <strike>	This tag is used to draw a strikethrough teletype on a section of text. (Not supported in HTML5)
9. <sup>	It displays the content slightly above the normal line.
10. <sub>	It displays the content slightly below the normal line.
11. 	This tag is used to display the deleted content.
12. <ins>	This tag displays the content which is added
13. <big>	This tag is used to increase the font size by one conventional unit.
14. <small>	This tag is used to decrease the font size by one unit from base font size.

1) Bold Text

The HTML **** element is a physical tag which **display** text in bold font, without any logical **importance**. If you write anything within **.....** element, is shown in bold letters.

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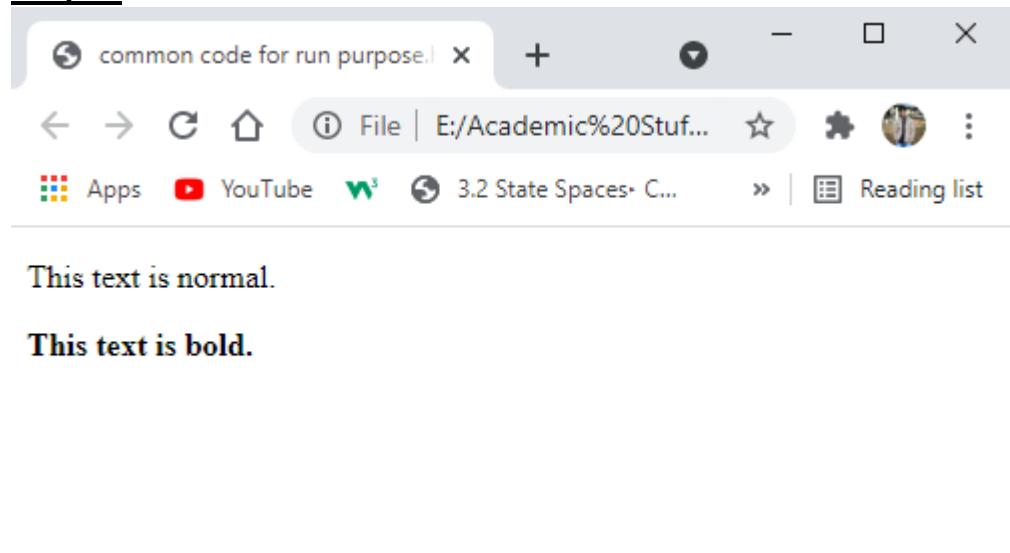
Example:

```
<!DOCTYPE html>
<html>

    <head>
        <title> HTML formatting tags</title>
    </head>
    <body>
        <p>This text is normal. </p>
        <p><b>This is bold text</b>. </p>

        <p><b>This text is bold. </b></p>
    </body>
</html>
```

Output:



2) ** element**

The HTML **** element defines text with strong importance. The content inside is typically displayed in bold.

Example:

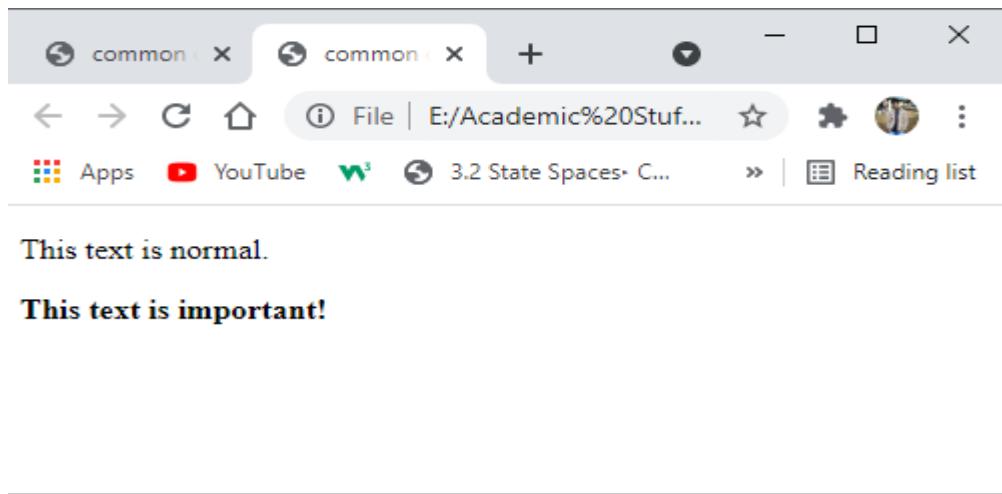
```
<!DOCTYPE html>
<html>
    <body>
        <p>This text is normal.</p>
```

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```
<p><strong>This text is important!</strong></p>
</body>
</html>
```

Output:



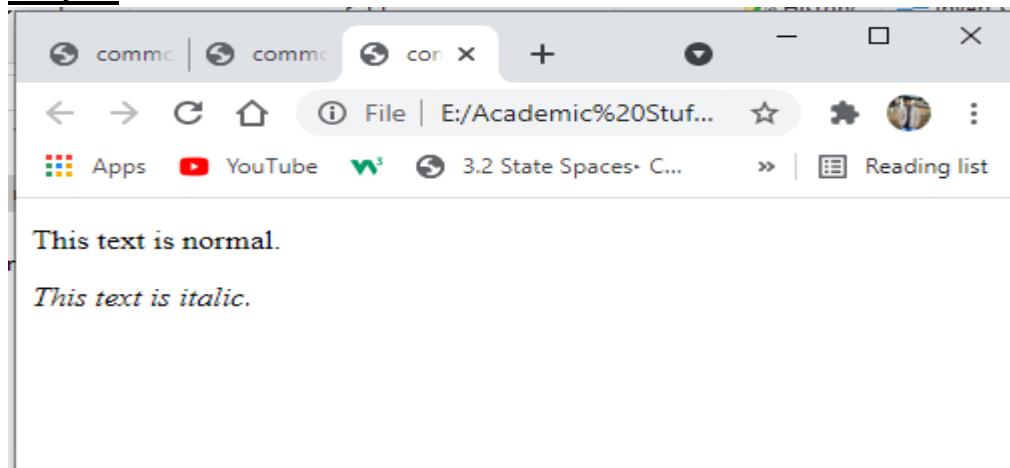
3) Italic Text

The HTML *<i>* element is physical element, which display the enclosed content in italic font, without any added importance. If you write anything within *<i>.....</i>* element, is shown in italic letters.

Example:

```
<!DOCTYPE html>
<html>
    <body>
        <p>This text is normal.</p>
        <p><i>This text is italic.</i></p>
    </body>
</html>
```

Output:



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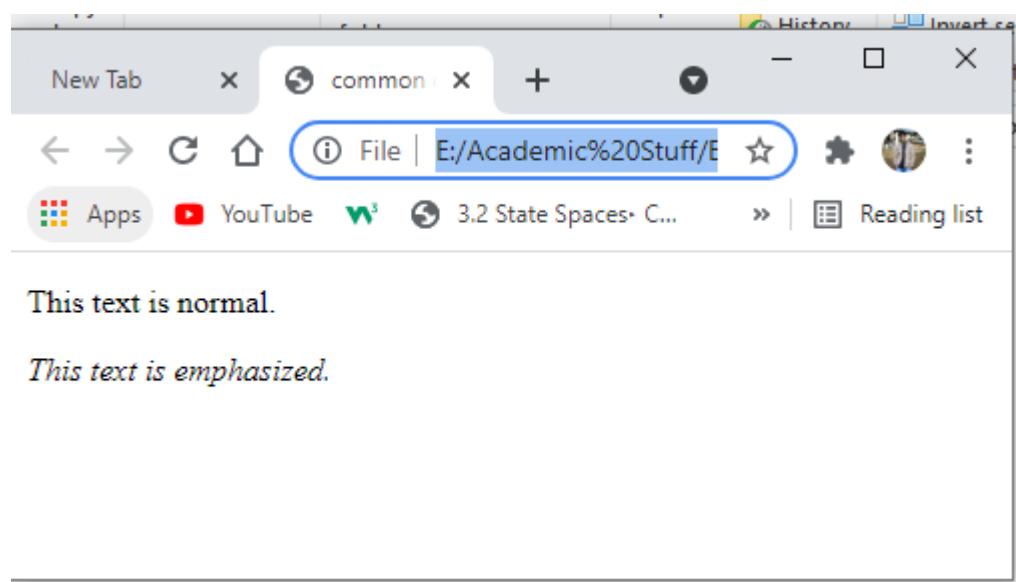
4) element

The HTML element defines emphasized text. The content inside is typically displayed in italic.

Example:

```
<!DOCTYPE html>
<html>
    <body>
        <p>This text is normal.</p>
        <p><em>This text is emphasized.</em></p>
    </body>
</html>
```

Output:



5) <mark> Element

The HTML <mark> element defines text that should be marked or highlighted:

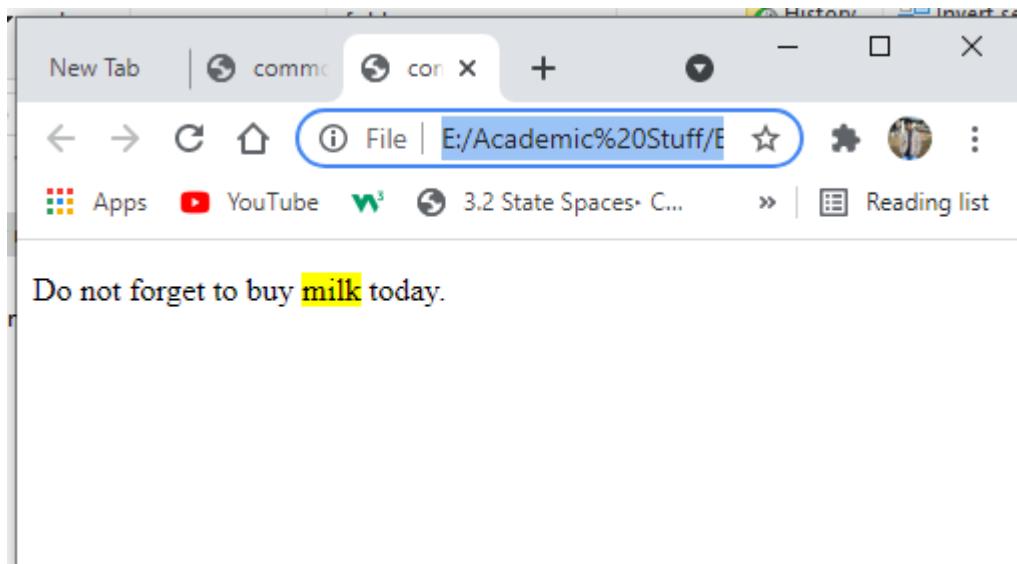
Example:

```
<!DOCTYPE html>
<html>
    <body>
        <p>Do not forget to buy <mark>milk</mark> today.</p>
    </body>
</html>
```

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Output:



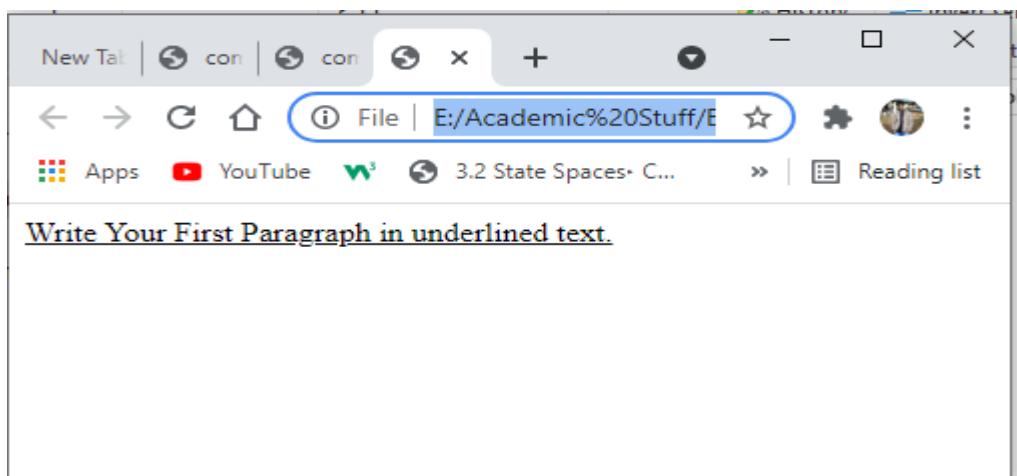
6) Underlined Text

If you write anything within <u>.....</u> element, is shown in underlined text.

Example

```
<!DOCTYPE>
<html>
    <body>
        <p><u>Write Your First Paragraph in underlined text.</u></p>
    </body>
</html>
```

Output:



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7) Monospaced Font

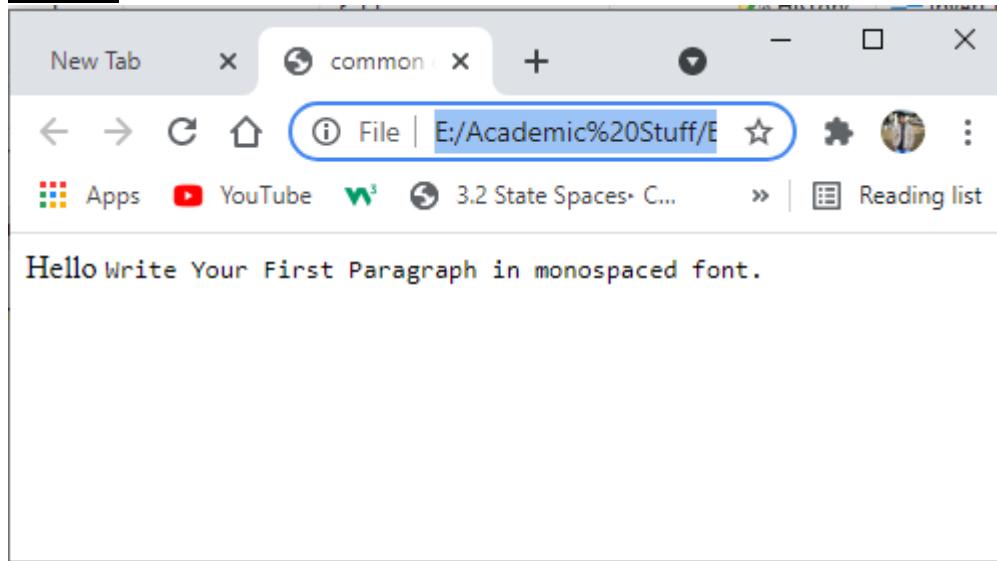
If you want that each letter has the same width then you should write the content within <tt>.....</tt> element.

Note: We know that most of the fonts are known as variable-width fonts because different letters have different width. (For example: 'w' is wider than 'i'). Monospaced Font provides similar space among every letter.

Example:

```
<!DOCTYPE>
<html>
    <body>
        <p>Hello <tt>Write Your First Paragraph in monospaced font.</tt></p>
    </body>
</html>
```

Output:



8) Strike Text

Anything written within <strike>.....</strike> element is displayed with strikethrough. It is a thin line which cross the statement.

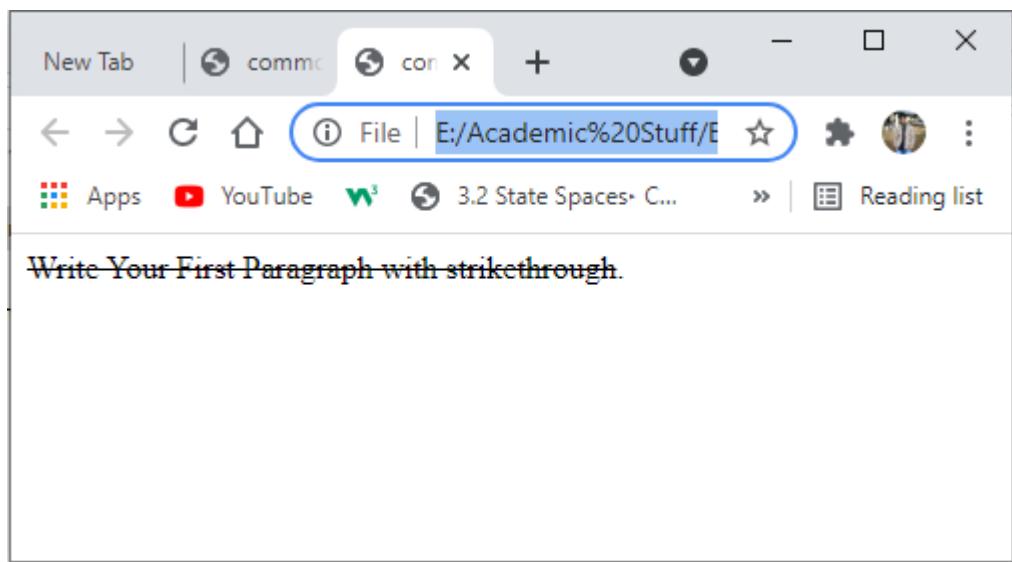
Example:

```
<!DOCTYPE>
<html>
    <body>
        <p> <strike>Write Your First Paragraph with strikethrough</strike>.</p>
    </body>
</html>
```

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Output:



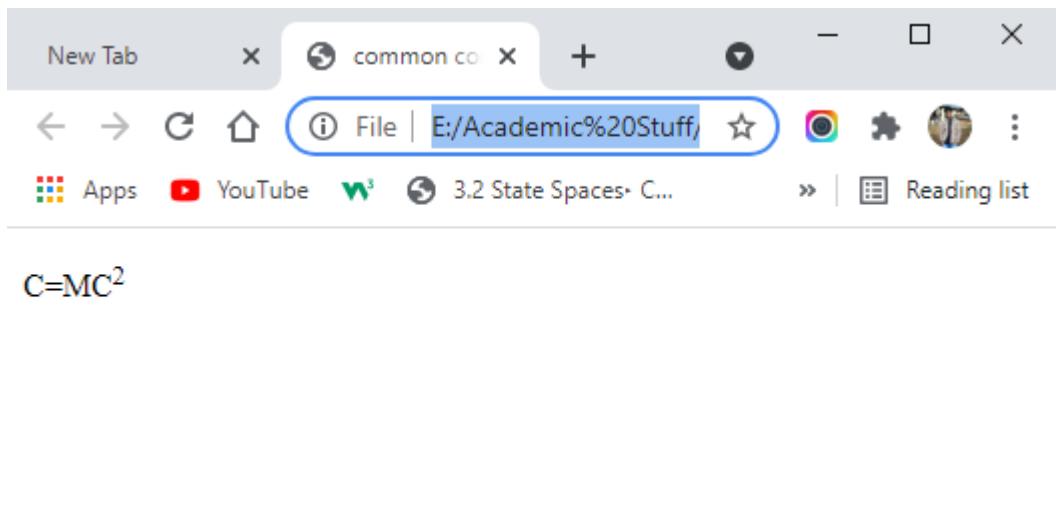
9) <sup> Element

The HTML `<sup>` element defines superscript text. Superscript text appears half a character above the normal line, and is sometimes rendered in a smaller font. Superscript text can be used for footnotes, like $C=MC^2$:

Example

```
<!DOCTYPE html>
<html>
    <body>
        <p> C=MC<sup>2</sup> </p>
    </body>
</html>
```

Output:



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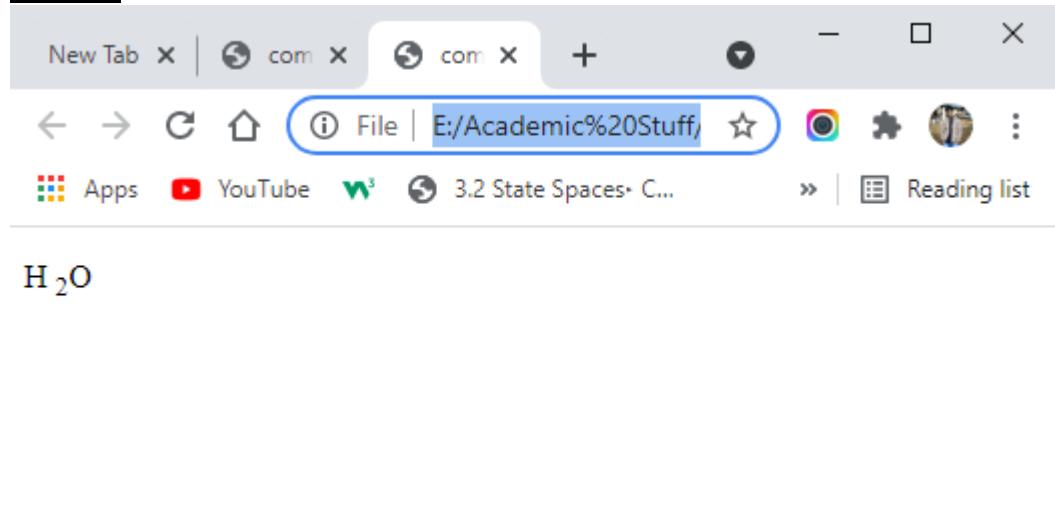
10) <sub> Element

The HTML <sub> element defines subscript text. Subscript text appears half a character below the normal line, and is sometimes rendered in a smaller font. Subscript text can be used for chemical formulas, like H₂O:

Example

```
<!DOCTYPE html>
<html>
    <body>
        <p>H <sub>2</sub>O</p>
    </body>
</html>
```

Output:



11) Element

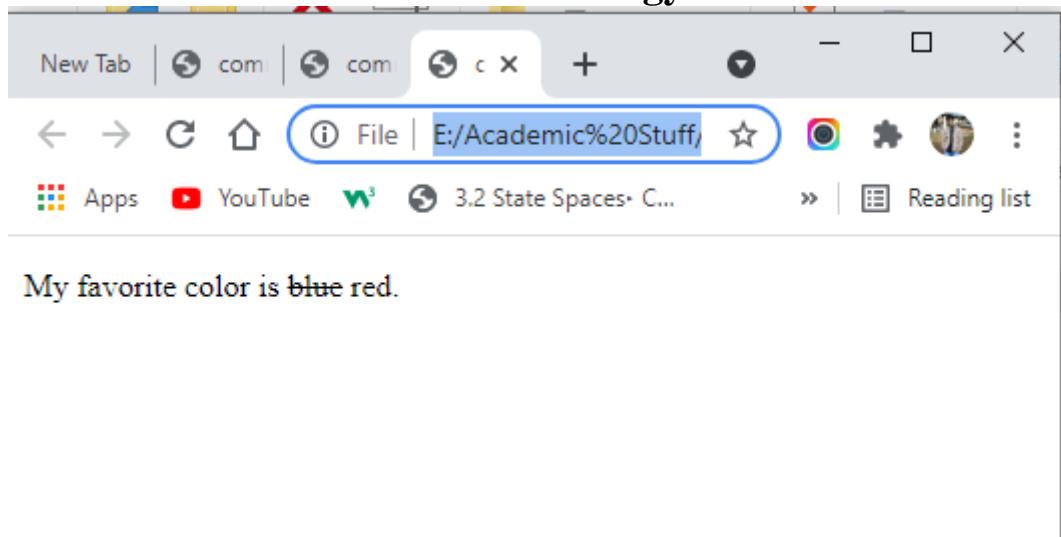
The HTML element defines text that has been deleted from a document. Browsers will usually strike a line through deleted text:

Example:

```
<!DOCTYPE html>
<html>
    <body>
        <p>My favorite color is <del>blue</del> red.</p>
    </body>
</html>
```

Output:

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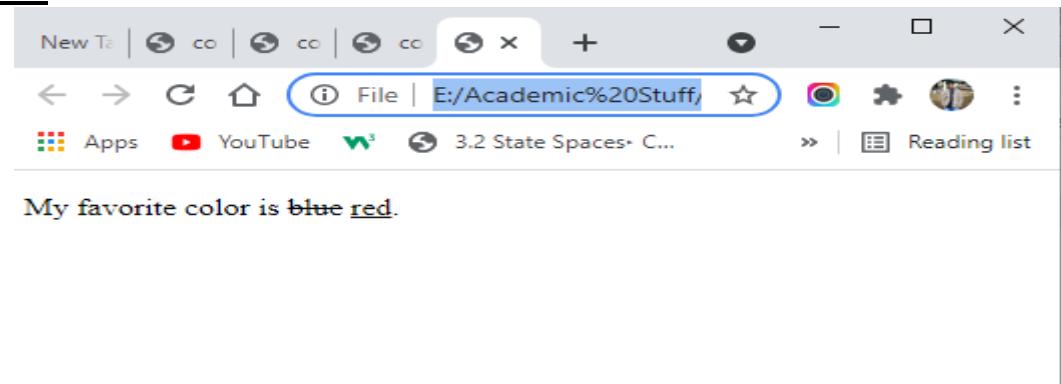
12) <ins> Element

The HTML `<ins>` element defines a text that has been inserted into a document. Browsers will usually underline inserted text:

Example

```
<!DOCTYPE html>
<html>
  <body>
    <p>My favorite color is <del>blue</del> <ins>red</ins>.</p>
  </body>
</html>
```

Output:



13) <small> Element

The HTML `<small>` element defines smaller text:

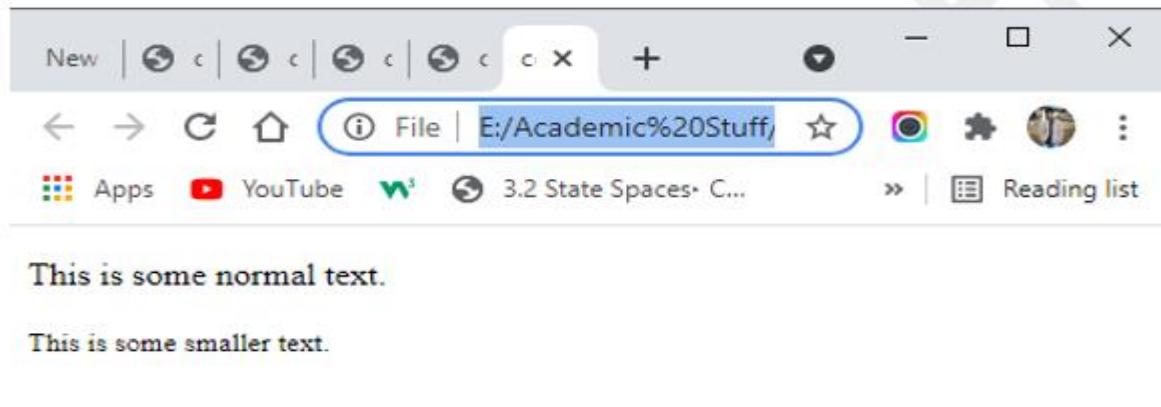
Example

```
<!DOCTYPE html>
<html>
  <body>
    <p>This is some normal text.</p>
    <p><small>This is some smaller text.</small></p>
```

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

Output:



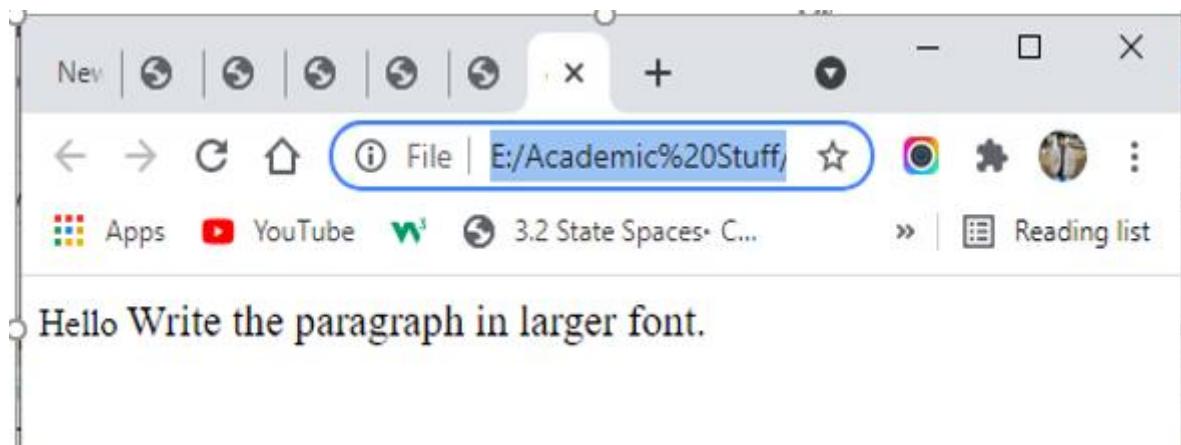
14) Larger Text

If you want to put your font size larger than the rest of the text then put the content within `<big>.....</big>`. It increases one font size larger than the previous one.

Example

```
<!DOCTYPE>  
<html>  
    <body>  
        <p>Hello <big>Write the paragraph in larger font.</big></p>  
    </body>  
</html>
```

Output:



Spacing: Pre, Br

If we want to add the space before and after the text in our html document then we simply place the cursor where we want to add the space. And, then we have to press the spacebar from the keyboard. Basically, web page shows only one space between the two words. It does not matter that how much we have pressed the spacebar.

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Now, if we want to show more than one space before or after the text on the webpage then we have to give the following tag:

** ** table ko tyo td ma khali thau varna lai xodna paryo vne ni hamí ehi use garxam

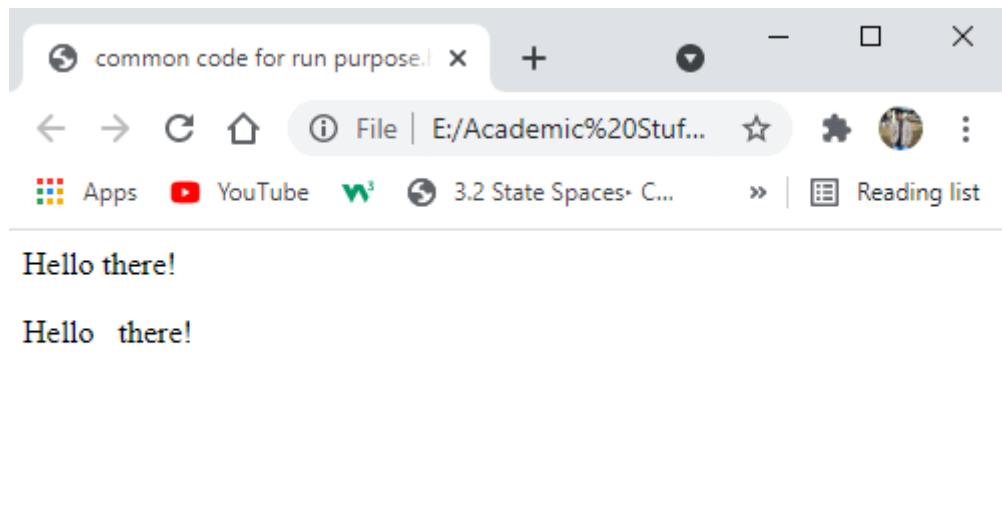
This tag is used for displaying only one space between the text. This is called a non-breaking space because it prevents a line break at its location i.e., does not break into a new line. Two words that are separated by a non-breaking space always appear on the same line.

For example, typing Hello there! would result in an **extra space** between "Hello" and "there!". If you overuse this character, browsers will have trouble inserting line breaks in a tidy, readable way.

Example:

```
<!DOCTYPE>
<html>
  <body>
    <p>Hello there! </p>
    <p>Hello &nbsp; there! </p>
  </body>
</html>
```

Output:



** **

This tag is used for displaying two spaces.

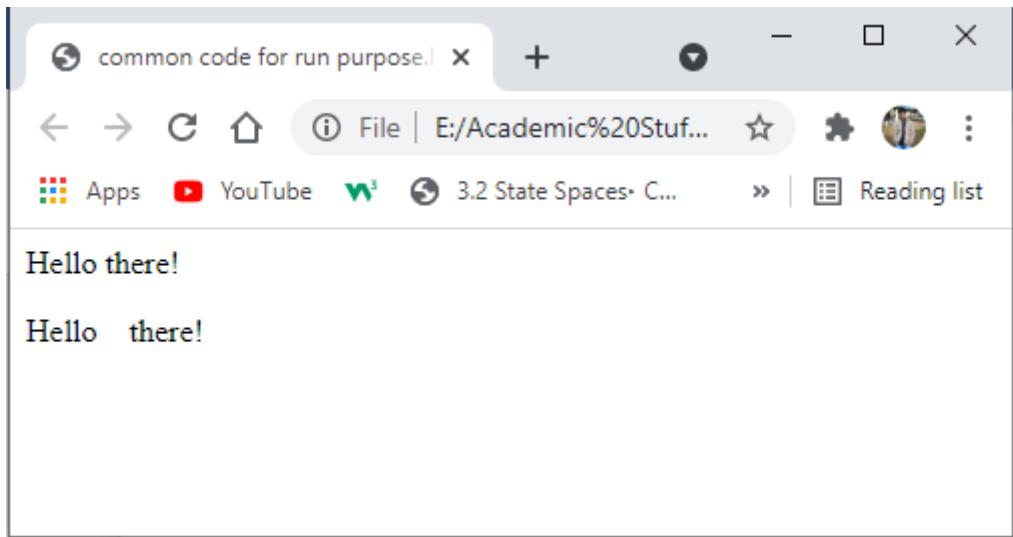
Example:

```
<!DOCTYPE>
```

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```
<html>
  <body>
    <p> Hello there! </p>
    <p> Hello &ensp; there! </p>
  </body>
</html>
```

Output:



This tag is used for displaying four spaces.

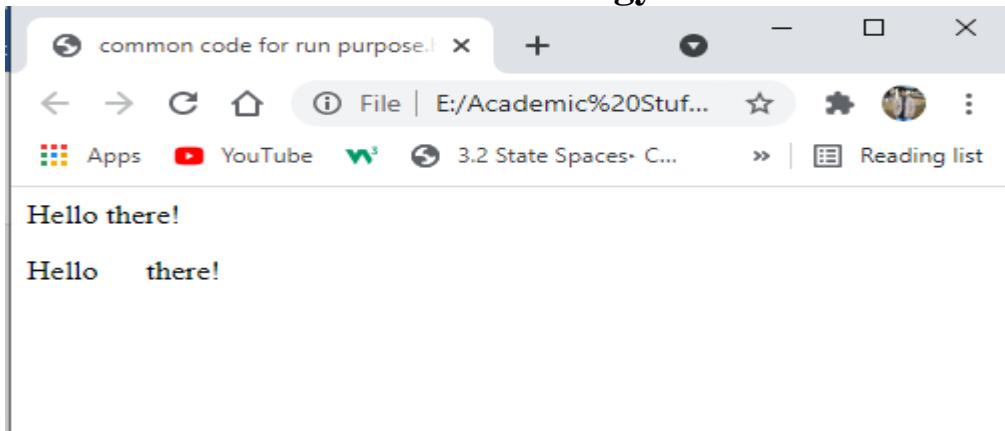
Example:

```
<!DOCTYPE>
<html>
  <body>
    <p> Hello there! </p>
    <p> Hello &emsp; there! </p>
  </body>
</html>
```

Output:

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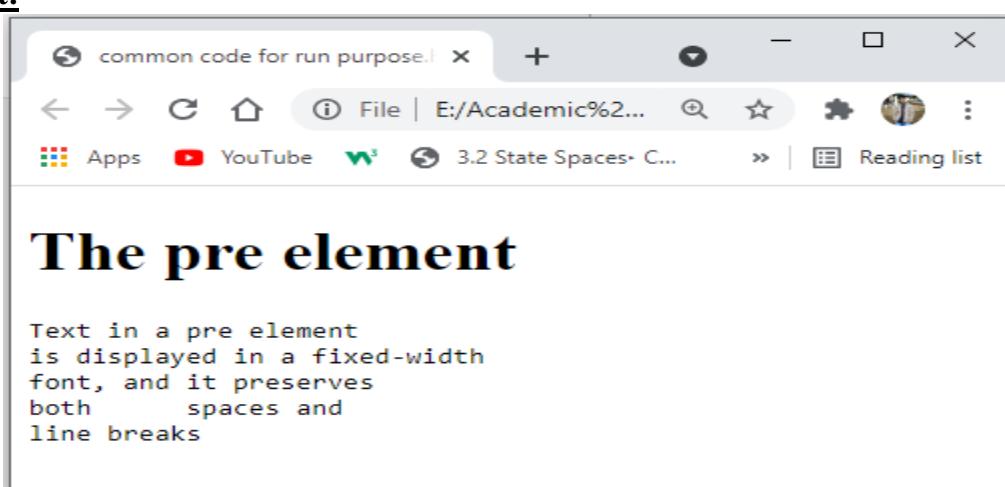
<pre> tag

The `<pre>` tag is used with preformatted text. It instructs the browser that the text is to appear exactly as written in the HTML file, including any spaces or blank lines. If you type five spaces inside `<pre>` tags, you get five spaces on the website.

Example:

```
<!DOCTYPE html>
<html>
  <body>
    <h1>The pre element</h1>
    <pre>
      Text in a pre element
      is displayed in a fixed-width
      font, and it preserves
      both   spaces and
      line breaks
    </pre>
  </body>
</html>
```

Output:



 tag

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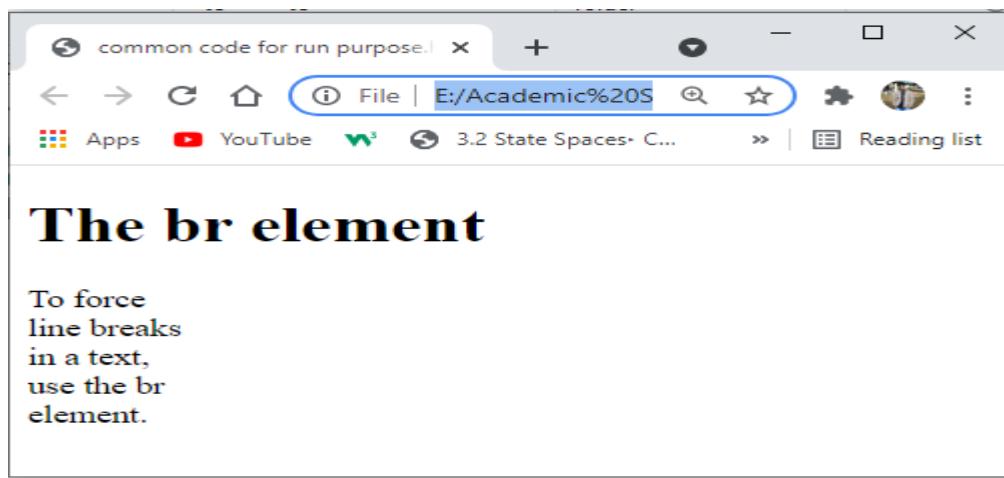
Web technology

The HTML
 tag denotes a line break, like a carriage return in a word processing program. You'd use it at the end of each line of an address, for example, to get the block format people are accustomed to seeing.

Example:

```
<!DOCTYPE html>
<html>
    <body>
        <h1>The br element</h1>
        <p>To force<br> line breaks<br> in a text,<br> use the br<br> element.</p>
    </body>
</html>
```

Output:



The <p>

The <p> tag generates a paragraph break. It is applied to a section of text that is a block of text separated from nearby blocks of text by a blank space and/or first-line indent.

You can also add space around text using Cascading Style Sheets (CSS). If you're looking to create spacing anywhere around a full block of text, this is absolutely the way to do it. CSS also affords plenty of stylistic controls for the text itself, making it the first choice for many web developers.

Formatting Text Phrases: span, strong, tt;

HTML Formatting is a process of formatting text for better look and feel. HTML provides usability to format text without using CSS. There are many formatting tags in HTML. These tags are used to make text bold, italicized, or underlined etc.

Similarly, to formatting text we also format the text phrase. So, in order to format text phrase, we use The HTML phrase tags. These tags are special purpose tags, which defines the structural meaning of a block of text or semantics of text.

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HTML phrase tags are unique purpose tags designed to use indefinite cases, even though they're implemented in the same manner as other tags are used.

Following is the list of phrase tags, some of which we have already discussed in HTML formatting. They are...

, <abbr>, <acronym>, <mark>, , <dfn>, <blockquote>, <q> , <code> , <kbd> ,<address> ... etc.

 tag

 tag is used as a generic container of inline elements. It is used for styling purpose to the grouped inline elements (using class and id attribute or inline style).

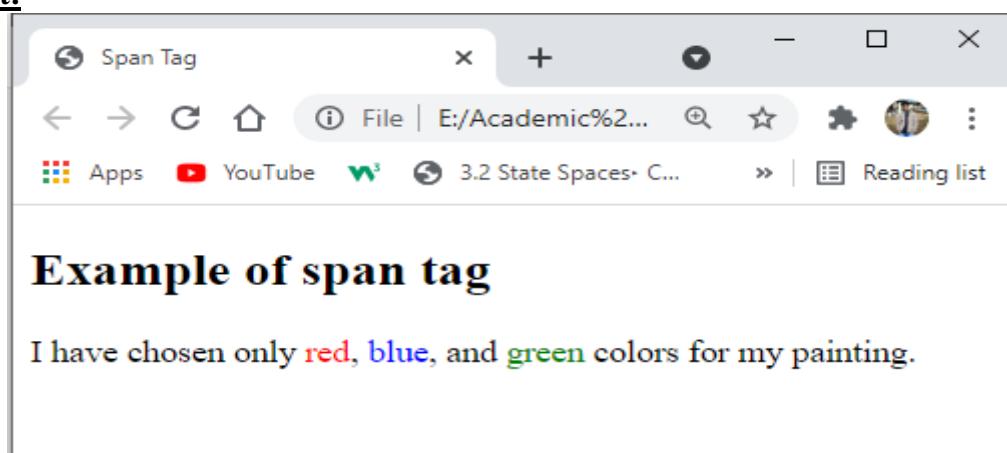
The tag does not have any default meaning or rendering. The tag can be useful for the following task:

- To change the language of a part of the text.
- To change the colour, font, background of a part of text using CSS
- To apply the scripts to the particular part of the text.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <title>Span Tag</title>
    </head>
    <body>
        <h2>Example of span tag</h2>
        <p>I have chosen only
            <span style="color: red;">red</span>,
            <span style="color: blue;">blue</span>, and
            <span style="color: green;">green</span> colors for my painting.
        </p>
    </body>
</html>
```

Output:



Strong tag:

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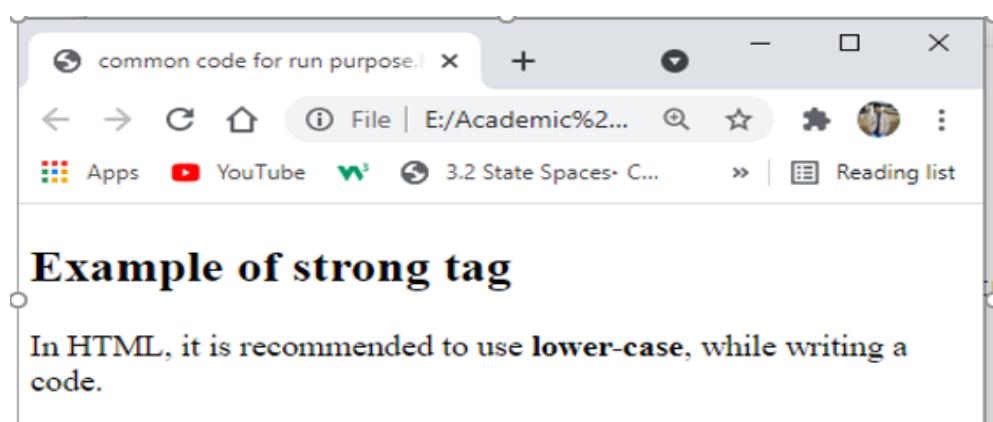
Web technology

This tag is used to display the important text of the content. The text written between and will be displayed as important text i.e., in bold.

Example:

```
<!DOCTYPE html>
<html>
    <head>
    </head>
    <body>
        <h2>Example of strong tag</h2>
        <p>In HTML, it is recommended to use <strong>lower-case</strong>, while
writing a code.
        </p>
    </body>
</html>
```

Output:



Abbreviation tag : <abbr>

This tag is used to abbreviate a text. To abbreviate a text, write text between <abbr> and </abbr> tag.

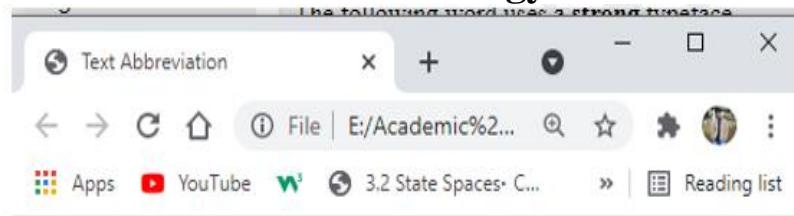
Example:

```
<!DOCTYPE html>
<html>
    <head>
        <title>Text Abbreviation</title>
    </head>

    <body>
        <p>My best friend's name is <abbr title = "manish
pal">MP</abbr>.</p>
    </body>
</html>
```

Output:

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My best friend's name is MP.

Acronym tag: <acronym> (not supported in HTML5)

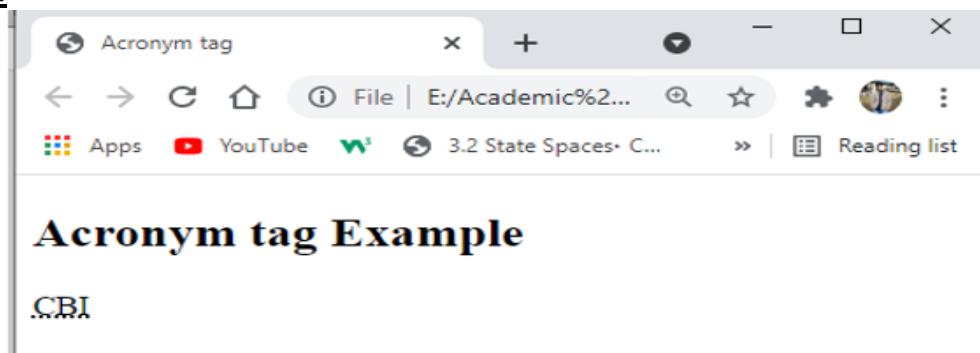
HTML <acronym> tag is used with title attribute to contain a **full explanation of an acronym content**. Acronym Tag is used to showing that the text within the opening and closing tag is an acronym. When you hover the mouse on content, then it will show the explanation of word.

Note: The <acronym> tag has been deprecated in HTML5 and we can use <abbr> tag instead of <acronym>.

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Acronym tag</title>
  </head>
  <body>
    <h2>Acronym tag Example</h2>
    <acronym title="Central bureau of Investigation">CBI</acronym>
  </body>
</html>
```

Output:



Marked tag: <mark>

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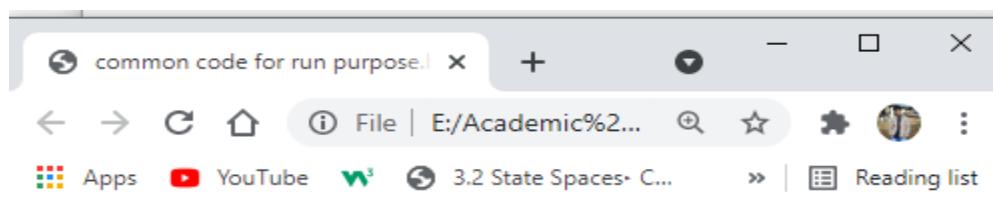
Web technology

The content written between <mark> and </mark> tag will show as yellow mark on browser. This tag is used to highlight a particular text.

Example:

```
<!DOCTYPE html>
<html>
    <head>
    </head>
    <body>
        <h2>Example of mark tag</h2>
        <p>This tag will <mark>highlight</mark> the text.</p>
    </body>
</html>
```

Output:



Example of mark tag

This tag will **highlight** the text.

Emphasized tag :

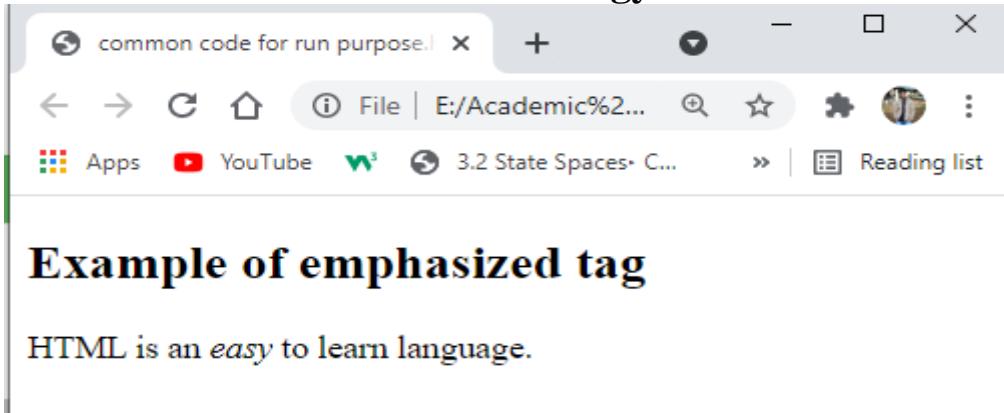
This tag is used to emphasize the text, and displayed the text in italic form. The text written between and tag will italicized the text.

Example:

```
<!DOCTYPE html>
<html>
    <head>
    </head>
    <body>
        <h2>Example of emphasized tag</h2>
        <p>HTML is an <em>easy </em>to learn language.</p>
    </body>
</html>
```

Output:

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The screenshot shows a web browser window with the title "common code for run purpose." The address bar shows "E:/Academic%2...". The page content is titled "Example of emphasized tag" and contains the text "HTML is an *easy* to learn language."

Definition tag: <dfn>

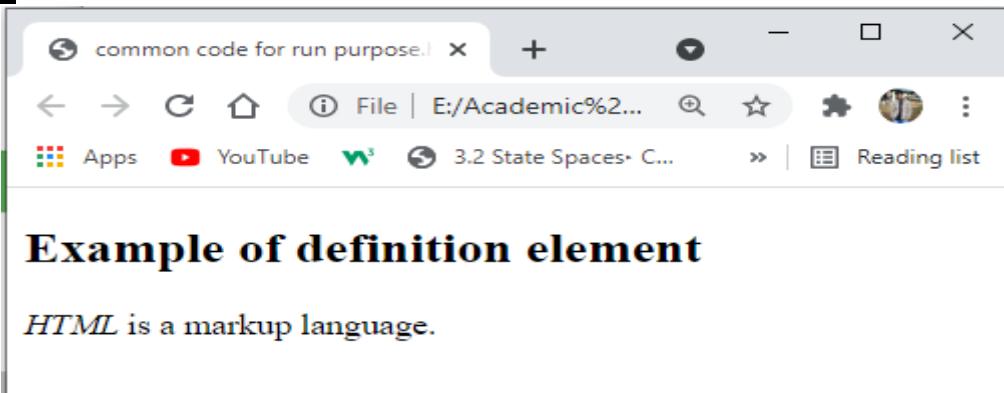
When you use the `<dfn>` and `</dfn>` tags, it allows to specify the keyword of the content. Following is the example to show how to definition element.

Example:

```
<!DOCTYPE html>
<html>
  <head>
    </head>
  <body>

    <h2>Example of definition element</h2>
    <p><dfn>HTML </dfn> is a markup language. </p>
  </body>
</html>
```

Output:



The screenshot shows a web browser window with the title "common code for run purpose.". The address bar shows "E:/Academic%2...". The page content is titled "Example of definition element" and contains the text "HTML is a markup language."

Quoting tag: <blockquote>

The HTML `<blockquote>` element shows that the enclosed content is quoted from another source. The Source URL can be given using the `cite` attribute, and text representation of source can display using `<cite> </cite>` element.

Example:

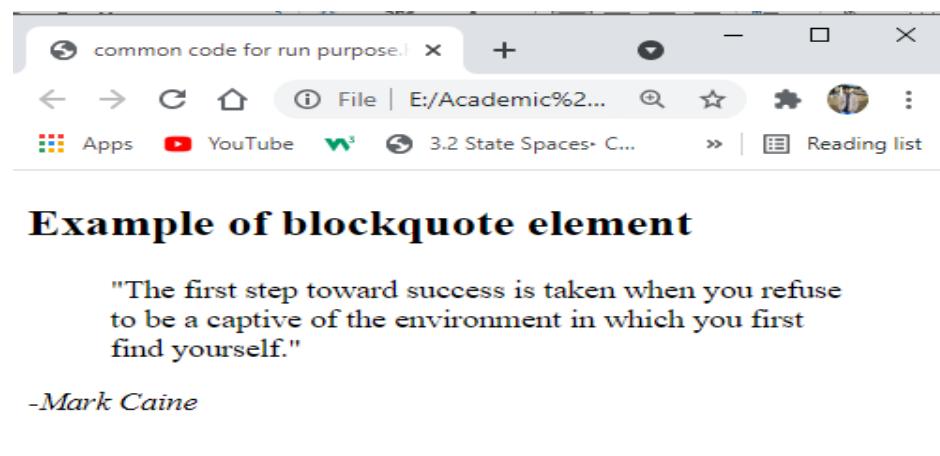
```
<!DOCTYPE html>
```

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```
<html>
  <head>
  </head>
  <body>
    <h2>Example of blockquote element</h2>
    <blockquote      cite="https://www.keepinspiring.me/famous-
quotes/"><p>"The first step toward success is taken when you refuse to
be a captive of the environment in which you first find
yourself."</p></blockquote>
    <cite>-Mark Caine</cite>
  </body>
</html>
```

Output:



Short quote tag : <q>

An HTML `<q> </q>` element defines a short quotation. If you will put any content between `<q> </q>`, then it will enclose the text in double quotes.

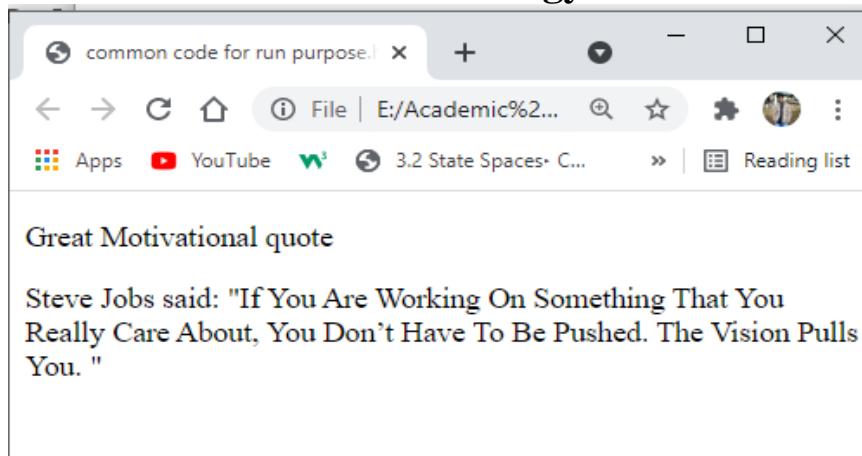
Example:

```
<!DOCTYPE html>
<html>
  <head>
  </head>
  <body>
    <p>Great Motivational quote</p>
    <p>Steve Jobs said: <q>If You Are Working On Something
That You Really Care About, You Don't Have To Be Pushed.
The Vision Pulls You.</q>
    </p>
  </body>
</html>
```

Output:

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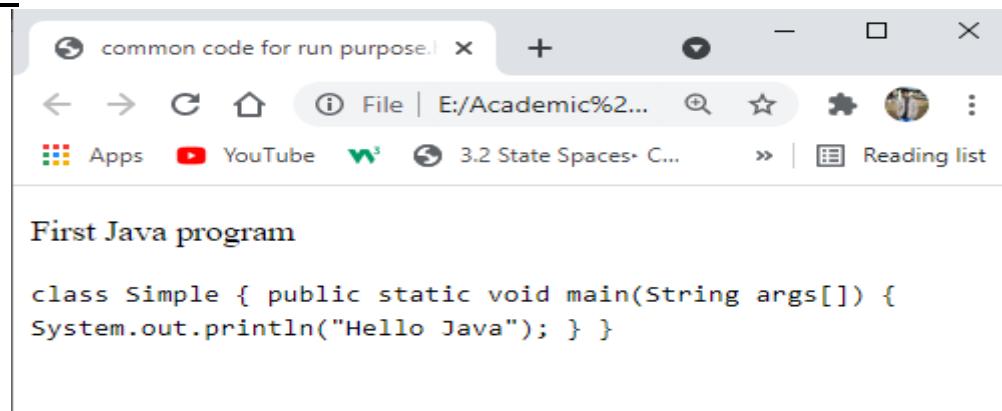
Code tag: <code>

The HTML `<code> </code>` element is used to display the part of computer code. It will display the content in monospaced font.

Example:

```
<!DOCTYPE html>
<html>
    <head>
    </head>
    <body>
        <p>First Java program</p>
        <p>
            <code>
                class Simple
                {
                    public static void main(String args[])
                    {
                        System.out.println("Hello Java");
                    }
                }
            </code>
        </p>
    </body>
</html>
```

Output:



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Keyboard tag: <kbd>

If, when talking about computers, you want to tell a reader to enter some text, you can use the `< kbd >` element to indicate what should be typed in.

In HTML the keyboard tag, `<kbd>`, indicates that a section of content is a user input from keyboard. The content of a `< kbd >` element is usually represented in a monospaced font, rather like the content of the `< code >` element.

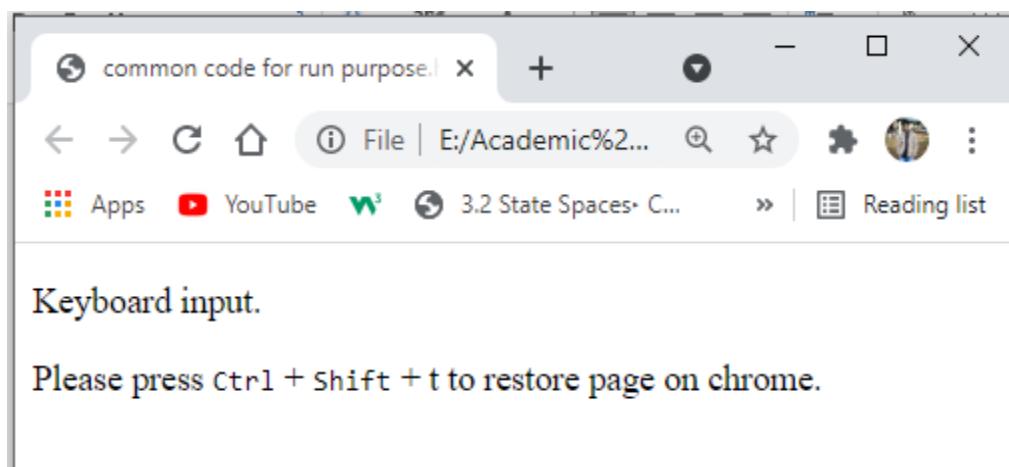
Example:

```
<!DOCTYPE html>
<html>
    <head>
        </head>

    <body>
        <p>Keyboard input. </p>
        <p>Please press <kbd>Ctrl</kbd> + <kbd>Shift</kbd> + <kbd> t
        </kbd> to restore page on chrome.</p>

        <p>Please press Ctrl+ Shift + t to restore page on chrome. </p>
    </body>
</html>
```

Output:



Address tag: <address>

An HTML `<address>` tag defines the contact information about the author of the content. The content written between `<address>` and `</address>` tag, then it will be displayed in italic font.

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Example:

```
<!DOCTYPE html>
<html>
  <head>
  </head>
  <body>
    <p>Address Tag</p>
    <address> You can ask your queries by contact us on
      <a href="#">sajhasawal123@newdomain.com</a>
      <br> You can also visit at: <br>kanti marg basundhara
      kathmandu .
    </address>
  </body>
</html>
```

Output:

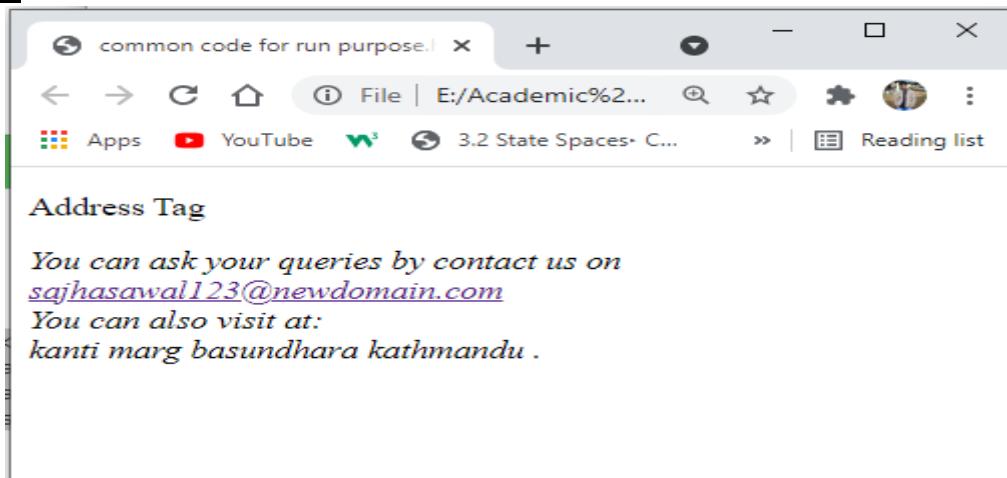


Image element; Anchors;

Adding Images Using the Element

Images are added to a site using the `` element, which has to carry at least two attributes:

`src` :- this attribute, indicating the source of the image, and

`alt`:- this attribute, which provides a description of the image.

For example, the following line would add the image called vill.jpg into the image.html page **image.html**

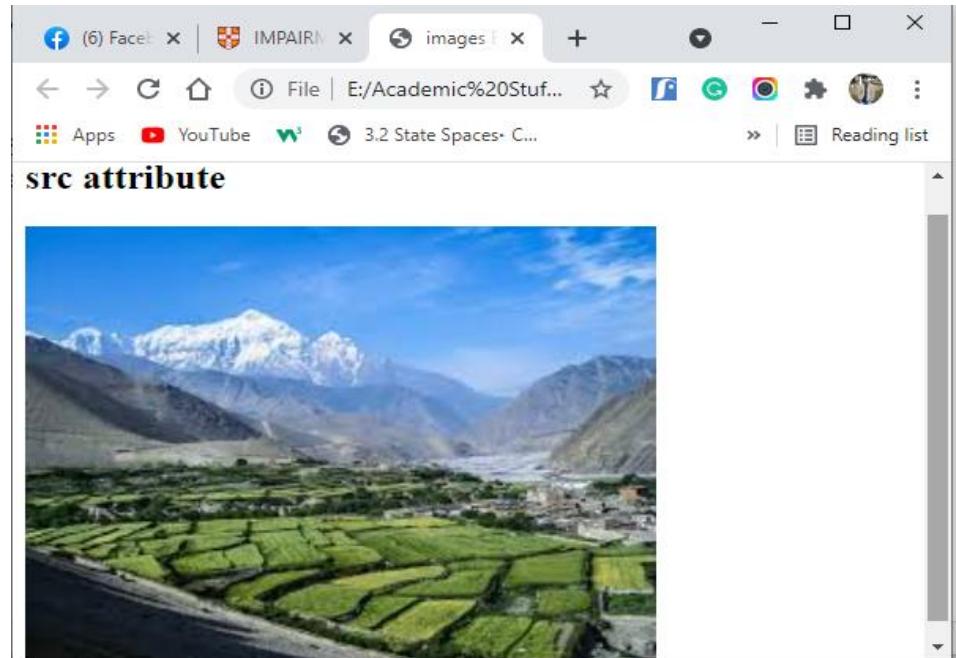
```
<!DOCTYPE html>
<html>
  <head>
    <title>
      </title>
    </head>
    <body>
      <h2>
        <img alt="online web technology logo" height="300" />
        online web technology
      </h2>
    </body>
  </html>
```

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

Output:



The `` element can carry the following attributes:

The src Attribute :-

The src attribute tells the browser where to find the image. The value is a URL and, just like the links .

The alt Attribute:-

The alt attribute must appear on every `` element and its value should be a text description of the image.

Eg:

```

```

→ it is important that the value of this attribute really describe the image because:

- i) If the browser cannot display the image, this text alternative will be shown instead.
- ii) Web users with visual impairments often use software called a screen reader to read a page to them, in which case the alt text describes the image they cannot see.
- iii) While search engines are very clever, they cannot yet describe or index the contents of an image; therefore, providing a text alternative helps search engines index your pages and helps visitors find your site.

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The height and width Attributes: -

The height and width attributes specify the height and width of the image, and the values for these attributes are almost always shown in pixels

Technically, the values of these attributes can be a percentage of the browser screen. Or if the image is inside an element that takes up only part of the page, known as a *containing element*, then it would be a percentage of the containing element. If you do use a percentage, the number will be followed by a percent sign, but this is very rare, and showing an image at any size other than the size at which it was created can result in a distorted or fuzzy image.

Example

```

```

Lists: Ordered and Unordered and Definition

List:

HTML provides simple and effective ways to specify list in document. HTML offers three types of lists

1. Order List
2. Unorder list and
3. Definition list

Ordered List:

Ordered list are lists in which the order of items is important. `` tag is used to create ordered list and content of list is displayed by attachment of sequential value to the beginning of each item. A default value is number starting with 1. If we need alphabets then we need to specify the type of the list. Each item in a list is specified with an `` tag (list item).

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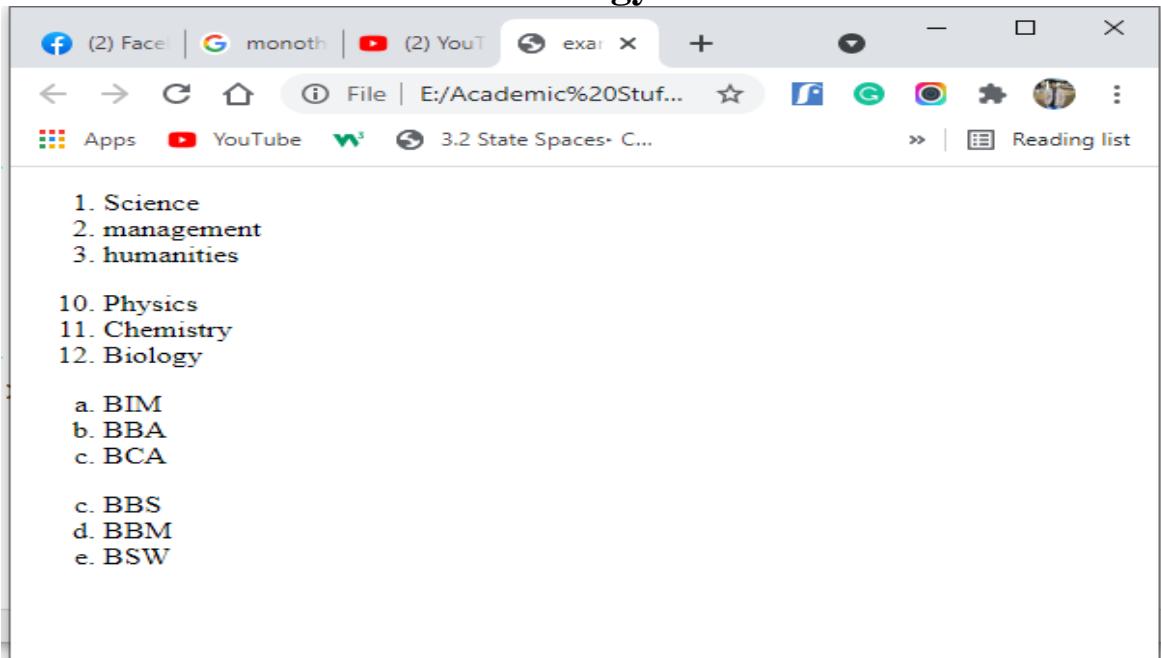
Example:

```
<!DOCTYPE html>
<html>
    <head>
        <title> example of ordered list </title>
    </head>
    <body>
        <ol>
            <li> Science </li>
            <li> management </li>
            <li> humanities </li>
        </ol>
        <!-- example of order list starting from number 10 -->
        <ol start = "10">
            <li> Physics</li>
            <li> Chemistry </li>
            <li>Biology </li>
        </ol>
        <!-- example of order list starting from alphabets -->
        <ol type ="a">
            <li> BIM</li>
            <li> BBA </li>
            <li>BCA </li>
        </ol>
        <!-- example of order list starting from alphabets but from c -->
        <ol type ="a" start="3">
            <li> BBS</li>
            <li> BBM </li>
            <li>BSW </li>
        </ol>
    </body>
</html>
```

Output:

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1. Unordered List:

 tag is used for creating unordered list and each item in a list is specified with an tag. Any tags can appear in a list item including nested lists. Default value for unordered list is bullet but if we want to make use of other type then we need to mention the type of unordered list.

There can be 4 types of bulleted list:

- ❖ disc
- ❖ circle
- ❖ square
- ❖ none

To represent different ordered lists, there are 4 types of attributes in tag.

Type	Description
Type "disc"	This is the default style. In this style, the list items are marked with bullets.
Type "circle"	In this style, the list items are marked with circles.
Type "square"	In this style, the list items are marked with squares.
Type "none"	In this style, the list items are not marked .

Example:

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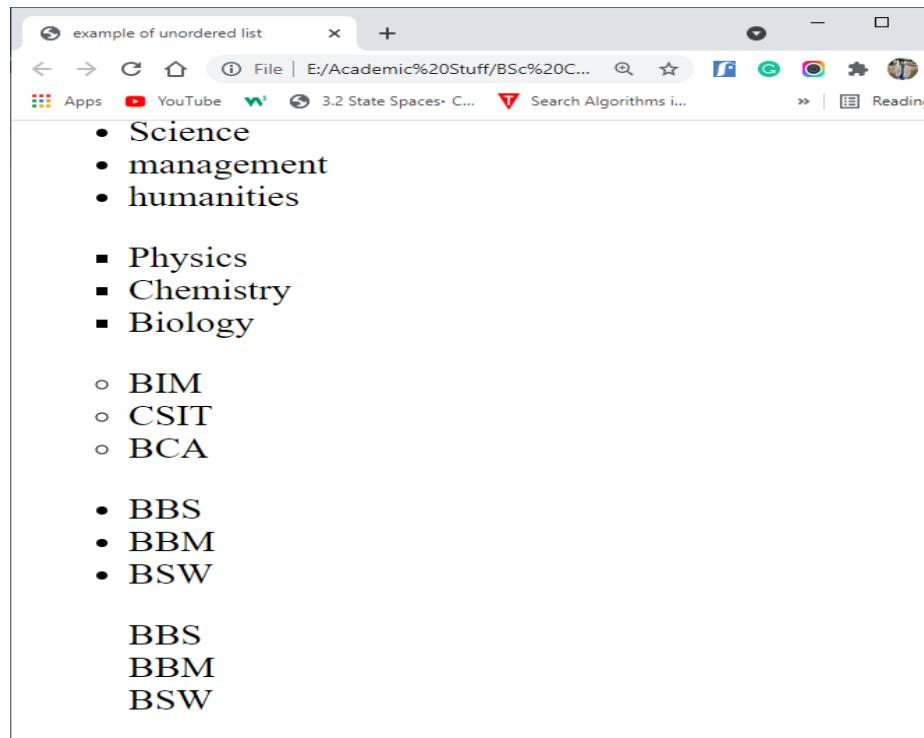
```
<!DOCTYPE html>
<html>
    <head>
        <title> example of unordered list </title>
    </head>
    <body>
        <ul>
            <li> Science </li>
            <li> management </li>
            <li> humanities </li>
        </ul>
        <!-- example of unorder list using type sqaure-->
        <ul type = "square">
            <li> Physics</li>
            <li> Chemistry </li>
            <li>Biology </li>
        </ul>
        <!-- example of unorder list using type circle -->
        <ul type = "circle">
            <li> BIM</li>
            <li> CSIT </li>
            <li>BCA </li>
        </ul>
        <!-- example of unorder list using type disc but this is not supported by
        html 5 -->
        <ul type = "disc">
            <li> BBS</li>
            <li> BBM </li>
            <li>BSW </li>
        </ul>
    </body>
    <!-- example of unorder list using type none but this is not supported
    by html 5 -->
    <ul type = "none">
        <li> BBS</li>
        <li> BBM </li>
        <li>BSW </li>
    </ul>
</body>

</html>
```

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Output:



2. Definition List:

Definition lists are used to specify lists of terms and their definitions as in glossaries. Definition list is created using `<dl>` element and usually consists of term and their definition. Inside the `<dl>` element you will usually see pair of `<dt>` and `<dd>` element. Where `<dt>` tag is used to contain the term being defined. And `<dd>` tag is used to contain the definition of given term

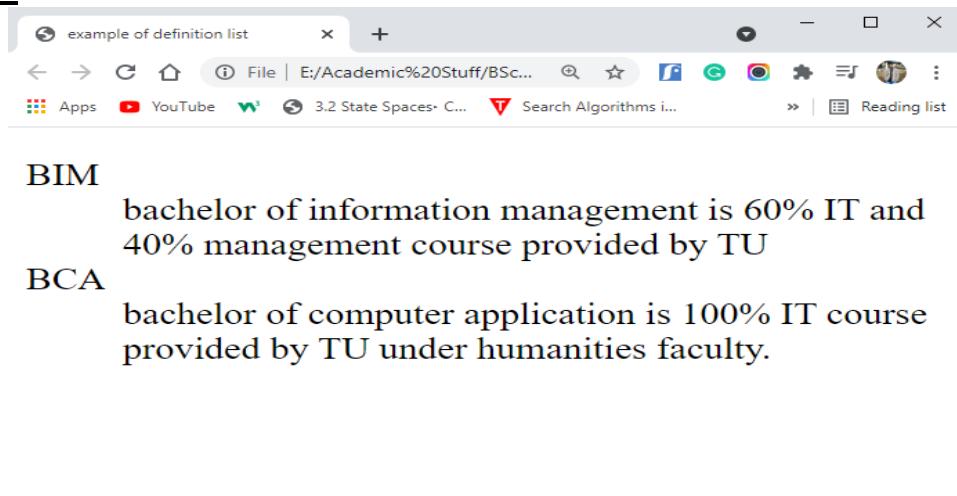
Example:

```
<!DOCTYPE html>
<html>
    <head>
        <title> example of definition list </title>
    </head>
    <body>
        <dl>
            <dt> BIM </dt>
            <dd> bachelor of information management is 60% IT and 40% management course provided by TU </dd>
            <dt> BCA </dt>
            <dd> bachelor of computer application is 100% IT course provided by TU under humanities faculty. </dd>
        </dl>
    </body>
</html>
```

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Output:



The screenshot shows a web browser window with the title "example of definition list". The page content displays two entries in a definition list format:

- BIM**
bachelor of information management is 60% IT and
40% management course provided by TU
- BCA**
bachelor of computer application is 100% IT course
provided by TU under humanities faculty.

3. Nested List:

When one list is created under another list then it is known as nested list. That is when ordered list is created inside unordered list or unordered list is created inside ordered list then the list became nested list. However, a list cannot be directly nested i.e. an `` or `` tag cannot immediately follow another `` or `` tag. There should be some list item when a list is created.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <title> example of nested list </title>
    </head>
    <body>
        <!-- this is not accepted in html -->
        <!--
        <ol>
            <ol>
                <li> hello </li>
            </ol>
        </ol>
        --
        <!-- nested list should be created by following ways -->
        <ol>
            <li> IT courses </li>
            <ul>
                <li> BIM </li>
                <li> BCA </li>
                <li> BIT</li>
            </ul>
            <li> Management Courses </li>
        <ol>
```

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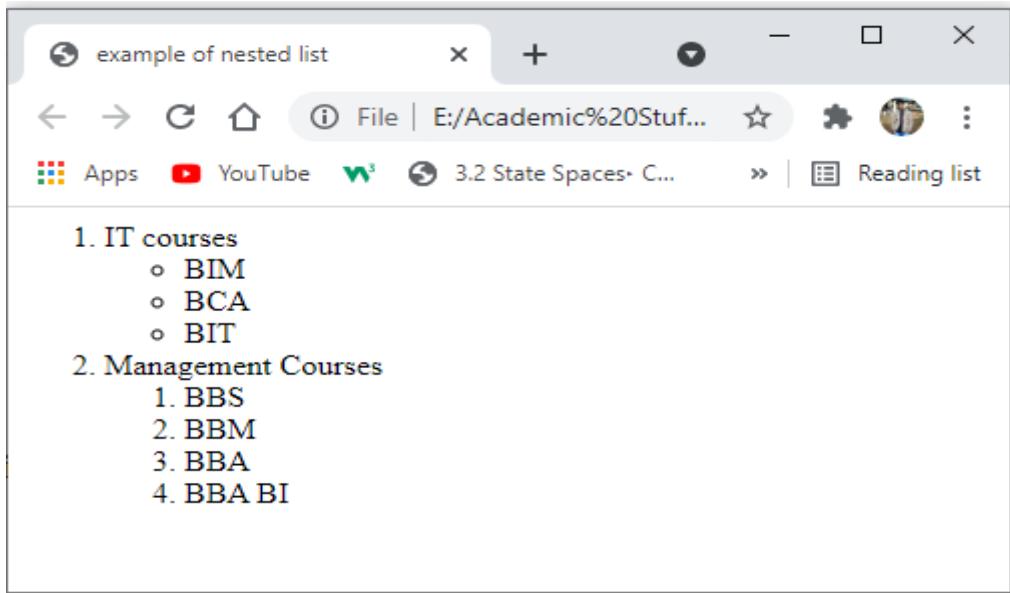
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```

<li> BBS </li>
<li> BBM </li>
<li> BBA </li>
<li> BBA </li>
</ol>
</ol>
</body>
</html>

```

Output:



Tables

Introducing Tables

Table is a matrix of cells which is used to represent any kinds of information in tabular form. The cells of table in the top row often contains columns label, those in the leftmost column often contains row labels and most of the rest of the cells contains the data of the table. The content of the cell can be any element of documents like text, heading, image, nested table etc.

The table is created using `<table>` tag, each row of the table is specified with `<tr>` tag and each column of the table is specified with `<td>` tag. The contents are written inside `<td>` tag which is also known as data cell of table. Each row label can also contain heading which is specified with `<th>` tag and also known as labels to avoid confusion with heading created through `<hx>` tag. Keywords for creating table are shown below:

Tags	Meaning
<code><table></code>	<ul style="list-style-type: none"> • To create table
<code><tr></code>	<ul style="list-style-type: none"> • Represents row of table
<code><th></code>	<ul style="list-style-type: none"> • Used for creating heading of content
<code><td></code>	<ul style="list-style-type: none"> • Represents column and used for putting content in table
<code><caption></code>	<ul style="list-style-type: none"> • Used for creating heading of table

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The HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells. The HTML tables are created using the `<table>` tag in which the `<tr>` tag is used to create table rows and `<td>` tag is used to create data cells. The elements under `<td>` are regular and left aligned by default

```
<table>
  <tr>
    <td>content</td>
    <td>content</td>
  </tr>
</table>
```

Basic Table Elements and Attributes

The `<table>` element in HTML is used for displaying tabular data. You can think of it as a way to describe and display data that would make sense in spreadsheet software. Essentially: columns and rows.

The `<table>` Element Creates a Table

Example:

```
<table>
  <tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
  </tr>
  <tr>
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
  </tr>
  <tr>
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
  </tr>
  <tr>
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
  </tr>
</table>
```

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Name	ID	Favorite Color
Shyam	00001	Blue
Amar	00002	Red
Ravin	00003	Green

The <table> element can carry the following deprecated attributes. Even though they are deprecated, you will still see many of them in use today:

Attribute of <table> element

Align, bgcolor ,border ,cellpadding , cellspacing , dir, frame ,rules ,summary ,width etc.

Align

It indicates whether the table should be aligned to the left (the default), right , or centre of the page.

Example:

```
<table align="center">
  <tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
  </tr>
  <tr>
    <td>Jim</td>
    <td>00001</td>
    <td>Blue</td>
  </tr>
  <tr>
    <td>Sue</td>
    <td>00002</td>
    <td>Red</td>
  </tr>
  <tr>
    <td>Barb</td>
    <td>00003</td>
    <td>Green</td>
  </tr>
</table>
```

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Name	ID	Favorite Color
Shyam	00001	Blue
Amar	00002	Red
Ravin	00003	Green

Bgcolor

The bgcolor attribute sets the background color for the table. The value of this attribute should either be a color name or a six - digit code known as a hex code.
(background-color: #f1f1c1) .

Table1.html

```
<table align="center" bgcolor="green">
  <tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
  </tr>
  <tr>
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
  </tr>
  <tr>
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
  </tr>
  <tr>
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
  </tr>
</table>
```

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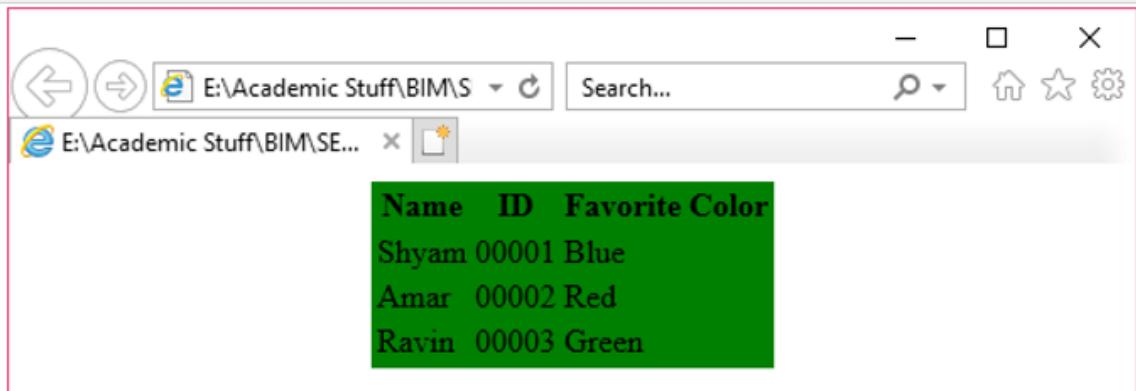
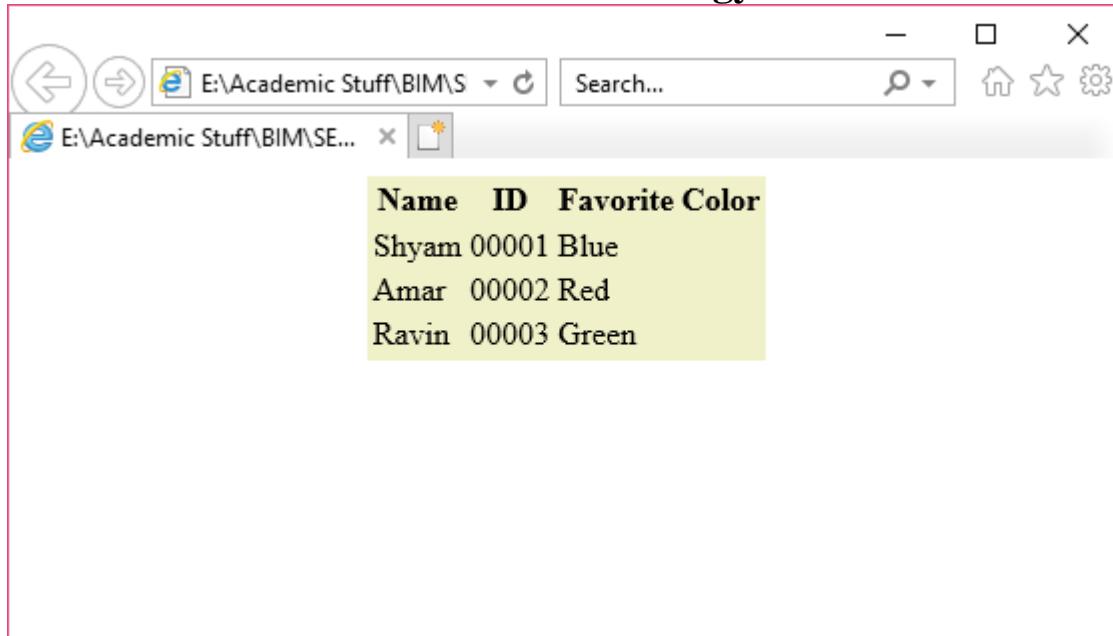


Table1.html

```
<table align="center" bgcolor="#f1f1c1">
<tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
</tr>
<tr>
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
</tr>
<tr>
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
</tr>
<tr>
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
</tr>
</table>
```

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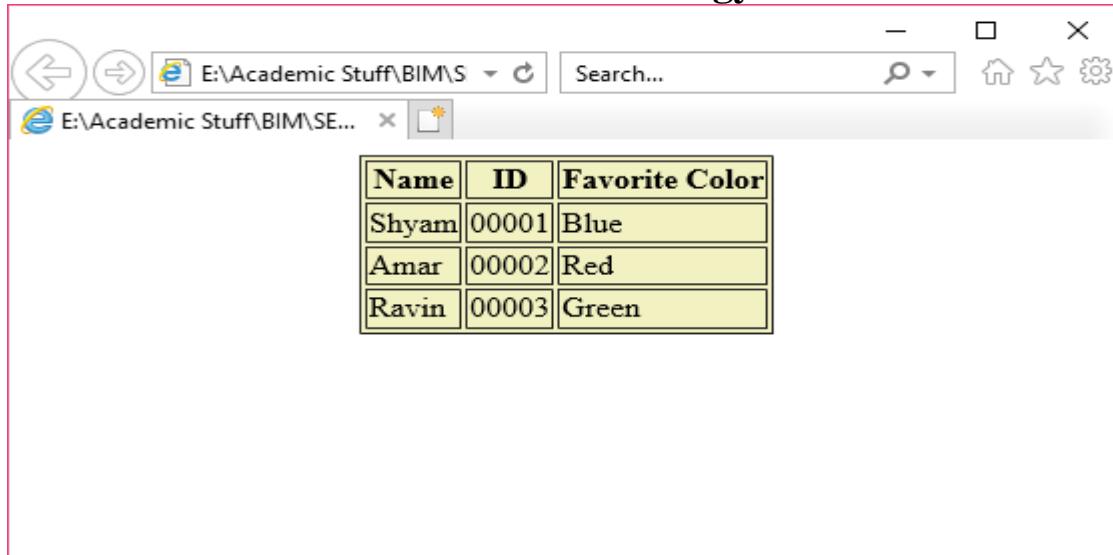
Border

If you use the border attribute, a border will be created around both the table and each individual cell. The value for this attribute is the width you want the outside border of the table to be, in pixels.

```
<table align="center" bgcolor="#f1f1c1" border="1">
  <tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
  </tr>
  <tr>
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
  </tr>
  <tr>
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
  </tr>
  <tr>
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
  </tr>
</table>
```

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Cellpadding

The cellpadding attribute is used to create a gap between the edges of a cell and its contents. The value for this attribute determines the amount of space or padding inside each wall of the cell, specified either in pixels or as a percentage value.

cellpadding="5" or cellpadding="2%"

Table1.html

```
<table align="center" bgcolor="#f1f1c1" border="1" cellpadding="7">
  <tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
  </tr>
  <tr>
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
  </tr>
  <tr>
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
  </tr>
  <tr>
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
  </tr>
</table>
```

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Name	ID	Favorite Color
Shyam	00001	Blue
Amar	00002	Red
Ravin	00003	Green

Cellspacing

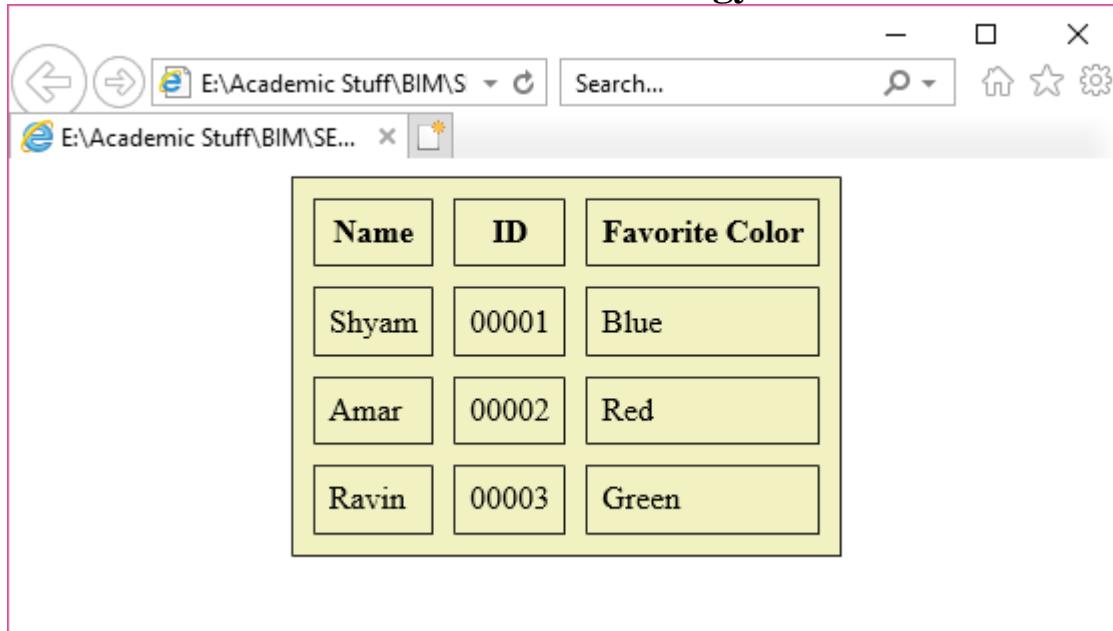
The cellspacing attribute is used to create a space between the borders of each cell. The value for this attribute can be either the amount of space you want to create between the cells, in pixels, or a percentage value.

cellspacing="6" or cellspacing="2%"

Table1.html

```
<table align="center" bgcolor="#f1f1c1" border="1" cellpadding="7" cellspacing="10">
<tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
</tr>
<tr>
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
</tr>
<tr>
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
</tr>
<tr>
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
</tr>
</table>
```

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Dir: -

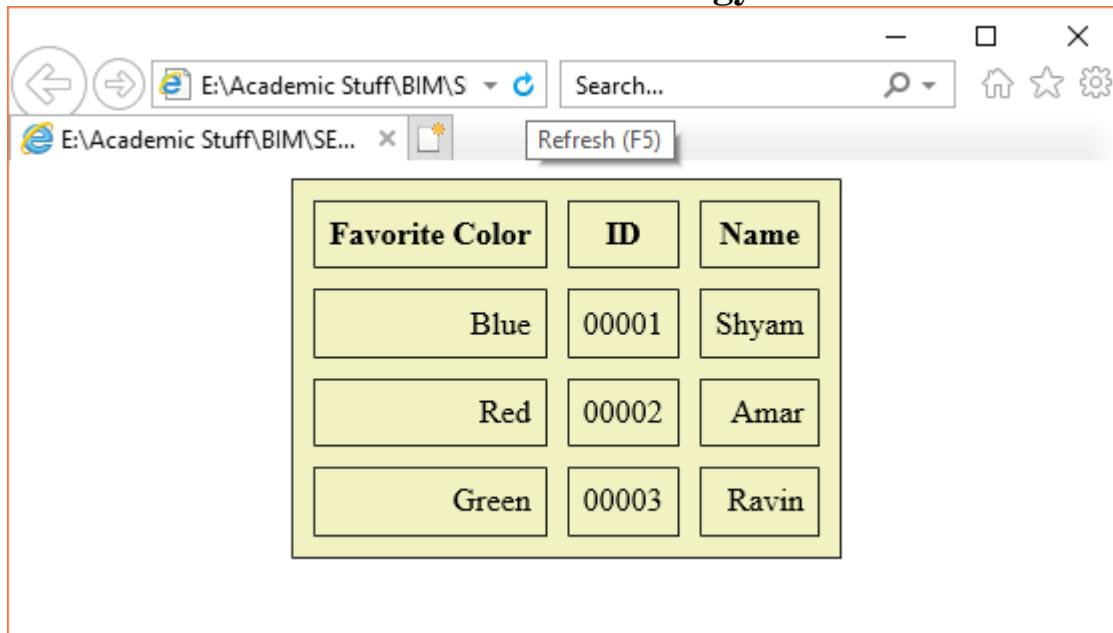
The dir attribute is supposed to indicate the direction of text that is used in the table. Possible values are ltr for left to right text and rtl for right to left. If you use the dir attribute with a value of rtl on the <table> element, then the cells appear from the right first, and each consecutive cell is placed to the left of that one.

Table1.html

```
<table align="center" bgcolor="#f1f1c1" border="1" cellpadding="7" cellspacing="10"
dir="rtl">
<tr>
  <th>Name</th>
  <th>ID</th>
  <th>Favorite Color</th>
</tr>
<tr>
  <td>Shyam</td>
  <td>00001</td>
  <td>Blue</td>
</tr>
<tr>
  <td>Amar</td>
  <td>00002</td>
  <td>Red</td>
</tr>
<tr>
  <td> Ravin</td>
  <td> 00003</td>
  <td> Green</td>
</tr>
</table>
```

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Frame

The frame attribute is supposed to control the appearance of the outermost border of the whole table, referred to here as its frame, with greater control than the border attribute. If both the frame and border attributes are used, the frame attribute takes precedence. The syntax is:

Frame "frameType"

The following table shows the possible values for the frame attribute.

VALUE	PURPOSE
• VOID	• No outer border (the default)
• ABOVE	• A border on the top only
• BELOW	• A border on the bottom only
• HSIDES	• A border on the top and bottom horizontal side
• LHS	• A border on the left side of table
• RHS	• A border on the right side of table
• VSIDES	• A border on the left and right sides of table vertical sides
• BOX	• A border on all sides
• BORDER	• A border on all sides

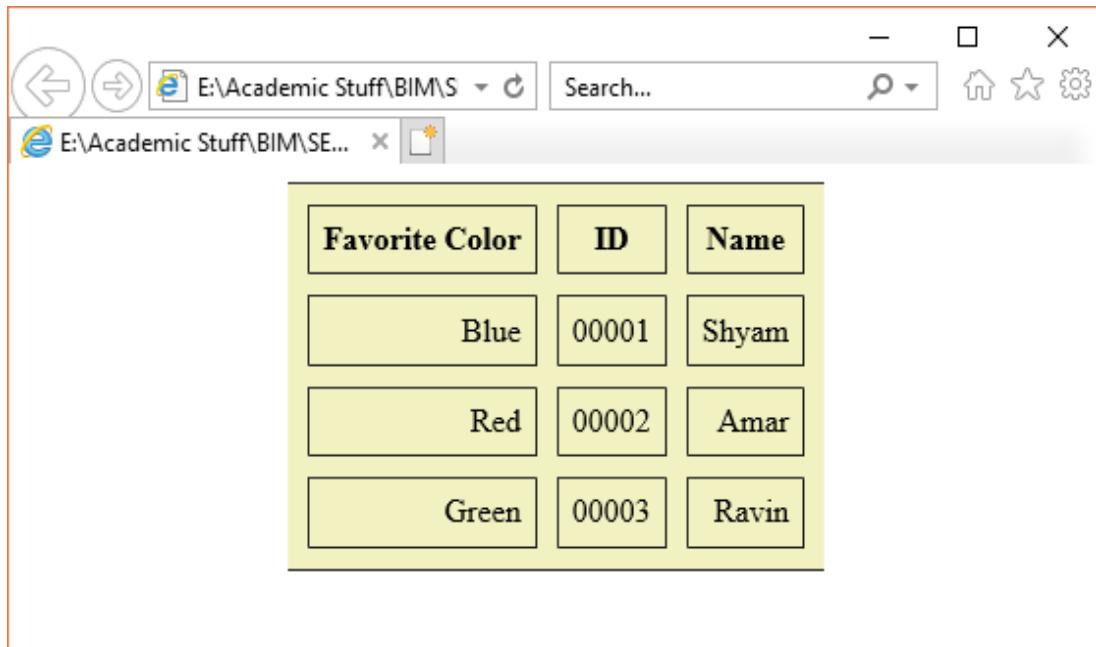
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Example:

```
<table align="center" bgcolor="#f1f1c1" border="1" cellpadding="7" cellspacing="10"
dir="rtl" frame="hsides">

<tr>
  <th>Name</th>
  <th>ID</th>
  <th>Favorite Color</th>
</tr>
<tr>
  <td>Shyam</td>
  <td>00001</td>
  <td>Blue</td>
</tr>
<tr>
  <td>Amar</td>
  <td>00002</td>
  <td>Red</td>
</tr>
<tr>
  <td> Ravin</td>
  <td> 00003</td>
  <td> Green</td>
</tr>
</table>
```



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Rules

The rules attribute is used to indicate which inner borders of the table should be displayed. For example, you can just specify that the rows or columns should have lines between each of them. Here is the syntax; the default value is none.

rules= “ruleType”

The following table shows the possible values for the rules attribute:

VALUE	PURPOSE
• NONE	• No inner borders (the default)
• GROUPS	• It creates lines between row and column groups. Displays inner borders between all table groups (groups are created by the <thead> , <tbody> , <tfoot> , and <colgroup> elements)
• ROWS	• Displays horizontal borders between each row
• COLS	• Displays vertical borders between each column
• ALL	• Displays horizontal and vertical borders between each row and column

Example:rows

```
<table align="center" bgcolor="#f1f1c1" rules="rows" cellpadding="7" cellspacing="10" dir="rtl" frame="hsides">
  <tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
  </tr>
  <tr>
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
  </tr>
  <tr>
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
  </tr>
  <tr>
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
  </tr>
</table>
```

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Favorite Color	ID	Name
Blue	00001	Shyam
Red	00002	Amar
Green	00003	Ravin

Example:columns

```
<table align="center" bgcolor="#f1f1c1" rules="cols" cellpadding="7" cellspacing="10"
dir="rtl" frame="hsides">
<tr>
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
</tr>
<tr>
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
</tr>
<tr>
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
</tr>
<tr>
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
</tr>
</table>
```

Favorite Color	ID	Name
Blue	00001	Shyam
Red	00002	Amar
Green	00003	Ravin

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The GROUPS Value for the RULES Attribute

RULES=GROUPS allows you to put borders between groups of table cells. There are two ways cells can be grouped: **by row and by column**.

Grouping By Row

To group by row, use the <THEAD ...>, <TBODY ...>, <TFOOT ...> tags.

<THEAD ...> indicates the header rows of the table, <TBODY ...> indicates the main body of the table, and <TFOOT ...> indicates the bottom rows. following code creates a table with three groups. Borders appear just between groups:

Example:

```
<TABLE BORDER=2 RULES=GROUPS>
  <THEAD>
    <TR><TH>Name</TH><TH>Food</TH><TH>Price</TH></TR>
  </THEAD>
  <TBODY>
    <TR><TD>Starflower</TD><TD>stir fied tofu</TD><TD>5.95</TD></TR>
    <TR><TD>Miko</TD><TD>vegetable rice soup</TD><TD>4.95</TD></TR>
    <TR><TD>Andy</TD><TD>hummus</TD><TD>3.95</TD></TR>
    <TR><TD>Ping</TD><TD>french toast</TD><TD>5.95</TD></TR>
  </TBODY>

  <TFOOT> <TR><TH COLSPAN=2>Total</TH><TD>20.80</TD></TR> </TFOOT>

</TABLE>
```

Output:

Name	Food	Price
Starflower	stir fied tofu	5.95
Miko	vegetable rice soup	4.95
Andy	hummus	3.95
Ping	french toast	5.95
Total		20.80

Grouping By Column

To group by column, use the <COLGROUP ...> tag and its SPAN attribute.

<COLGROUP ...> takes a little getting used to because it doesn't actually go around any table cells. It goes at the top of the table code where it sets rules about the table columns including which are grouped together.

<COLGROUP SPAN="..."> to indicates how many columns are in each group. If you leave SPAN out then it is assumed the group has just one column.

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So, for example, the following code says that the first column is in a group by itself and the three after that are together in a group. Notice that <COLGROUP ...> requires an end tag. Borders will go only between the groups:

Example:

```
<TABLE BORDER=1 CELLPADDING=4 RULES=GROUPS FRAME=BOX>
    <COLGROUP></COLGROUP>
    <COLGROUP></COLGROUP>
    <thead>
        <tr>
            <th colspan="3">Table Header</th>
        </tr>
    </thead>
    <tbody>
        <tr>
            <td>Row1 - Col1</td>
            <td>Row1 - Col2</td>
            <td>Row1 - Col3</td>
        </tr>

        <tr>
            <td>Row2 - Col1</td>
            <td>Row2 - Col2</td>
            <td>Row2 - Col3</td>
        </tr>
        <tr>
            <td>Row3 - Col1</td>
            <td>Row3 - Col2</td>
            <td>Row3 - Col3</td>
        </tr>
    </tbody>
    <tfoot>
        <tr>
            <td colspan="3">Table Footer</td>
        </tr>
    </tfoot>
</table>
```

Output:

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Table Header		
Row1 - Col1	Row1 - Col2	Row1 - Col3
Row2 - Col1	Row2 - Col2	Row2 - Col3
Row3 - Col1	Row3 - Col2	Row3 - Col3
Table Footer		

column bichma dharka xa

Example:

```
<TABLE BORDER=1 CELLPADDING=4 RULES=GROUPS FRAME=BOX>
```

```
<COLGROUP></COLGROUP>
<COLGROUP></COLGROUP>
<COLGROUP></COLGROUP>
```

```
<thead>
<tr>
<th colspan="3">Table Header</th>
</tr>
</thead>
```

```
<tbody>
<tr>
<td>Row1 - Col1</td>
<td>Row1 - Col2</td>
<td>Row1 - Col3</td>
<td>Row1 - Col4</td>
</tr>
```

```
<tr>
<td>Row2 - Col1</td>
<td>Row2 - Col2</td>
<td>Row2 - Col3</td>
<td>Row2 - Col4</td>
</tr>
```

```
<tr>
<td>Row3 - Col1</td>
<td>Row3 - Col2</td>
<td>Row3 - Col3</td>
<td>Row3 - Col4</td>
</tr>
```

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```
</tbody>
<tfoot>
<tr>
<td colspan="4">Table Footer</td>
</tr>
</tfoot>

</table>
```

Output:

Table Header			
Row1 - Col1	Row1 - Col2	Row1 - Col3	Row1 - Col4
Row2 - Col1	Row2 - Col2	Row2 - Col3	Row2 - Col4
Row3 - Col1	Row3 - Col2	Row3 - Col3	Row3 - Col4
Table Footer			

Summary:

The summary attribute is supposed to provide a summary of the table's purpose and structure for non-visual browsers such as speech browsers or Braille browsers. The value of this attribute is not rendered in IE or Firefox, but if the text before the table doesn't clearly explain what will be found in the table, you should aim to use it in your pages:

summary= "Table shows the operating profit for the last four quarters. The first column indicates the quarter, the second indicates outgoings, the third indicates receipts, and the fourth indicates profit."

Example:

```
<table align="center" rules="rows" cellpadding="7" cellspacing="10" dir="rtl"
frame="hsides" summary="Table shows the operating profit for the last four quarters. The first
column indicates the quarter, the second indicates outgoings, the third indicates receipts, and
the fourth indicates profit.">
```

```
<tr>
  <th>Name</th>
  <th>ID</th>
  <th>Favorite Color</th>
</tr>
<tr>
```

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```
<td>Shyam</td>
<td>00001</td>
<td>Blue</td>
</tr>
<tr>
<td>Amar</td>
<td>00002</td>
<td>Red</td>
</tr>
<tr>
<td> Ravin</td>
<td> 00003</td>
<td> Green</td>
</tr>
</table>
```

Output:

Favorite Color	ID	Name
Blue	00001	Shyam
Red	00002	Amar
Green	00003	Ravin

Width

The width attribute is used to specify the width of the table, and usually its value is given in pixels.

width= "500"

```
<table align="center" rules="rows" cellpadding="7" cellspacing="10" dir="rtl"
frame="hsides" width="500">
```

The <tr> Element

The `<tr>` element is used to contain each row in a table. Anything appearing within a `<tr>` element should appear on the same row. It can carry five attributes, three of which have been deprecated in favour of using CSS.

Align, bgcolor ,char ,charoff, valign

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Align

The align attribute specifies the position of the content of all of the cells in the row.
align= “ alignment”

The table that follows lists the possible values for the align attribute:

Value	Purpose
• left	• Content is left - aligned.
• right	• Content is right - aligned.
• center	• Content is centered horizontally within the cell.
• justify	• Text within the cell is justified to fill the cell.
• char	• Set the character to align the cells in a column.

Example:

```
<table align="center" border="1" >
  <tr align="right" char="right">
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
  </tr>
  <tr align="left">
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
  </tr>
  <tr align="center">
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
  </tr>
  <tr align="right">
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
  </tr>
</table>
```

Output:

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Name	ID	Favorite Color
Shyam	00001	Blue
Amar	00002	Red
Ravin	00003	Green

Bgcolor

The bgcolor attribute sets the background color for the row.

Example:

```
<table align="center" border="1" cellpadding="7" cellspacing="10" frame="hsides" >
  <tr align="right" bgcolor="green">
    <th>Name</th>
    <th>ID</th>
    <th>Favorite Color</th>
  </tr>
  <tr align="left">
    <td>Shyam</td>
    <td>00001</td>
    <td>Blue</td>
  </tr>
  <tr align="left">
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
  </tr>
  <tr align="left">
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
  </tr>
</table>
```

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Name	ID	Favorite Color
Shyam	00001	Blue
Amar	00002	Red
Ravin	00003	Green

valign

The valign attribute specifies the vertical alignment of the contents of each cell in the row.
The syntax is as follows:

valign= "verticalPosition"

eg top , middle, bottom, baseline

Example:

```
<!DOCTYPE html>
<html>

    <head>
        <title>
            valign Attribute of tr tag
        </title>
    </head>
    <body>
        <table style="height:200px" border="1">
            <tr valign="top">
                <th>Name</th>
                <th>Collage</th>
            </tr>
            <tr valign="bottom">
                <td>Sagar</td>
                <td>NCCS</td>
            </tr>
            <tr valign="middle">
                <td>Ajay</td>
                <td>Prime</td>
            </tr>
        </table>
    </body>
</html>
```

Output:

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Name	Collage
Sagar	NCCS
Ajay	Prime

The <td> and <th> Elements Represent Table Cells.

Every cell in a table will be represented by `<td>` element for cells containing table data and `<th>` element for cells containing table headings. By default, the contents of a `<th>` element are usually displayed in a bold font, horizontally aligned in the center of the cell. The content of a `<td>` element, meanwhile, will usually be displayed left – aligned and not in bold (unless otherwise indicated by CSS or another element).

The `<td>` and `<th>` elements can both carry the same set of attributes. Any effect these attributes have will override settings for the table as a whole or any containing element (such as a row).

The <td> and <th> elements can carry the following attributes:

Abbr, align, axis, bgcolor, char ,charoff ,colspan ,headers, height ,nowrap ,rowspan ,scope, valign ,width

The abbr Attribute

The abbr attribute is used to provide an abbreviated version of the cell ' s content. abbr= “description of services”

Code:

```
<!DOCTYPE html>
<html>
<head>
<title> abbr Attribute </title>
</head>
<body>
<table border="1">
<tr>
```

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```
<th>Organization name</th>
<th>Location</th>
<th>Branch</th>
</tr>

<tr>
    <td abbr="Natty Constructive Easygoing Likable Lonely">NCELL</td>
    <td abbr="Main branch location">Lazimpath</td>
    <td abbr="Main Branch">Lazimpath</td>
</tr>

</table>
</body>

</html>
```

Organization name	Location	Branch
NCELL	Lazimpath	Lazimpath

The axis Attribute

The HTML `<td>` axis attribute is used to categorize the cell content. It is used for group related information. This attribute does not display visual effect on the web browser but it is used by screen readers. **It is not supported by HTML 5.**

Syntax:

```
<td axis="category_name">
Code:
<table border="1" width="100%">
<tr>
    <th axis="name">Name</td>
    <th axis="contact">Email</td>
    <th axis="contact">Phone</td>
    <th axis="contact">Address</td>
</tr>
<tr>
    <td axis="name">John sena </td>
    <td axis="contact">someone@example.com</td>
    <td axis="contact">9779853678723</td>
    <td axis="contact">kathmandu</td>
</tr>
</table>
```

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Output

Name	Email	Phone	Address
John sena	someone@example.com	9779853678723	kathmandu

The colspan Attribute

The colspan attribute is used when a cell should span across more than one column. The value of the attribute specifies how many columns of the table a cell will span across. Example: colspan="2".

Code:

```
<table border="1" width="100%">
  <tr>
    <th axis="name">Name</td>
    <th axis="contact">Email</td>
    <th axis="contact">Phone</td>
    <th axis="contact">Address</td>
  </tr>
  <tr>
    <td axis="name">John sena </td>
    <td axis="contact">someone@example.com</td>
    <td axis="contact">9779853678723</td>
    <td axis="contact">kathmandu</td>
  </tr>
  <tr>
    <td axis="name" colspan="2">HHH </td>
    <td axis="contact" colspan="2">someone@example.com</td>
  </tr>
</table>
```

axis le tw bas group matra garne ho tyo axis wala
nagari colspan gareko vye ni merge hunthyo

Output:

Name	Email	Phone	Address
John sena	someone@example.com	9779853678723	kathmandu
HHH		someone@example.com	

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The nowrap Attribute (Deprecated)

The nowrap attribute is used to stop text from wrapping onto a new line within a cell. Or in other words the HTML <td> nowrap attribute is used to specify that the content present inside the cell should not wrap.

nowrap="nowrap"

Code:

```
<table border="1">
<tr>
<th>Himalayan</th>
<th>Java</th>
</tr>
<tr>
<td nowrap>In 1999, we started off as the first specialty coffee shop in Nepal to specialize in handcrafted coffee and bakery. </td>
<td>Over the years, we have diversified from a small coffee shop to an international franchising Nepalese Coffee Brand with more than 30 outlets around the world.</td>
</tr>
</table>
```

Output:

Himalayan	Java
In 1999, we started off as the first specialty coffee shop in Nepal to specialize in handcrafted coffee and bakery.	Over the years, we have diversified from a small coffee shop to an international franchising Nepalese Coffee Brand with more than 30 outlets around the world.

The scope Attribute

The scope attribute can be used to indicate which cells the current header provides a label or header information for. It can be used instead of the headers attribute in basic tables, but does not have much support.

The purpose of the HTML scope attribute is to specify the scope for header cells of a table.

scope=" range "

eg row, column, rowgroup, colgroup;

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Example:

```
<table border="3px" rules="cols">  
  <tr>  
    <th>Fruit</th>  
    <th>Cost</th>  
  </tr>  
  <tr>  
    <td scope="row">Apple</td>  
    <td>$5</td>  
  </tr>  
  <tr>  
    <td scope="row">Pear</td>  
    <td>$10.50</td>  
  </tr>  
</table>
```

Output:



Fruit	Cost
Apple	\$5
Pear	\$10.50

Adding a <caption> to a Table

The `<caption>` element is used to add a caption to an HTML table. A `<caption>` must appear in an HTML document as the first descendant of a parent `<table>`.

Example:

```
<table align="center" border="1" cellpadding="7" cellspacing="10" frame="hsides" >  
  <caption>Student Color Choice</caption>  
  
  <tr align="right" bgcolor="green">  
    <th>Name</th>  
    <th>ID</th>  
    <th>Favorite Color</th>  
  </tr>  
  <tr align="left">  
    <td>Shyam</td>  
    <td>00001</td>  
    <td>Blue</td>  
  </tr>
```

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```
<tr align="left">
    <td>Amar</td>
    <td>00002</td>
    <td>Red</td>
</tr>
<tr align="left" char=". " >
    <td> Ravin</td>
    <td> 00003</td>
    <td> Green</td>
</tr>
</table>
```

Name	ID	Favorite Color
Shyam	00001	Blue
Amar	00002	Red
Ravin	00003	Green

Grouping Sections of a Table(Note: Extra)

The techniques that allow you to group together cells, rows, and columns of a table,
As follows

Spanning Columns Using the colspan Attribute,

Table4.html

```
<TABLE BORDER=2 CELLSPACING=4 align="center">
<TR>
    <TH COLSPAN=2>Production</TH>
</TR>
<TR>
```

Teksan Gharti

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```
<TD>Amar</TD>
<TD>1493</TD>
</TR>
<TR>
<TD>Pratik</TD>
<TD>3829</TD>
</TR>
<TR>
<TD>Shyam</TD>
<TD>0283</TD>
</TR>
<TR>
<TH COLSPAN=2>Sales</TH>
</TR>
<TR>
<TD>Santosh</TD>
<TD>4827</TD>
</TR>
<TR>
<TD>Bikram</TD>
<TD>7246</TD>
</TR>
<TR>
<TD>Malik</TD>
<TD>5689</TD>
</TR>
</TABLE>
```

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The screenshot shows a web browser window with the address bar set to file:///E:/Academic%. The main content area displays two tables side-by-side. The first table, titled 'Production', contains three rows with data for Amar, Pratik, and Shyam. The second table, titled 'Sales', contains three rows with data for Santosh, Bikram, and Malik. Both tables have a border and are centered.

Production	
Amar	1493
Pratik	3829
Shyam	0283

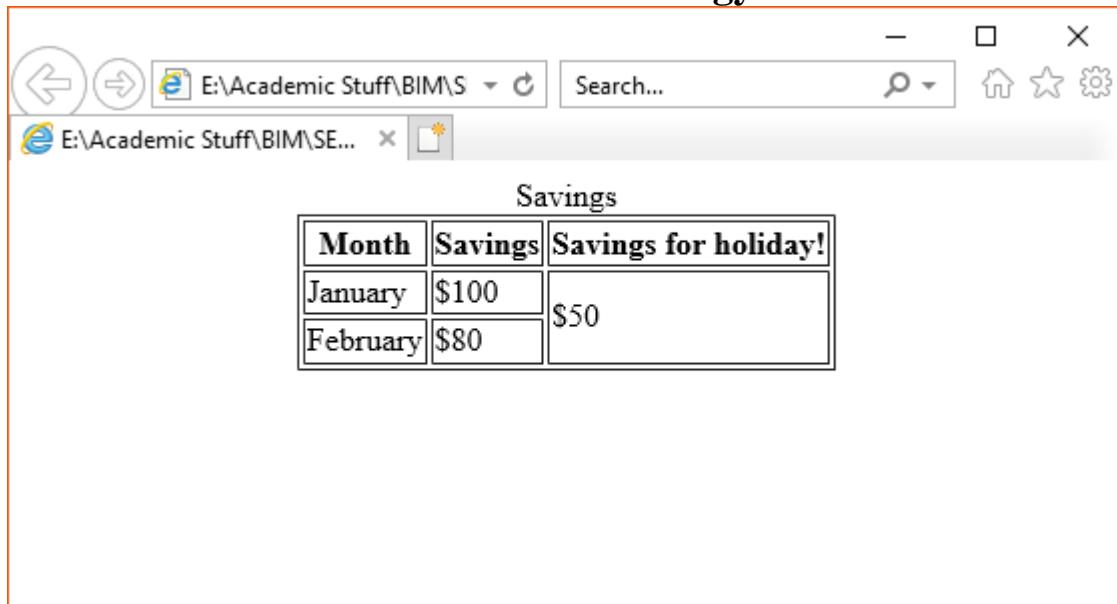
Sales	
Santosh	4827
Bikram	7246
Malik	5689

Spanning Rows Using the rowspan Attribute (Note: Extra)

```
<table border="1" align="center">  
<caption> Savings </caption>  
<tr>  
<th>Month</th>  
<th>Savings</th>  
<th>Savings for holiday!</th>  
</tr>  
<tr>  
<td>January</td>  
<td>$100</td>  
<td rowspan="2">$50</td>  
</tr>  
<tr>  
<td>February</td>  
<td>$80</td>  
</tr>  
</table>
```

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Animal			
reptile	mammals		Bird
snake	fish	cattle	flying
	Whale	cow	kingfisher
	dolphins	buff	kiwi
			nonflying hen duck

Splitting Up Tables Using a Head, Body and Foot(Note: Extra)

There are occasions when you may wish to distinguish between the body of a table and the headings or maybe even the footers. For example, think of a bank statement: you may have a table where the header contains column headings, the body contains a list of transactions, and the footer contains the balance in the account.

If the table is too long to show on a screen, then the header and footer might remain in view all the time, while the body of the table gains a scrollbar. Similarly, when printing a long table that spreads over more than one page, you might want the browser to print the head and foot of a table on each page. Unfortunately, the main browsers do not yet support these ideas. So, in order to add these elements to your tables, you can use CSS to attach different styles to the contents of the `<thead>`, `<tbody>`, and `<tfoot>` elements.

The three elements for separating the head, body, and foot of a table are:

- `<thead>` to create a separate table header
- `<tbody>` to indicate the main body of the table
- `<tfoot>` to create a separate table footer

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Note that the `<tfoot>` element must appear before the `<tbody>` element in the source document

spillitngtable.html

```
<table>
  <thead>
    <tr>
      <th> Transaction date </th>
      <th> Payment type and details </th>
      <th> Paid out </th>
      <th> Paid in </th>
      <th> Balance </th>
    </tr>
  </thead>

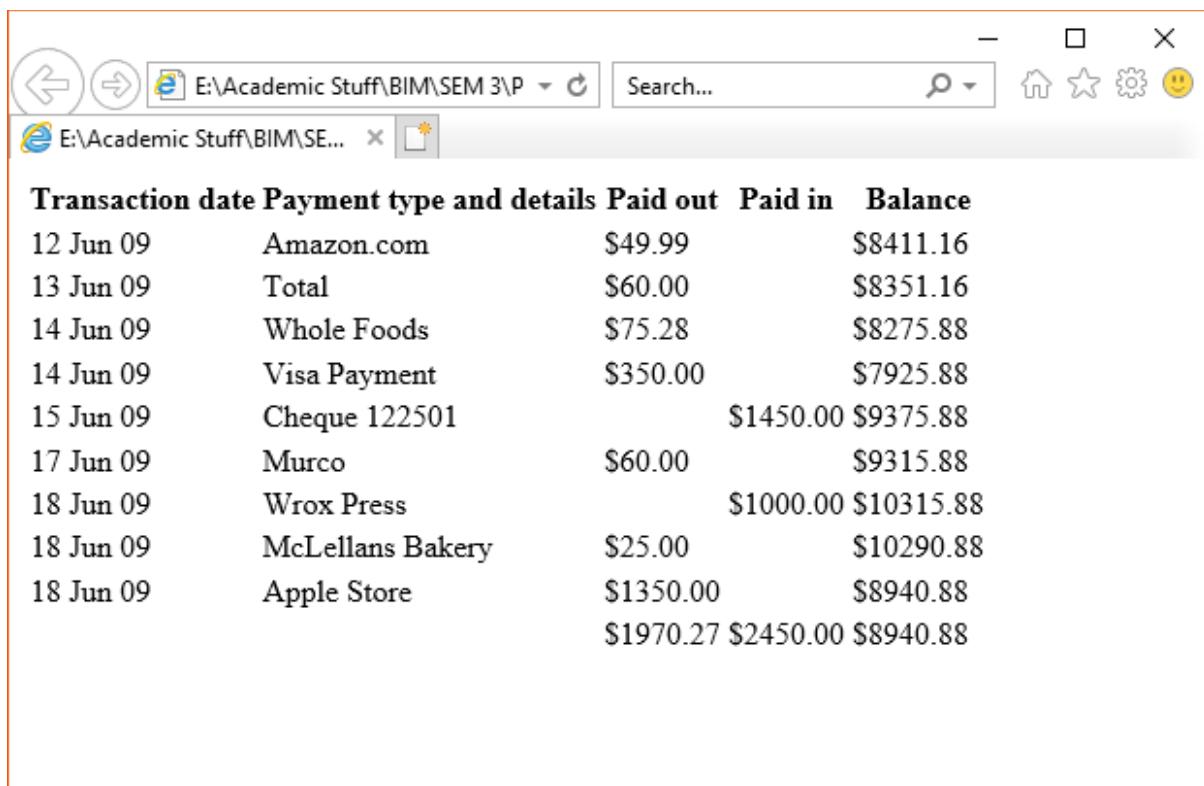
  <tfoot>
    <tr>
      <td> </td>
      <td> </td>
      <td> $1970.27 </td>
      <td> $2450.00 </td>
      <td> $8940.88 </td>
    </tr>
  </tfoot>

  <tbody>
    <tr>
      <td> 12 Jun 09 </td>
      <td> Amazon.com </td>
      <td> $49.99 </td>
      <td> </td>
      <td> $8411.16 </td>
    </tr>
    <tr>
      <td> 13 Jun 09 </td>
      <td> Total </td>
      <td> $60.00 </td>
      <td></td>
      <td> $8351.16 </td>
    </tr>
    <tr>
      <td> 14 Jun 09 </td>
      <td> Whole Foods </td>
      <td> $75.28 </td>
```

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```
<td> </td>
<td> $8275.88 </td>
</tr>
<tr>
<td> 14 Jun 09 </td>
<td> Visa Payment </td>
<td> $350.00 </td>
<td> </td>
<td> $7925.88 </td>
</tr>
<tr>
<td> 15 Jun 09 </td>
<td> Cheque 122501 </td>
<td> </td>
<td> $1450.00 </td>
<td> $9375.88 </td>
</tr>
</tbody >

</table>
```



The screenshot shows a web browser window with a title bar containing icons for back, forward, search, and other functions. The address bar shows the path "E:\Academic Stuff\BIM\SEM 3\P...". The main content area displays a table of transaction history:

Transaction date	Payment type and details	Paid out	Paid in	Balance
12 Jun 09	Amazon.com	\$49.99		\$8411.16
13 Jun 09	Total	\$60.00		\$8351.16
14 Jun 09	Whole Foods	\$75.28		\$8275.88
14 Jun 09	Visa Payment	\$350.00		\$7925.88
15 Jun 09	Cheque 122501		\$1450.00	\$9375.88
17 Jun 09	Murco	\$60.00		\$9315.88
18 Jun 09	Wrox Press		\$1000.00	\$10315.88
18 Jun 09	McLellans Bakery	\$25.00		\$10290.88
18 Jun 09	Apple Store	\$1350.00		\$8940.88
		\$1970.27	\$2450.00	\$8940.88

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Grouping Columns Using the <colgroup> Element(Note: Extra)

If two or more columns are related, you can use the `<colgroup>` element to explain that those columns are grouped together.

For example, in the following table, there are 3 columns. The first two columns are in the first column group highlighted by red color, and the next one columns are in the second column group highlighted by yellow color.

Columngroup.html

```
<table align="center">

<colgroup>
  <col span="2" style="background-color:red">
</colgroup>

<colgroup>
  <col style="background-color:yellow">
</colgroup>

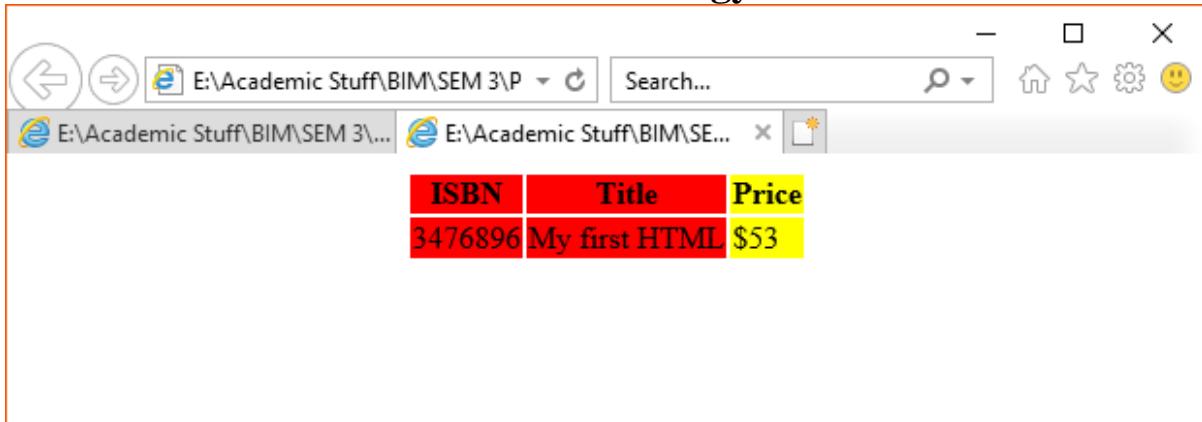
<tr>
  <th>ISBN</th>
  <th>Title</th>
  <th>Price</th>
</tr>

<tr>
  <td>3476896</td>
  <td>My first HTML</td>
  <td>$53</td>
</tr>

</table>
```

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Columns Sharing Styles Using the <col> Element (Note: Extra)

The `<col>` element, typically implemented as a child element of a parent `<colgroup>`, can be used to target a column in an HTML table.

The `<col>` element is introduced to specify attributes of the columns in a `<colgroup>` (such as width or alignment of cells within that column). Unlike the `<colgroup>` element, the `<col>` element does not imply structural grouping and is therefore more commonly used for presentational purposes. The `<col>` elements are always empty elements, which means they do not have any content, although they do carry attributes.

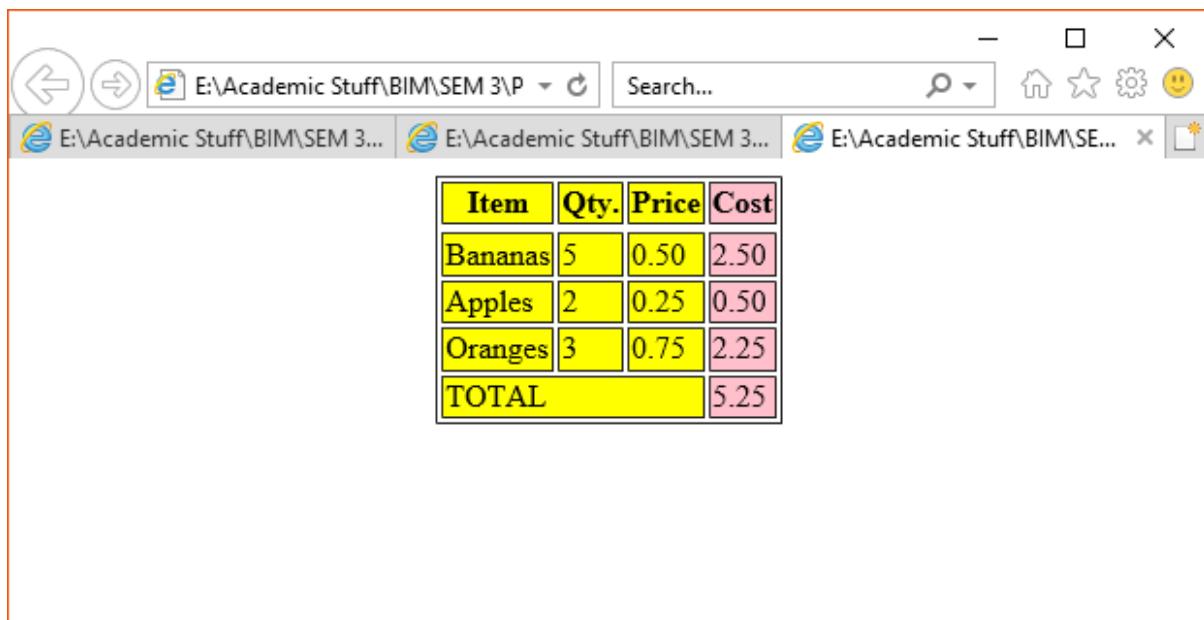
```
<table align="center" border="1">
    <colgroup>
        <col span="3" style="background-color: yellow">
        <col class="total" style="background-color: pink";>
    </colgroup>
    <tr>
        <th>Item</th>
        <th>Qty.</th>
        <th>Price</th>
        <th>Cost</th>
    </tr>
    <tr>
        <td>Bananas</td>
        <td>5</td>
        <td>0.50</td>
        <td>2.50</td>
    </tr>
    <tr>
        <td>Apples</td>
        <td>2</td>
        <td>0.25</td>
    </tr>
</table>
```

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```
<td>0.50</td>
</tr>

<tr>
<td>Oranges</td>
<td>3</td>
<td>0.75</td>
<td>2.25</td>
</tr>
<tr>
    <td colspan="3">TOTAL</td>
    <td>5.25</td>
</tr>
</table>
```



HTML Frames:

HTML Frames are used to divide the web browser window into multiple sections where each section can be loaded separately. A frameset tag is the collection of frames in the browser window.

Creating Frames:

Instead of using body tag, use frameset tag in HTML to use frames in web browser. But this Tag is deprecated in HTML 5. The frameset tag is used to define how to divide the browser. Each frame is indicated by frame tag and it basically defines which HTML document shall open into the frame. To define the horizontal frames, use row attribute of frame tag in HTML document and to define the vertical frames use col attribute of frame tag in HTML document.

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Advantages:

- It allows the user to view multiple documents within a single Web page.
- It loads pages from different servers in a single frameset.
- The older browsers that do not support frames can be addressed using the tag.

Disadvantages:

- Due to some of its disadvantage it is rarely used in web browser.
- Frames can make the production of website complicated.
- A user is unable to bookmark any of the Web pages viewed within a frame.
- The browser's back button might not work as the user hopes.
- The use of too many frames can put a high workload on the server.
- Many old web browsers don't support frames.

<frameset> tags

This tag is used to divide the frame in different rows and columns. The values of rows and columns are written in either % or absolute value in pixels.

Syntax:

```
<frameset rows = "20%, 30%, 10%" />  
</frameset>
```

<frame> tag

This tag is used to create frame with contents, which are enclosed by frameset tag.

Syntax:

```
<frameset rows = "20%, 30%, 10%">  
    <frame name = "fram1" src = "url" />  
    <frame name = "fram1" src = "url" />  
    <frame name = "fram1" src = "url" />  
  
    <noframes>  
        <body>Your browser does not support frames.</body>  
    </noframes>  
</frameset>
```

multiple frames hunxa so name dinaprxa ani src
tw chaihlyo tarw iframe le chai src rw frameborder ma
dhyan dinxa

Note: for Horizontal framing we use rows and for vertical framing, we use cols attribute.

Example: Horizontal Framing

```

<html>
  <head>
    <title>Example of HTML Frames using row attribute</title>
  </head>
  <frameset rows="20%,30%,40%">
    <frame name="Frame1" src="apple.jpg"/>
    <frame name="Frame2" src="itchi.jpg"/>
    <frame name="Frame3" src="mango.jpg"/>
  </frameset>
</html>

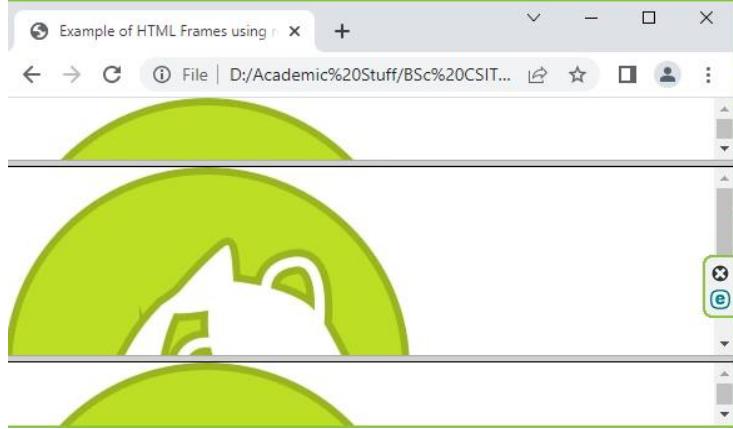
```

3 wota frame xa so
3 wota ma euta 20% arko
30 arko 40

```

<frameset rows = "20%, 60%, 20%">
  <frame name = "top" src="D:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web technology\web technology practical\image\aquarius1.jpg" />
  <frame name = "main" src =
    "D:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web technology\web technology practical\image\aquarius1.jpg" />
  <frame name = "bottom" src =
    "D:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web technology\web technology practical\image\aquarius1.jpg" />
</frameset>
<noframes>
  <body>The browser you are working does
        not support frames.
  </body>
</noframes>
</frameset>
</html>

```

Output:**Example: Vertical framing**

```

<html>
  <head>
    <title>Example of HTML Frames using row attribute</title>
  </head>

  <frameset cols = "20%, 60%, 20%">
    <frame name = "top" src="D:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web technology\web technology practical\image\aquarius1.jpg" />
    <frame name = "main" src =

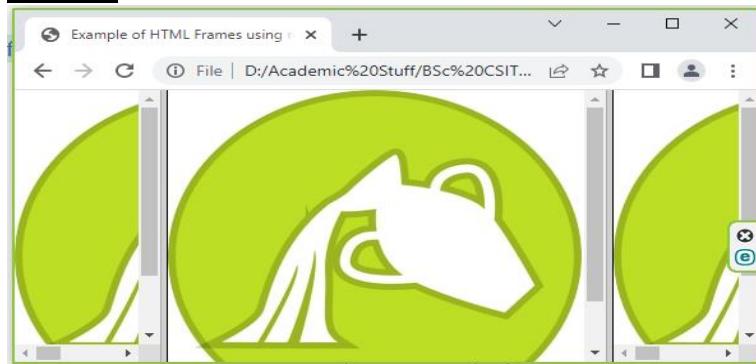
```

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```
"D:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web
technology\web technology practical\image\aquarius1.jpg" />
<frame name = "bottom" src =
"D:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web
technology\web technology practical\image\aquarius1.jpg" />
<noframes>
<body>The browser you are working does
not support frames.
</body>
</noframes>
</frameset>
</html>
```

Output:

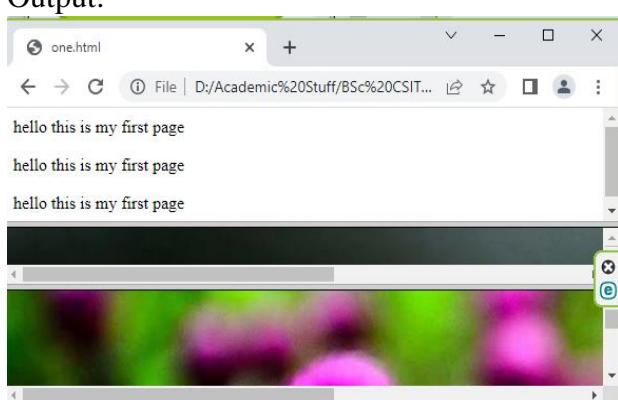


Example:

```
<html>
<frameset name="top" rows=40%,20%,40%>
<frame src="myfirstpage.htm"/>
<frame src="D:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web
technology\web technology practical\image\rose.jpg"/>
<frame src="D:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web
technology\web technology practical\image\Gomphrena.jpg"/>

</frameset>
</html>
```

Output:



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suruma duiwota xa ani arko
wala chai further divide vako xa
horizontally

Nesting Frameset:

We can create frame inside the frame is called nesting of frame.

Syntax:

```
<frameset cols= "50%,50%">
    <frame name = "frame1" src= "url"/>
    <frameset rows = "50%, 50%">
        <frame name = "nestedframe1" src= "url"/>
    <frame name = "nestedframe2" src= "url"/>
</frameset>
</frameset>
```

Since, frame tag is not supported by HTML5, instead we can use ifram or div in HTML5 to do similar task.

defines rectangular region within the document which can be loaded separately

<iframe>

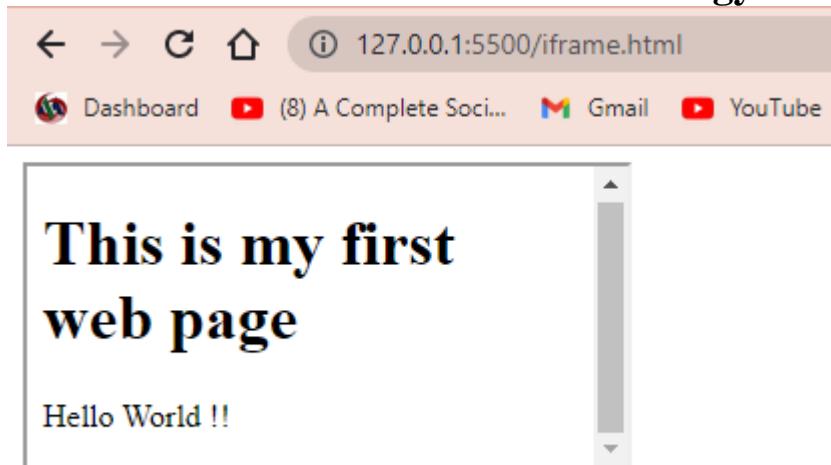
You can define an inline frame with HTML tag `<iframe>`. The `<iframe>` tag is not somehow related to `<frameset>` tag, instead, it can appear anywhere in your document. The `<iframe>` tag defines a rectangular region within the document in which the browser can display a separate document, including scrollbars and borders. An inline frame is used to embed another document within the current HTML document.

The src attribute is used to specify the URL of the document that occupies the inline frame.

Example:

```
<html>
    <head>
    </head>
    <body>
        <iframe src= " myfirstpage.htm " frameborder="1">
            Sorry, your browser doesn't support iframe.
        </iframe>
    </body>
</html>
```

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Forms

An HTML form is a section of a document containing normal content, markup, special elements called controls (checkboxes, radio buttons, menus, etc.), and labels on those controls. Users generally "complete" a form by modifying its controls (entering text, selecting menu items, etc.), before submitting the form to an agent for processing (e.g., to a Web server, to a mail server, etc.)

Almost every time you want to collect information from a visitor to your site, you need to use a form. Some forms are quite complex, such as those that allow you to book plane tickets or purchase insurance online. Others are quite simple, such as the search box on the homepage of Google.

HTML form is a most common way to collect some data from user and communicate such information to a server. HTML provides tag to generate the commonly used object on a screen form. These objects are called controls or widgets or components. All control tags are inline tags and includes single and multi-line text collection, checkboxes, radio buttons and others.

Each control can have value given through user input. Controls together with values in a form are called form data. Every form which requires a data to be sent on server requires submit button. When user clicks submit button, the form data will be sent to web server. To create a form using HTML: <form> tag is used.

Syntax:

```
<form action = “script URL” method = “GET/POST”>  
    Form elements  
</form>
```

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The <form> Element

Any form that you create will live inside an element called `< form >`, and the form controls (the text input boxes, drop - down boxes, checkboxes, a submit button, and so on) live between the opening `< form >` and closing `</form>` tags. A `< form >` element can also contain other markup, such as paragraphs, headings, and so on, although it may not contain another `< form >` element.

The HTML `<form>` element can contain one or more of the following form elements:

1. `<input>`
2. `<label>`
3. `<select>`
4. `<textarea>`
5. `<button>`
6. `<fieldset>`
7. `<legend>`
8. `<option>`

1.<label> element:

- The `<label>` element defines a label for several form elements.
- The `<label>` element is useful for screen-reader users, because the screen-reader will read out loud the label when the user focus on the input element.
- The `for` attribute of the `<label>` tag should be equal to the `id` attribute of the `<input>` element to bind them together.

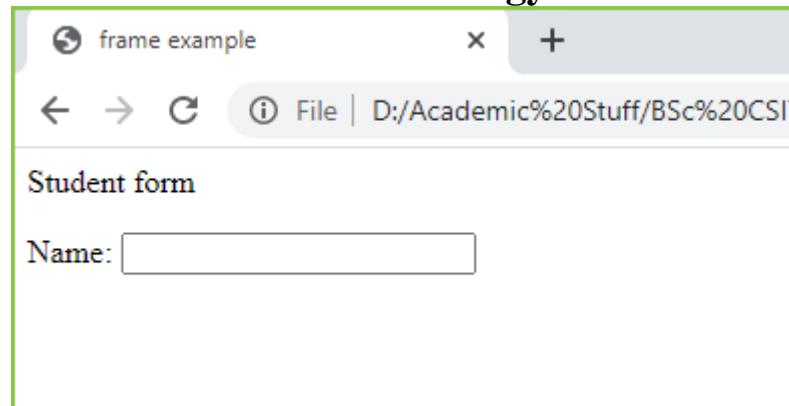
Code:

```
<html>
  <head>
    <title>frame example</title>
  </head>
  <body>
    <form>
      <p>Student form</p>
      <label for="fname" >Name:</label>
      <input type="text" id="fname" name="fname"/>
    </form>
  </body>
</html>
```

Output:

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2.The <input> Element

The `<input>` element can be displayed in several ways, depending on the type attribute.

3.The <select> Element

- The `<select>` element defines a drop-down list:
- The `<option>` elements defines an option that can be selected.
- By default, the first item in the drop-down list is selected.
- To define a pre-selected option, add the `selected` attribute to the option:

Code:

```
<label>Which subject Do you like most:</label><br/>
<select id="subject" name="subject">
    <option>web technology</option>
    <option>complier</option>
    <option>Artificial</option>
</select>
```

Output:

A screenshot of a web browser showing a dropdown menu. The label "Which subject Do you like most:" is above the dropdown. The dropdown menu has three options: "web technology", "complier", and "Artificial". The option "Artificial" is highlighted with a blue border, indicating it is selected.

Code:

```
<label>Which subject Do you like most:</label><br/>
<select id="subject" name="subject">
    <option>web technology</option>
    <option selected>complier</option>
    <option>Artificial</option>
</select>
```

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Output:

Which subject Do you like most:



Attribute of select element:

1. Size:

Size attribute to specify the number of visible values:

Code

```
<label>Which subject Do you like most:</label><br/>
<select id="subject" name="subject" size="2">
    <option>web technology</option>
    <option>complier</option>
    <option>Artificial</option>
</select>
```

Output:

Which subject Do you like most:



2. Multiple

Multiple attribute to allow the user to select more than one value.

Code:

```
<label>Which subject Do you like most:</label><br/>
<select id="subject" name="subject" size="2" multiple>
    <option>web technology</option>
    <option>complier</option>
    <option>Artificial</option>
</select>
```

Output:

Which subject Do you like most:



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4.The <textarea> Element

- <textarea> element defines a multi-line input field (a text area)
- The rows attribute specifies the visible number of lines in a text area.
- The cols attribute specifies the visible width of a text area.

Code:

```
<label>Mention why you select this subject</label><br/>
<textarea name="message" rows="5" cols="20">web technology is something that..
</textarea>
```

Output:

Mention why you select this subject

```
web technology is
something that..
```

Note: you can also define the size of the text area by using CSS:

Code:

```
<label>Mention why you select this subject</label><br/>
<textarea name="message" rows="5" cols="20" style="width:200px; height:100px;">web
technology is something that..
</textarea>
```

Output:

Mention why you select this subject

```
web technology is
something that..
```

5.The <button> Element

- The <button> element defines a clickable button:

Code

```
<button type="button" onclick="alert('Hello!')">click me</button>
```

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Student form

Name:

Which subject Do you like most:

Mention why you select this subject

6.The <fieldset> and <legend> Elements

- The <fieldset> element is used to group related data in a form.
- The <legend> element defines a caption for the <fieldset> element.

Code:

```
<html>
  <head>
    <title>frame example</title>
  </head>
  <body>

    <form>
      <fieldset>
        <legend>Student form</legend>
        <p>Student form</p>
        <label for="fname" >Name:</label>
        <input type="text" id="fname" name="fname"/><br/>
        <label >Which subject Do you like most:</label><br/>
        <select id="subject" name="subject" size="2" multiple>
          <option>web technology</option>
          <option>complier</option>
          <option>Artificial</option>
        </select>
        <br/>
        <label>Mention why you select this subject</label><br/>
        <textarea      name="message"      rows="5"      cols="20"      style="width:200px;
height:100px;">web technology is something that..
      </textarea>
      <br/>
      <button type="button" onclick="alert('Hello!')">click me</button>
```

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```
</fieldset>
</form>
</body>
</html>
```

Output:

The screenshot shows a web browser window titled "frame example". The page content is a "Student form". It includes a text input field for "Name", a dropdown menu for "Which subject Do you like most" with options "web technology" and "complier", and a text area for "Mention why you select this subject" containing the text "web technology is something that..". At the bottom is a "click me" button.

Attribute of form element:

Every `< form >` element should carry at least two attributes: Action and method. A `< form >` element may also carry all of the universal attributes, the UI event attributes, and the following attributes:

Enctype, accept, accept-charset, onsubmit, onreset

Some of the attributes included on form are as follows:

Attributes	Description
Action	specifies URL to be redirect when user clicks on submit
Method	Specifies techniques get or post to be used to pass the form data to the server
Target	Specify the target window or frame where the result of the script will be displayed. It takes values like _blank, _self, _parent etc.
Enctype	Specify how the browser will encode the data before it sends it to the server. Possible values are: Application/x-www-form-urlencoded is the standard method most forms use in simple scenarios.

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	Multipart/form-data: used when we want to upload binary data in the form of files like image, word file etc.
--	--

The action Attribute,

Once users have entered information into a form, they usually have to click what is known as a submit button (although the actual text on the button may say something different such as Search, Send. This indicates that the user has filled out the form, and this usually sends the form data to a web server.

Once form data arrives at the server, a script or other program processes the data and sends a new web page back to you. The returned page will respond to a request you have made or acknowledge an action you have taken.

The action attribute indicates what happens to the data when the form is submitted. Usually, the value of the action attribute is a page or program on a web server that will receive the information.

Example

For example, if you have login form consisting of a username and password, the details the user enters may get passed to a page (display.html) on the web server / on the local address called display.html, in which case the action attribute could read as follows:

```
<FORM action="E:/Academic Stuff/BIM/SEM 3/PRACTICAL/forms/display.html"
method="post">
```

Simpleform.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>simple form</title>
  </head>
  <body>
    <FORM action=" E:/Academic Stuff/BSc CSIT/5th semester/Web-Technology/A online
web technology/practical sem 5/forms/display.html" method="post">
      <P>
        <LABEL for="firstname">First name: </LABEL>
        <INPUT type="text" id="firstname"><BR><BR>
        <LABEL for="lastname">Last name: </LABEL>
        <INPUT type="text" id="lastname"><BR><BR>
        <LABEL for="email">email: </LABEL>
        <INPUT type="text" id="email"><BR><BR>
        <INPUT type="radio" name="sex" value="Male"> Male<BR><BR>
        <INPUT type="radio" name="sex" value="Female"> Female<BR><BR>
        <INPUT type="submit" value="login"> <INPUT type="reset">
      </P>
    </FORM>
  </body>
</html>
```

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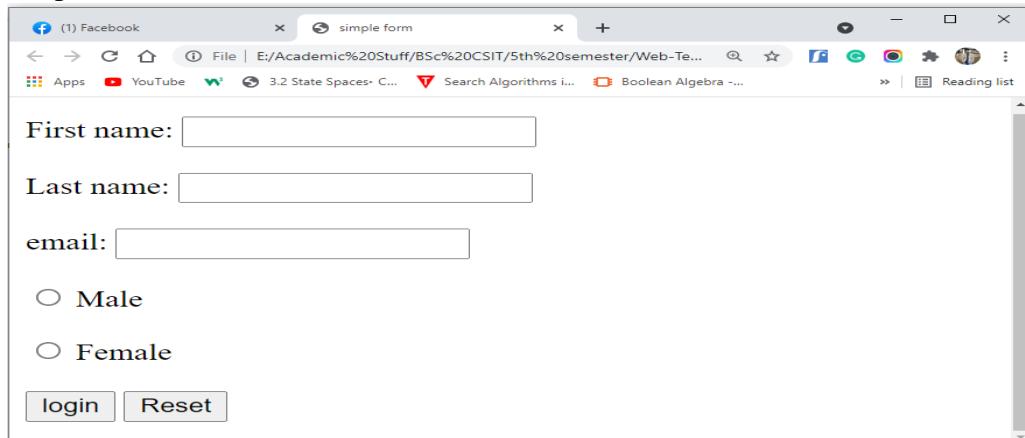
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</FORM>

</body>

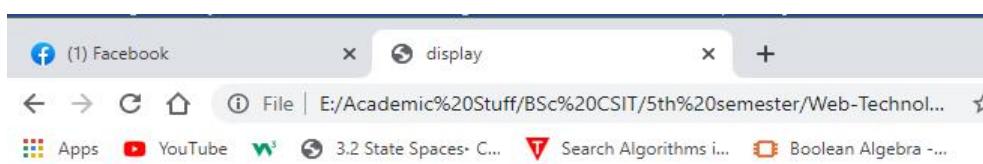
</html>

Output:



The screenshot shows a web browser window titled "simple form". The page contains a form with the following fields:

- First name: [text input field]
- Last name: [text input field]
- email: [text input field]
- Male
- Female
-
-



this is our village



display.html

```
<!DOCTYPE html>
<html>
<head>
<title>display</title>
</head>
<body>
<h2>this is our village</h2>

</body>
</html>
```

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The method Attribute

Form data can be sent to the server in two ways, each corresponding to an HTTP method:

1) The get method, which sends data as part of the URL.

```
<!DOCTYPE html>
<html>

    <head>
        <title>simple form</title>
    </head>

    <body>
<FORM action=" E:/Academic Stuff/BSc CSIT/5th semester/Web-Technology/A online web
technology/practical sem 5/forms/display.html" method="get">

    <P>
        <LABEL for="firstname">First name: </LABEL>
        <INPUT type="text" id="firstname"><BR><BR>
        <LABEL for="lastname">Last name: </LABEL>
        <INPUT type="text" id="lastname"><BR><BR>
        <LABEL for="email">email: </LABEL>
        <INPUT type="text" id="email"><BR><BR>
        <INPUT type="radio" name="sex" value="Male"> Male<BR><BR>
        <INPUT type="radio" name="sex" value="Female"> Female<BR><BR>
        <INPUT type="submit" value="login"> <INPUT type="reset">
    </P>
</FORM>
</body>

</html>
```

display.html

```
<!DOCTYPE html>
<html>
    <head>
        <title>display</title>
    </head>
    <body>
        <h2>this is our village</h2>
        
    </body>
```

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</html>

Screenshot of a web form for user registration:

First name:

Last name:

email:

Male

Female



- 2) The post method, which hides data in something known as the HTTP headers.

```
<!DOCTYPE html>
<html>
  <head>
    <title>simple form</title>
  </head>

  <body>
```

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<FORM action=" E:/Academic Stuff/BSc CSIT/5th semester/Web-Technology/A online web technology/practical sem 5/forms/display.html" method="post">

<P>

<LABEL for="firstname">First name: </LABEL>

<INPUT type="text" id="firstname">

<LABEL for="lastname">Last name: </LABEL>

<INPUT type="text" id="lastname">

<LABEL for="email">email: </LABEL>

<INPUT type="text" id="email">

<INPUT type="radio" name="sex" value="Male"> Male

<INPUT type="radio" name="sex" value="Female"> Female

<INPUT type="submit" value="login"> <INPUT type="reset">

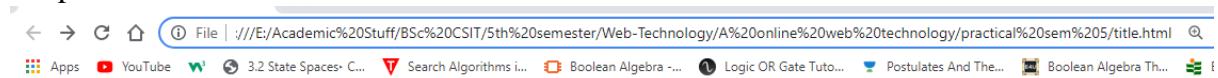
</P>

</FORM>

</body>

</html>

Output:



First name:

Last name:

email:

Male

Female

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this is our village



The target Attribute

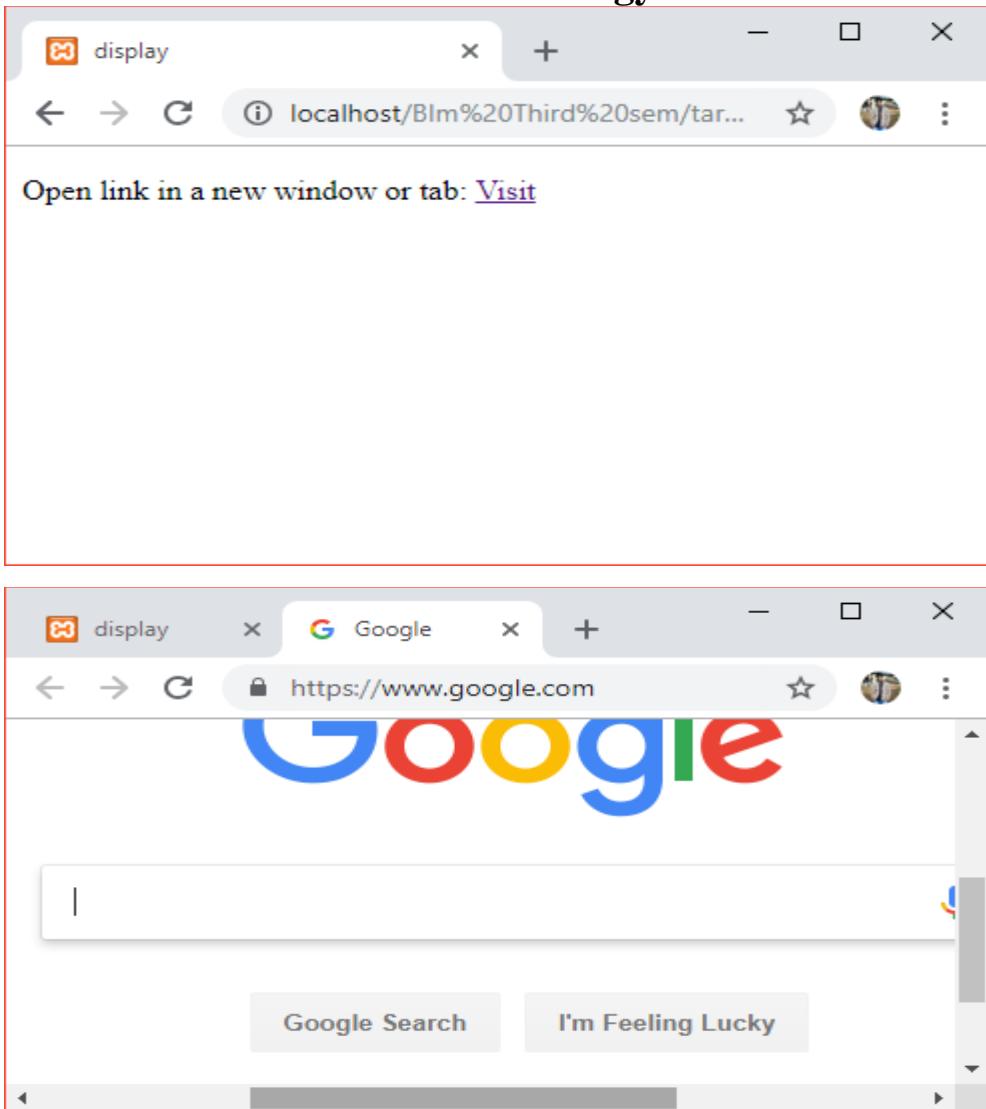
The target attribute is usually used with the `<a>` element to indicate which frame or browser window the link should be loaded into. It can also be used with a form to indicate which frame or window the form results open in when the user has submitted a form

Target.html

```
<!DOCTYPE html>
<html>
<head>
    <title>display</title>
</head>
<body>
    <form action="" method='get'>
        <p>Open link in a new window or tab: <a href="https://google.com" target="_blank">Visit </a></p>
    </form>
</body>
</html>
```

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The enctype Attribute

If you use the HTTP post method to send data to the server, you can use the enctype attribute to specify how the browser encodes the data before it sends it to the server. Browsers tend to support two types of encoding:

- **application/x-www-form-urlencoded** : which is the standard method most forms use. Browsers use this because some characters, such as spaces, the plus sign, and some other non-alphanumeric characters cannot be sent to the web server. Instead, they are replaced by other characters which are used to represent them.
- **multipart/form-data**: which allows the data to be sent in parts, where each consecutive part corresponds to a form control, in the order it appears in the form. It is commonly used when visitors have to upload files (such as photos) to a server. Each part can have an optional content-type header of its own indicating the type of data for that form control.

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If this attribute is not used, browsers use the first value. As a result, you are likely to use this attribute only if your form allows users to upload a file (such as an image) to the server, or if they are going to use non - ASCII characters, in which case the enctype attribute should be given the second value:

enctype= “multipart/form-data”

The onsubmit Attribute

At some point, you have probably filled in a form on a web site, and then, as soon as you have clicked the button to send the form data (even before the page is sent to the server), been shown a message telling you that you have missed entering some data, or entered the wrong data. When this happens, the chances are you have come across a form that uses the onsubmit attribute to run a script in the browser that checks the data you entered before the form is sent to the server.

Onsubmit.html

```
<!DOCTYPE html>
<html>
<body>
    <p>When you submit the form, a function is triggered which alerts some text.</p>

    <form name="form1" action="" onsubmit="myFunction()">
        Enter the number: <input type="text" name="fname" id="id1">
        <input type="submit" value="Submit">
    </form>

    <script>
        function myFunction()
        {
            if (form1.fname.value>50)
            {
                alert('submitted');
            }
            else {
                alert('fill all the field');
            }

        }
    </script>

</body>
</html>
```

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A screenshot of a web browser window. The title bar says "title.html?fname=". The address bar shows the file path "E:/Academic%20Stuff/BSc%20CSIT/5th%20semes...". Below the address bar are various browser icons. The main content area contains the text "When you submit the form, a function is triggered which alerts some text." followed by a form with a text input field labeled "Enter the number:" and a "Submit" button.

When you submit the form, a function is triggered which alerts some text.

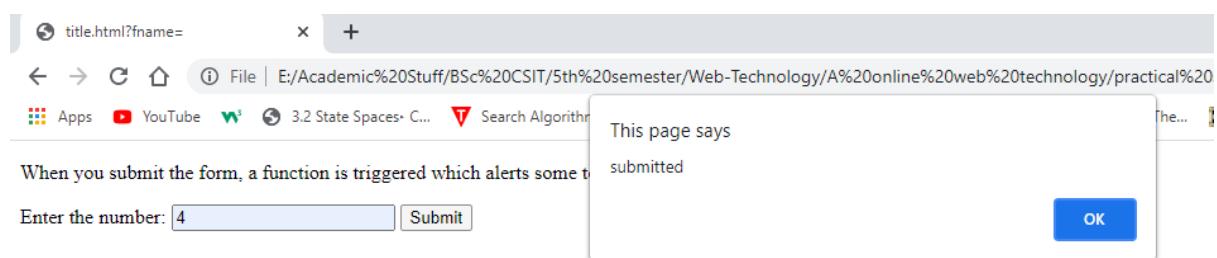
Enter the number: Submit



A screenshot of a web browser window. The title bar says "title.html?fname=". The address bar shows the file path "E:/Academic%20Stuff/BSc%20CSIT/5th%20semes...". Below the address bar are various browser icons. The main content area contains the text "When you submit the form, a function is triggered which alerts some text." followed by a form with a text input field containing the value "4" and a "Submit" button.

When you submit the form, a function is triggered which alerts some text.

Enter the number: Submit



The onreset Attribute

Some forms contain a reset button that empties the form of all details, although the button might say something like clear form instead; when this button is pressed, an onreset event fires and a script can be run.

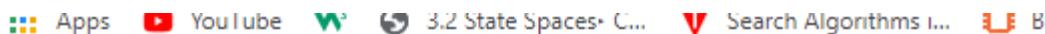
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```
<!DOCTYPE html>
<html>
<body>

<p>When you submit the form, a function is triggered which alerts some text.</p>

<form name="form1" action="" onreset="myFunction()">
    Enter the number: <input type="text" name="fname" id="id1">
    <input type="submit" value="Submit">
    <input type="reset" name="submit" value="Reset">
</form>
<script>
    function myFunction()
    {
        alert('The form reset');
    }
</script>
</body>
</html>
```



When you submit the form, a function is triggered which alerts some text.

Enter the number:



When you submit the form, a function is triggered which alerts some text.

Enter the number:

The accept-charset Attribute

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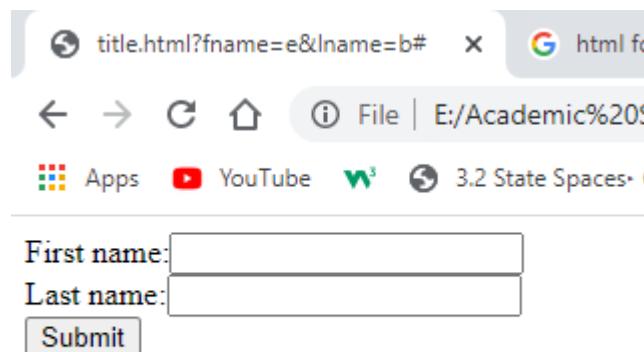
Web technology

Different languages are written in different character sets or groups of characters. However, when creating web sites, developers do not always build them to understand all different languages. The idea behind the accept - charset attribute is that it specifies a list of character encodings that a user may enter and that the server can then process. Values should be a space - separated or comma - delimited list of character sets.

For example, the following indicates that a server accepts UTF - 8 encodings:

```
accept-charset="utf-8"
```

```
<!DOCTYPE html>
<html>
<body>
  <form action="#" accept-charset="UTF-8">
    First name:<input type="text" name="fname">
    <br> Last name:<input type="text" name="lname">
    <br>
    <input type="submit" value="Submit">
  </form>
</body>
</html>
```



Form Controls

There are several types of form controls that you can use to collect information from visitors to your site.

Adding Text:

1. **Text input (single-line):** Used for a single line of text such as email addresses and names.
2. **Password input:** Like a single line text box but it masks the characters entered.
3. **Text area (multi-line):** For longer areas of text, such as messages and comments.

Making Choices:

1. **Radio buttons:** For use when a user must select one of a number of options.

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2.Checkboxes: When a user can select and unselect one or more options.

Drop-down boxes: When a user must pick one of a number of options from a list.

3.Drop-down boxes: When a user must pick one of a number of options from a list.

Submitting Forms:

1.Submit buttons: To submit data from your form to another web page.

2.Image buttons: Similar to submit buttons but they allow you to use an image.

Uploading Files:

1.File upload: Allows users to upload files (e.g. images) to a website.

The Input Element:

Most of the commonly used controls are specified with `<input>` tag which is an inline tag and contains type, name and value as its attributes. **Type** specifies particular kinds of control required in input tag, **name** attributes contain value which is sent to server after submitting which will be used for to find specific component values in the form data and **value** attributes initialize a default value of the control.

Adding Text:

Text Inputs

Text input boxes are used on many web pages. Possibly the most famous text input box is the one right in the middle of the Google homepage that allows you to enter what you are searching for. There are actually three types of text input used on forms:

1.Single - line text input controls: Text input (single-line):

Used for items that require only one line of user input, such as search boxes or e - mail addresses. They are created using the `<input>` element and sometimes referred to simply as “textboxes.”

Code:

```
<!DOCTYPE html>
<html>
<body>
<form action="">
    User name:<input type="text" name="username"><br>
    <input type="submit" value="Submit">
</form>
</body>
</html>
```

Output

User name:

Submit

2.Password input controls: Password input

These are just like the single - line text input, except they mask the characters a user enters so that the characters cannot be seen on the screen. They tend to either show an asterisk or a dot instead of each character the user types, so that someone cannot simply look at the screen to see what a user types in. Password input controls are mainly used for entering passwords on login forms or sensitive details such as credit card numbers. They are also created using the <input> element.

Code

```
<!DOCTYPE html>
<html>
<body>
<form action="">
    Email:<input type="text" name="email"><br>
    Passord: <input type="password" name="pwd" maxlength="8"><br>
    <input type="submit" value="Submit">

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

Output

Email:

Passord:

Submit

3.Multi - line text input controls: Text area (multi-line):

Used when the user is required to give details that may be longer than a single sentence. Multi - line input controls are created with the <textarea> element.

Code

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

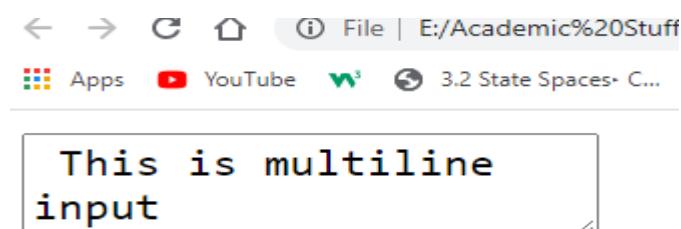
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```
<form action="">
    <textarea rows="6" cols="40"> This is multiline input </textarea>

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

Output



Making Choices:

1.Radio Buttons

Radio buttons allow users to pick just one of a number of options. It is similar to checkboxes in that they can be either on or off, but there are two key differences:

1. When you have a group of radio buttons that share the same name, only one of them can be selected. Once one radio button has been selected, if the user clicks another option, the new option is selected and the old one deselected.
2. You should not use radio buttons for a single form control where the control indicates on or off, because once alone radio button has been selected it cannot be deselected again (without writing a script to do that).

Therefore, a group of radio buttons are ideal if you want to provide users with a number of options from which they must pick only one. In such situations, an alternative is to use a drop - down select box that allows users to select only one option from several. Your decision between whether to use a select box or a group of radio buttons depends on three things:

User expectations: If your form models a paper form where users would be presented with several checkboxes, from which they can pick only one, then you should use a group of radio buttons.

Seeing all the options: If users would benefit from having all the options in front of them before they pick one, you should use a group of radio buttons.

Space: If you are concerned about space, a drop - down select box will take up far less space than a set of radio buttons.

Code:

```
<!DOCTYPE html>
<html>
    <body>
        <form action="" method="get" name="">
```

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Please select which class of travel you wish to fly:


```
<input type="radio" name="radClass" value="First"/> First class <br/>
<input type="radio" name="radClass" value="Business"/> Business class <br/>
<input type="radio" name="radClass" value="Economy"/> Economy class
<br/>

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

Output



Please select which class of travel you wish to fly:

- First class
- Business class
- Economy class

Note: -

Checked Attribute: The checked attribute can be used to indicate which value (if any) should be selected when the page loads. The value of this attribute is checked. **Only one radio button in a group should use this attribute.**

Code:

```
<!DOCTYPE html>
<html>
  <body>
    <form action="" method="get" name="" >
      Please select which class of travel you wish to fly: <br/>
      <input type="radio" name="radClass" checked="checked" value="First"/>
      First class <br/>
      <input type="radio" name="radClass" value="Business"/> Business class <br/>
      <input type="radio" name="radClass" value="Economy"/> Economy class
      <br/>

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

Output

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← → ⌂ ⌂ File | E:/Academic%20Stuff/BSc%20CSIT/5th%20semester/Web-Technology/A%20on
Apps YouTube 3.2 State Spaces C... Search Algorithms i... Boolean Algebra ... Logic

Please select which class of travel you wish to fly:

- First class
- Business class
- Economy class

2.Checkboxes

Checkboxes are just like the little boxes on paper forms in which you can place a cross or tick. As with light switches, they can be either on or off. When they are checked they are on - the user can simply toggle between on and off positions by clicking the checkbox.

Checkboxes can appear individually, with each having its own name, or they can appear as a group of checkboxes that share a control name and allow users to select several values for the same property. Checkboxes are ideal form controls when you need to allow a user to:
Provide a simple yes or no response with one control (such as accepting terms and conditions)
Select several items from a list of possible options (such as when you want a user to indicate all the skills they have from a given list)

A checkbox is created using the <input> element whose type attribute has a value of checkbox.

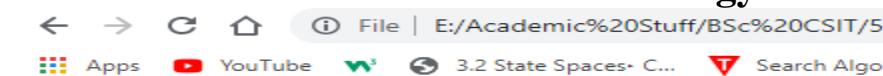
Code

```
<!DOCTYPE html>
<html>
  <body>
    <form action="" method="get" name="">
      <p>Which of the following skills do you possess?</p>
      <p>Select all that apply.</p>
      <input type="checkbox" name="chkSkills" value="xhtml"/> XHTML
      <br/>
      <input type="checkbox" name="chkSkills" value="CSS"/> CSS <br/>
      <input type="checkbox" name="chkSkills" value="JavaScript"/>
      JavaScript <br/>
      <input type="checkbox" name="chkSkills" value="aspnet"/> ASP.Net
      <br/>
      <input type="checkbox" name="chkSkills" value="xhtml"/> XHTML
      <br/>
      <input type="checkbox" name="chkSkills" value="php" /> PHP <br/>
    </form >
  </body>
</html>
```

OUTPUT

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3.Select Boxes: Drop-down boxes

A drop - down select box allows users to select one item from a drop - down menu. Drop - down select boxes can take up far less space than a group of radio buttons. Drop - down select boxes can also provide an alternative to single - line text input controls where you want to limit the options that a user can enter. For example, imagine that you were asking which country someone was from.

A drop - down select box is contained by a < select > element, while each individual option within that list is contained within an < option > element.

Code:

```
<!DOCTYPE html>
<html>
<body>
<form action="" method="get" name="">
    <h2>select boxes</h2>
    <select name="selColor" >
        <option selected="selected" value=""> Select color </option >
        <option value="red"> Red </option>
        <option value="green"> Green </option>
        <option value="blue"> Blue </option>
    </select>
</form >

</body>
</html>
```

Output

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 Apps  YouTube  WPS  3.2 State Spaces

select boxes

Select color 

what is Text Inputs in html - Google |  HTML Text Input

    File | E:/Academic%20Stuff/BSc%20CSIT/5th%20se

 Apps  YouTube  WPS  3.2 State Spaces C...  Search Algorithms i...

select boxes

Select color 
Select color
Green
Blue

 Apps  YouTube  WPS 

select boxes

Green 

Submitting Forms:

Buttons

Buttons are most commonly used to submit a form, although they are sometimes used to clear or reset a form and even to trigger client - side scripts. **You can create a button in three ways:** Using an <input> element with a type attribute whose value is submit, reset, or button.

- <input type="submit" name="submit" value="submit" />
- <input type="reset" value="Clear form" />
- <input type="button" value="calculate" onclick="calculate()" />

1. Submit buttons:

To submit data from your form to another web page.

Example

```
<!DOCTYPE html>
<html>
<body>
<form action="">
```

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```
<p>Using an input element with a type attribute whose value is submit<p>
<input type="submit" name="submit" value="submit" />
</form>
</body>
</html>
```

Output



2.Image buttons:

Similar to submit buttons but they allow you to use an image. Using an `<input>` element with a type attribute whose value is image.

```
<input type="image" src="submit.jpg" alt="Submit" name="btnImage" />
```

Example

```
<!DOCTYPE html>
<html>
<body>
<form action="">
<p>Using an input element with a type attribute whose value is submit<p>
<input type="image" src="E:/Academic Stuff/BSc CSIT/5th semester/Web-Technology/A online web technology/practical sem 5/image/twitter-circle.png"
alt="Submit" name="btnImage" />
</form>
</body>
</html>
```

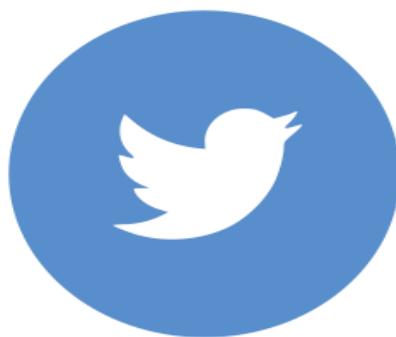
Output

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Apps YouTube 3.2 State Spaces C... Search Algorithms i... Box

Using an input element with a type attribute whose value is submit



3. Using a <button> element:

Code:

```
<!DOCTYPE html>
<html>
<body>
<form action="">
    <p>Using an input element with a type attribute whose value is submit</p>
    <button type="submit"> Submit </button>
</form>
</body>
</html>
```

Output

Apps YouTube 3.2 State Spaces C... Search Algorithms i...

Using an input element with a type attribute whose value is submit

Uploading Files:

File Select Boxes: File upload

If you want to allow a user to upload a file to your web site from his or her computer, you will need to use a file upload box , also known as a file select box . It Allows users to upload files (e.g. images) to a website.

Example:

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

    <h1>Show a file-select field:</h1>

    <h3>Show a file-select field which allows only one file to be chosen:</h3>
```

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```
<form action="">
    Select a file: <input type="file" name="myFile"><br><br>
    <input type="submit">
</form>

<h3>Show a file-select field which allows multiple files:</h3>
<form action="">
    Select files: <input type="file" name="myFile" multiple><br><br>
    <input type="submit">
</form>

</body>
</html>
```

Output

Show a file-select field:

Show a file-select field which allows only one file to be chosen:

Select a file: Choose File No file chosen

Show a file-select field which allows multiple files:

Select files: Choose Files No file chosen

Hidden Controls

Sometimes you will want to pass information between pages without the user seeing it; to do this, you can use hidden form controls. It is important to note, however, that while users cannot see them in the web page, if they were to look at the source code for the page, they would be able to see the values in the code. Therefore, hidden controls should not be used for any sensitive information that you do not want the user to see.

Example:

```
<!DOCTYPE html>
<html>
    <body>
        <h1>hidden form field</h1>
        <form action="" method="get" name="fromVote">
            <input type="hidden" name="hidPageSentFrom" value="home page" />
            <input type="submit" value="Click if this is your favorite page of our site." />
        </form >
    </body>
</html>
```

Output

hidden form field

Click if this is your favorite page of oursite.

The id Attribute

The id attribute allows you to uniquely identify the < form > element within a page, just as you can use it to uniquely identify any element on a page. It is good practice to give every < form > element an id attribute, because many forms make use of style sheets and scripts, which may require the use of the id attribute to identify the form.

Form1.html

```
<!DOCTYPE html>
<html>
<head>
<title>display</title>
<style>

#id1 {
    width: 100%;
    background-color: #4CAF50;
    color: white;
    padding: 14px 20px;
    margin: 8px 0;
    border: none;
    border-radius: 4px;
    cursor: pointer;
}
#id2 {
    width: 100%;
    background-color: #4CAF60;
    color: white;
    padding: 14px 20px;
    margin: 8px 0;
    border: none;
    border-radius: 4px;
    cursor: pointer;
}

</style>
</head>

<body>
<form action="" method='get'>
```

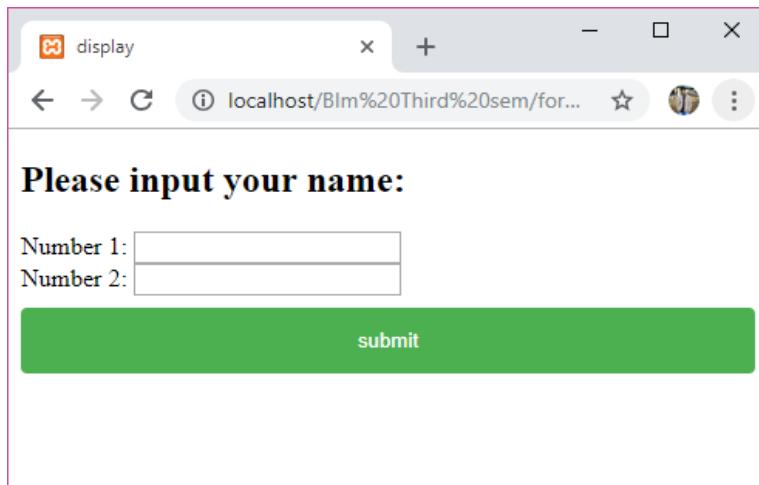
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```
<h2>Please input your name:</h2>
Number 1:
<input name="num1"><br>
Number 2:
<input name="num2" ><br>
<button type="submit" id="id1">submit</button>
<button type="submit" id="id2">submit</button>

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

Output



Class Attributes of HTML Elements

Class, in general is a template that defines the action/styles to be performed for a collection of objects. In HTML, objects are HTML elements. Thus, class in HTML is a collection of HTML elements on which a common style or action has to be performed. The HTML class attribute is used to specify a class for an HTML element. Multiple HTML elements can share the same class.

The class attribute is often used to point to a class name in a style sheet. It can also be used by a JavaScript to access and manipulate elements with the specific class name.

HTML class attribute can be accessed by any element and is useful to identify a group of elements in an HTML document together. These elements can be styled using CSS or actions that can be performed on them using JavaScript.

Example:

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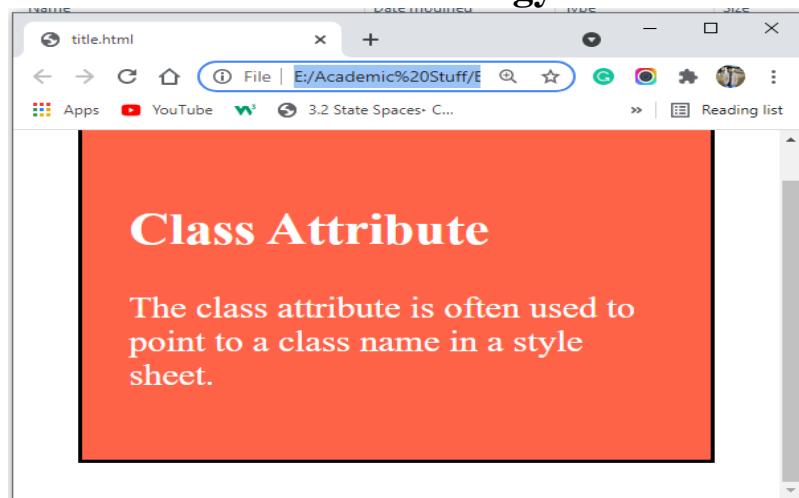
```
<!DOCTYPE html>
<html>
    <head>
        <style>
            .city {
                background-color: tomato;
                color: white;
                border: 2px solid black;
                margin: 20px;
                padding: 20px;
            }
            .qq {
                background-color: green;
                color: white;
                border: 2px solid black;
                margin: 20px;
                padding: 20px;
            }
        </style>
    </head>

    <body>

        <div class="city">
            <h2>Class Attribute</h2>
            <p> The class attribute is often used to point to a class name in a style
sheet.</p>
        </div>
        <h2 class="qq">Class Attribute</h2>
        <p class="city" > The class attribute is often used to point to a class name in a
style
    </body>

</html>
```

Output:



Meta tag

- META Tags are HTML tags which provide information that describes the content of the web pages a user will be viewing. Search engines have recognized that website owners and administrators can use this resource to control their positioning and descriptions in search engine results.
- Many search engines have now incorporated reading META tags as part of their indexing formulas. The goal of this guide is to help webmasters understand the most frequent META tags, their application and usage.
- HTML lets you specify metadata - additional important information about a document in a variety of ways. The <meta> tag defines metadata about an HTML document. Metadata is data about data.
- The META elements can be used to include name/value pairs describing properties of the HTML document, such as author, expiry date, a list of keywords, document author etc. The tag is used to provide such additional information. This tag is an empty element and so does not have a closing tag but it carries information within its attributes.
- You can include one or more meta tags in your document based on what information you want to keep in your document but in general, meta tags do not impact physical appearance of the document so from appearance point of view, it does not matter if you include them or not.

You can add metadata to your web pages by placing tags inside the header of the document which is represented by `<head>` and `</head>`. A meta tag can have following attributes in addition to core attributes:

Example:

```
<head>
```

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```
<title>Meta Tags </title>
<meta name = "keywords" content = "HTML, Meta Tags, Metadata" />
</head>
```

Attribute	Description
Name	Name for the property. Can be anything. Examples include, keywords, description, author, revised, generator etc.
content	Specifies the property's value
scheme	Specifies a scheme to interpret the property's value
http-equiv	Used for http response message headers. For example http-equiv can be used to refresh the page or to set a cookie. Values include content-type, expires, refresh and set-cookie.

Example:

```
<head>
    <title>Meta Tag </title>
    <meta name="description" content="Meta Tag Generator">
    <meta name="keywords" content="bat, rat, cat">
    <meta name="copyright" content="Copyright©2020">
    <meta name="author" content="Frontware">
    <meta name="email" content="Fronware@gmail.com">
    <meta name="Charset" content="US-ASCII">
    <meta name="Distribution" content="Global">
    <meta name="Rating" content="General">
    <meta name="Robots" content="INDEX, FOLLOW">
    <meta name="Revisit-after" content="7 Days">
    <meta name="expires" content="7">
</head>
```

1. Description META Tag

The Description Tag is a general description of what is contained in your webpage

META Name:	"Description"
General Usage:	<META name="Description" content="Your description">
Code Generator:	<META NAME="description" CONTENT="Description for your website.">

You can use Description <meta> tag to give a short description about the document. This again can be used by various search engines while indexing your webpage for searching purpose.

Example:

```
<head>
    <title>Meta Tag</title>
```

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```
<meta name="description" content="Learning about Meta Tags." />  
</head>
```

2. Keyword META Tag

The Keywords Tag is a series of keywords that represents the content of your site

META Name:	"Keywords"
General Usage:	<META name="Keywords" content="first, second, third">
Code Generator:	<META NAME="keywords" CONTENT="bat, rat, cat">

You can use keyword `<meta>` tag to specify important keywords related to the document and later these keywords are used by the search engines while indexing your webpage for searching purpose. Following is an example where we are adding bat, rat, cat Metadata as important keywords about the document.

Example:

```
<head>  
    <title>Meta Tag</title>  
    <meta name="keywords" content=" bat, rat, cat " />  
</head>
```

3. Copyright META Tag

The Copyright Tag defines any copyright information about the document

META Name:	"Copyright"
General Usage:	<META name="Copyright" content="Copyright Statement">
Code Generator:	<META NAME="copyright" CONTENT="Copyright©2020">

Example:

```
<head>  
    <title>Meta Tag</title>  
    <META NAME="copyright" CONTENT="Copyright©2020">  
</head>
```

4. Author META Tag

Overview: The Author Tag declares who is the author of the document. The author META tag defines the name of the author of the document being read.

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META Name:	"Author"
General Usage:	<META name="Author" content="Author Information">
Code Generator:	<META NAME="author" CONTENT="Frontware">

Example:

```
<head>
<title>Meta Tag</title>
    <META NAME="author" CONTENT="Frontware">
</head>
```

5. Charset META Tag

The Charset Meta Tag is used to tell the browser which character set to use.

<meta name="Charset" content="US-ASCII">. You can use <meta> tag to specify character set used within the webpage.

By default, Web servers and Web browsers use ISO-8859-1 Latin1 encoding to process Web pages. Following is an example to set UTF-8 encoding:

Example:

```
<html>
    <head>
        <title>Meta Tags </title>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
    </head>
</html>
```

6. Email META Tag

The email us used to display the relevant contact address. <meta name="email" content="frontware@gmail.com">

Example:

```
<html>
    <head>
        <title>Meta Tags </title>
        <meta name="email" content="frontware@gmail.com">
    </head>
</html>
```

7. Distribution META Tag

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The Distribution Tag defines the level of distribution of the present document. The distribution META tag defines the level or degree of distribution of your webpage and how it should be classified in relation to methods of distribution on the world wide web.

There are currently only three forms of distribution supported by the distribution tag: Global (indicates that your webpage is intended for mass distribution to everyone), Local (intended for local distribution of your document), and IU - Internal Use (not intended for public distribution).

Example:

```
<html>
  <head>
    <title>Meta Tags </title>
    <META NAME="distribution" CONTENT="Global">
  </head>
</html>
```

8. Rating META Tag

The Rating Meta Tag is used to set an audience content rating. <meta name="Rating" content="General">

Example:

```
<html>
  <head>
    <title>Meta Tags </title>
    <meta name="Rating" content="General">
  </head>
</html>
```

9. Robots META Tag

The Robots Tag declares to search engines what content to index and spider. Robots, also known as spiders, are automated mechanisms that spider your site, or search your site on how to categorize the information you submitted to the search engine.

Typically, a website owner would submit the main page and the robots would visit your site and collect all subpages and related links from your main page. However, this tag enables you to control which pages you would like spidered, and which to ignore. For instance, certain web pages and directories (i.e.: CGI Scripts) you may not want indexed in the search engines. Using the robots tag, you can define which pages to follow, which to index and which to ignore completely.

Example:

```
<html>
  <head>
    <title>Meta Tags </title>
    <META NAME="robots" CONTENT="FOLLOW, INDEX">
  </head>
</html>
```

10. Revisit META Tag

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The Revisit Tag defines how many days the search engine should revisit your webpage. The Revisit META tag defines how often a search engine or spider should come to your website for re-indexing. Often this tag is used for websites that change their content often and on a regular basis. This tag can also be beneficial in boosting your rankings if search engines display results based on the most recent submissions.

Example:

```
<html>
  <head>
    <title>Meta Tags </title>
    <META NAME="revisit-after" CONTENT="7 days">
  </head>
</html>
```

10. Expires META Tag

The Expires Tag declares to search engines when the content on your website will expire. The Expires META tag defines the expiration date and time of the document being indexed. If your website is running a limited time event or there is a pre-set date when your document will no longer be valid, you should include the Expires tag to indicate to search engines when to delete your webpage from their database.

Example:

```
<html>
  <head>
    <title>Meta Tags </title>
    <META HTTP-EQUIV="Expires" CONTENT="Mon, 10 Nov 2021 07:30:18 GMT">
  </head>
</html>
```

Example:

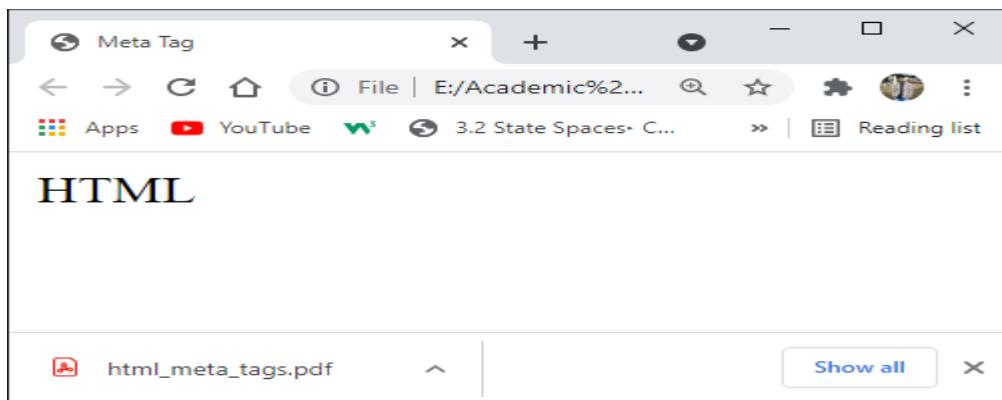
```
<!DOCTYPE html l>
<html>
<head>
  <head>
    <title>Meta Tag </title>
    <meta name="description" content="Meta Tag Generator">
    <meta name="keywords" content="bat, rat, cat">
    <meta name="copyright" content="Copyright©2020">
    <meta name="author" content="Frontware">
    <meta name="email" content="Fronware@gmail.com">
    <meta name="Charset" content="US-ASCII">
    <meta name="Distribution" content="Global">
    <meta name="Rating" content="General">
    <meta name="Robots" content="INDEX,FOLLOW">
    <meta name="Revisit-after" content="7 Days">
    <meta name="expires" content="7">
```

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```
</head>

<body>
    <p> HTML</p>
</body>
</html>
```

Output:



Adding Audio:

The `<audio>` tag defines sound, such as music or audio streams. There are three supported file formats for the `<audio>` element: MP3, Wav and OGG.

There are three different audio container types OGG, MP3 and Wav. The type of container is indicated by the extension on the file's name. for example, OGG file has extension .OGG.

An OGG file is a compressed audio file that uses free, unpatented Ogg Vorbis audio compression. It is similar to an .MP3 file, but sounds better than an MP3 file of equal size, and may include song metadata, such as artist information and track data. OGG files are supported by many software music players and some portable music players.

The Ogg format is a container used for storing audio data. The term "Vorbis" refers to a specific encoding scheme provided by Xiph.Org, the developers of Ogg. OGG files may also include other types of audio compression, including FLAC and Speex. However, these files then cannot officially be referred to as "Vorbis" files, since they use a different compression scheme.

Similarly, MP3 codec audio data is stored in MP3 container. A WAV (Waveform Audio File Format) file is a raw audio format created by Microsoft and IBM. The format uses containers to store audio data, track numbers, sample rate, and bit rate. WAV files are

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uncompressed lossless audio and as such can take up quite a bit of space, coming in around 10 MB per minute with a maximum file size of 4 GB.

Audio is created using `<audio>` tag with its attribute controls i.e. `<audio controls = "controls">` which creates start and stop button, a clock, a slider of the progress of play, the total time of the file and a slider for a volume control.

The table below defines the list of attributes used in audio tag.

Attribute	Value	Description
autoplay	autoplay	Specifies that the audio will start playing as soon as it is ready
controls	controls	Specifies that audio controls should be displayed (such as a play/pause button etc)
loop	loop	Specifies that the audio will start over again, every time it is finished
muted	muted	Specifies that the audio output should be muted
preload	auto metadata none	Specifies if and how the author thinks the audio should be loaded when the page loads
src	URL	Specifies the URL of the audio file

Syntax:

```
<audio attributes>
<source src = "filename1">
.....
<source src = "filename_n">
</audio>
```

For example:

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```
<!DOCTYPE html>
<html>
  <head>
    <title> example of audio </title>
  </head>
  <body>
    <p>OGG file extension song</p>
    <audio controls ="controls">
      <source src ="E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A
      online web technology\practical sem 5\audio file\my.ogg" /><br><br>
    </audio>

    <p>wav file extension song</p>
    <audio controls ="controls">
      <source src ="E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A
      online web technology\practical sem 5\audio file\mywav.wav" /><br><br>
    </audio>

    <p>mp3 file extension song</p>
    <audio controls ="controls">
      <source src ="E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A
      online web technology\practical sem 5\audio file\mymp3.mp3" /><br><br>
    </audio>
  </body>
</html>
```

Output:

The screenshot shows a web browser window with a toolbar at the top containing icons for Apps, YouTube, and several tabs. The main content area displays three separate audio player controls, each with a play button, a progress bar, and a volume icon.

- OGG file extension song:** Duration 1:14, currently at 0:01.
- wav file extension song:** Duration 0:33, currently at 0:00.
- mp3 file extension song:** Duration 0:27, currently at 0:00.

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<audio> tag with its attribute loop

```
<!DOCTYPE html>
<html>
    <head>
        <title> example of audio </title>
    </head>
    <body>
        <p>audio with loop attribute </p>
        <audio controls ="controls" loop>
            <source src ="E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A
            online web technology\practical sem 5\audio file\my.ogg" /><br><br>
        </audio>

    </body>
</html>
```

Output:

audio with loop attribute



Adding Video:

The syntax of the video is similar to that of audio but several different attributes can be used beside controls. Attributes like height and width will specify the size of the screen for the video in pixel, the AutoPlay attribute will specify the video play automatically as it is ready, the preloads attribute tell the browser to load the file or files as soon as the document is loaded and controls attribute displays the play, pause and volume control.

Syntax:

```
<video attributes>
<source src = “filename1”>
    ....
<source src = “filename_n”>
</video>
```

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For example:

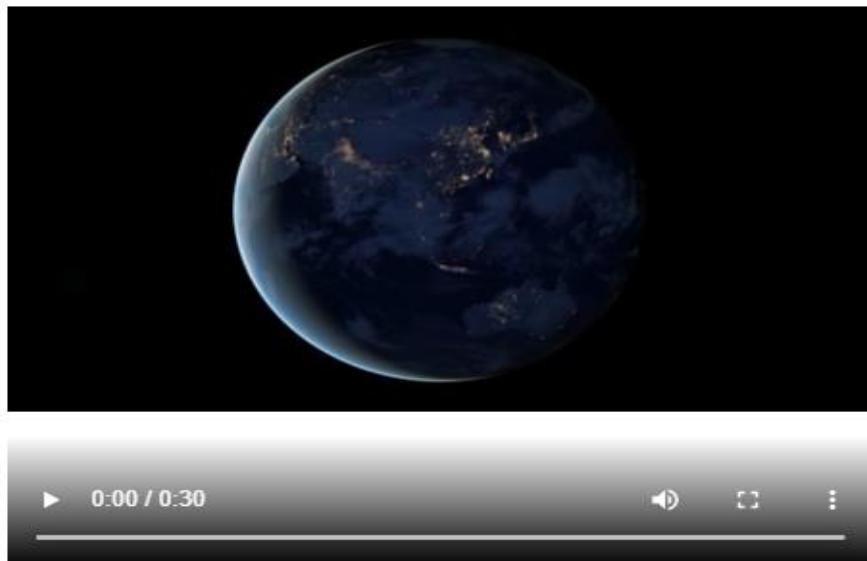
```
<!DOCTYPE html>
<html>
  <head>
    <title> example of audio </title>
  </head>
  <body>
    <video controls ="controls" width ="500" height ="500" autoplay ="autoplay"
    preload = "preload">

      <p>OGG file extension song</p>
      <source src = "E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A
      online web technology\practical sem 5\video file\myoogvideo.ogg" />

      <p>mp4 file extension song</p>
      <source src = "E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A
      online web technology\practical sem 5\video file\videomp4.mp4" />

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

Output:



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Canvas

<canvas> is an HTML element which can be used to draw graphics via scripting (usually JavaScript). This can be used to draw graphs, combine photos, or create simple (and not so simple) animations. The <canvas> element is not supported in some older browsers, but is supported in recent versions of all major browsers.

The HTML <canvas> element is used to draw graphics, on the fly, via JavaScript. The <canvas> element is only a container for graphics. You must use JavaScript to actually draw the graphics.

Canvas was initially introduced by Apple for use in their own Mac OS X WebKit component in 2004, powering applications like Dashboard widgets and the Safari browser. Later, in 2005 it was adopted in version 1.8 of Gecko browsers, and Opera in 2006, and standardized by the Web Hypertext Application Technology Working Group (WHATWG) on new proposed specifications for next generation web technologies.

A canvas consists of a drawable region defined in HTML code with height and width attributes. JavaScript code may access the area through a full set of drawing functions similar to those of other common 2D APIs, thus allowing for dynamically generated graphics. Some anticipated uses of canvas include building graphs, animations, games, and image composition.

Canvas has several methods for drawing Lines, paths, boxes, circles, text, and adding images. A canvas is a rectangular area on an HTML page. By default, a canvas has no border and no content.

The following code creates a Canvas element in an HTML page:

Example:

```
<!DOCTYPE HTML>
<html>
  <head>

    <style>
      #example{border:1px solid yellow;}
    </style>
  </head>

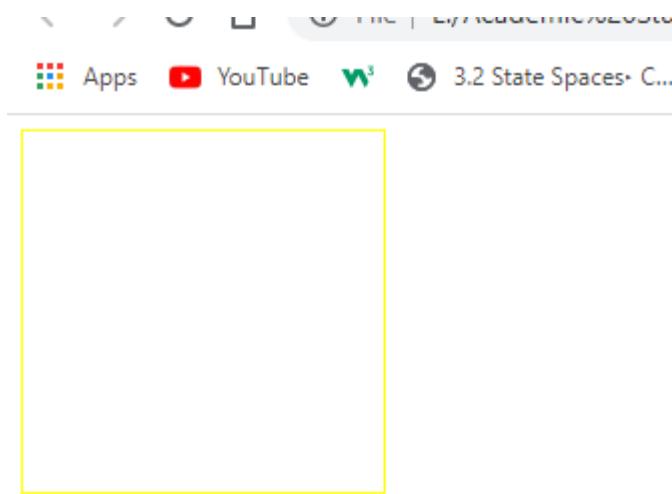
  <body>
    <canvas id="example" width="200" height="200">
      <p>This text is displayed if your browser does not support HTML5 Canvas.</p>
    </canvas>

  </body>
</html>
```

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Output:



Example:

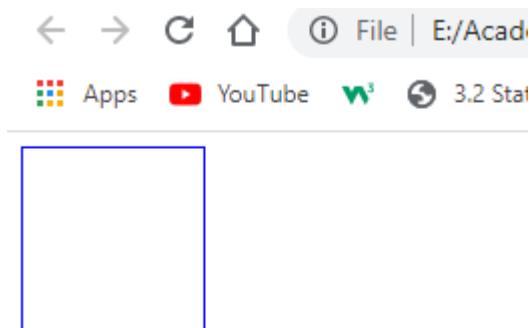
```
<!DOCTYPE HTML>

<html>
  <head>

    <style>
      #id1canvas{border:1px solid blue;}
    </style>
  </head>

  <body>
    <canvas id = "id1canvas" width = "100" height = "100"></canvas>
  </body>
</html>
```

Output:



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The Rendering Context

The <canvas> is initially blank, and to display something, a script first needs to access the rendering context and draw on it. The canvas element has a DOM method called getContext, used to obtain the rendering context and its drawing functions. This function takes one parameter, the type of context 2d.

Following is the code to get required context along with a check if your browser supports element –

```
<!DOCTYPE html>
<html>
    <head>
        <title>A Simple Canvas Example</title>

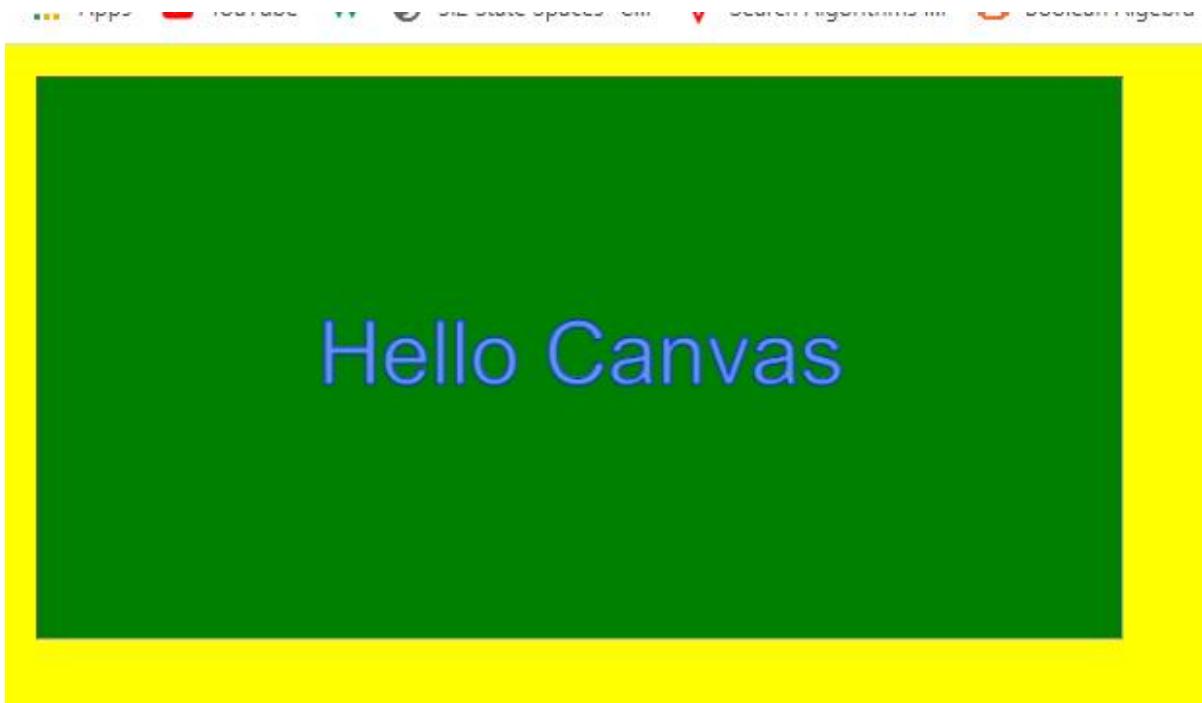
        <style>
            body
            {
                background: yellow;
            }
            #canvas {
                margin: 10px;
                padding: 10px;
                background: green;
                border: t#aaaaaa;
            }
        </style>
    </head>
    <body>
        <canvas id='canvas' width='600' height='300'>
            Canvas not supported
        </canvas>

        <script src='E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A
            online web technology\practical sem 5\js file\example.js'></script>
    </body>
</html>
```

Example.js

```
var canvas = document.getElementById('canvas'),
context = canvas.getContext('2d');
context.font = '38pt Arial';
context.fillStyle = 'cornflowerblue';
context.strokeStyle = 'blue';
context.fillText('Hello Canvas', canvas.width/2 - 150,
canvas.height/2 + 15);
context.strokeText('Hello Canvas', canvas.width/2 - 150,
canvas.height/2 + 15 );
```

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<main> tag:

HTML <main> tag is used to represent the main content of the <body> tag. The <main> tag is written within <body> tag. It is used to accurately describe the primary content of a page.

The content of the main tag is directly related to the central topic of the document. The HTML <main> Tag is used to give the main information of a document. It is used to represent the main content area within an HTML document. The content inside the <main> element should be unique for the document. Which includes the sidebars, navigation links, copyright information, site logos, and search forms.

The <main> tag surrounds the main content of the page - content that is unique to that document and is obviously the "main" content for that page. This excludes any content that is repeated across multiple pages (such as navigation bars, headers, footers, etc).

An HTML document can have more than one <main> element, but only one can be visible. If more than one <main> element is present in a document, all other instances must be hidden using the hidden attribute. Also, the <main> element should not be a child element of an <article>, <aside>, <footer>, <header>, or <nav> element, that is, the <main> element must not appear within the <article>, <aside>, <footer>, <header> or <nav> tags.

Note: The document must not contain more than one <main> element.

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Example:

```
<!DOCTYPE html>
<html>
    <head>
        <style>
            main {
                margin: 0;
                padding: 5px;
                background-color: lightgray;
            }

            main > h1, p, .flower
            {
                margin: 10px;
                padding: 5px;
            }

            .flower {
                background: white;
            }

            .flower > h2, p
            {
                margin: 4px;
                font-size: 90%;
            }
        </style>
    </head>
    <body>

        <main>
            <h1>Best Flowers In Nepal</h1>
            <p> Marigold, Rose, and Hydrangea are the best flowers found in nepal.</p>


```

```
<article class="flower">
    <h2> Poppy </h2>
    <p> Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also. It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow.
```

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```
!</p>

</article>

<article class="flower">
    <h2> Rose </h2>
    <p> There are different types of Flower in Nepal. Some of the types of Rose found in Nepal are Climbing Rose, Floribunda Rose, Grandiflora Rose, Miniature Rose, Shrub Rose etc. Rose is one of the most common and famous flower. It denotes the sign of love. Red rose is mostly used by lovers.</p>

    
</article>

<article class="flower">
    <h2> Gomphrena </h2>
    <p> The full name is Gomphrena Globosa. People in Nepal pronounce and define this flower as Makhamali. This flower is used mostly in Tihar festival. Tihar is one of the most greatest festival in Nepal. This flower is used as Garland in festivals. Gomphrena blooms in summer season. We can see this flower blooming on the month of October.
    </p>
    
</article>

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

Output:

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Best Flowers In Nepal

Marigold, Rose, and Hydrangea are the best flowers found in nepal.

Poppy

Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also. It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow. !



Rose

There are different types of Flower in Nepal. Some of the types of Rose found in Nepal are Climbing Rose, Floribunda Rose, Grandiflora Rose, Miniature Rose, Shrub Rose etc. Rose is one of the most common and famous flower. It denotes the sign of love. Red rose is mostly used by lovers.



Gomphrena

The full name is Gomphrena Globosa. People in Nepal pronounce and define this flower as Makhamali. This flower is used mostly in Tihar festival. Tihar is one of the most greatest festival in Nepal. This flower is used as Garland in festivals. Gomphrena blooms in summer season. We can see this flower blooming on the month of October.



<section> tag

HTML <section> tag is used to define the section of documents such as headers, chapters, footers, etc. The <section> tag splits the web page content into section & subsections. It is usually used when there is a demand for two footers or headers or any other new section. Section tag generally groups the generic block of related content. The main advantage of using <section> tag is that it is a semantic element, which describes its meaning to both developer and browser.

The <section> element is a structural HTML element used to group together related elements. Each <section> typically includes one or more heading elements and additional elements presenting related content.

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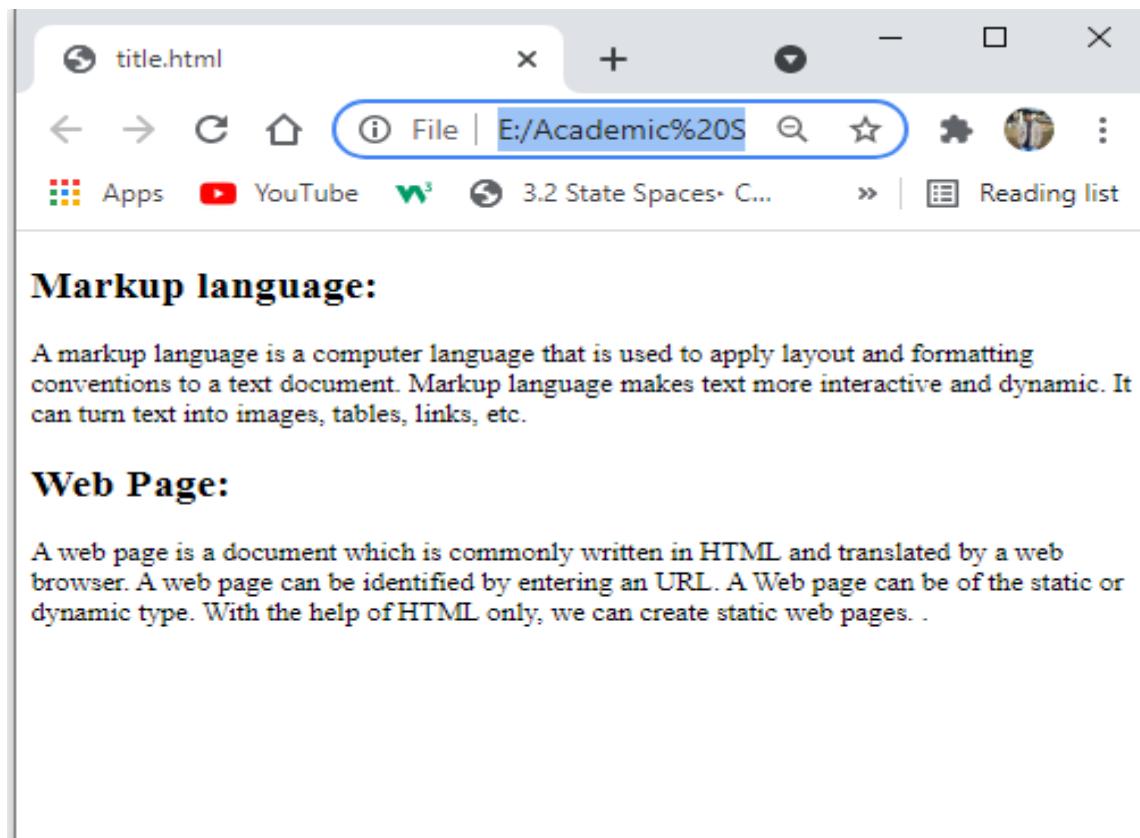
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```
<!DOCTYPE html>
<html>
  <body>
    <section>
      <h1> Markup language: </h1>
      <p> A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.</p>
    </section>

    <section>
      <h1> Web Page: </h1>
      <p> A web page is a document which is commonly written in HTML and translated by a web browser. A web page can be identified by entering an URL. A Web page can be of the static or dynamic type. With the help of HTML only, we can create static web pages.
    </p>
    </section>

  </body>
</html>
```

Output:



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<article> element

The `<article>` element represents a section of content that forms an independent part of a document, such as a blog post, article, or other self-contained unit of information, that may be linked to or included in some other content body.

The `<article>` tag is one of the HTML5 elements. An article should have its own meaning and be easily differentiated from the rest of the web page content. The `<article>` element can include:

- blog entry
- forum post
- news
- comment

The `<article>` element identifies a self-contained piece of content which could theoretically be distributed to other websites and platforms as a stand-alone unit. The `<article>` element is a good choice to contain entire blog posts, news articles, and similar content.

The `<article>` element is most often used in two contexts:

1. On a page with a single piece of content, a single `<article>` element can be used to contain the main content and set it off from the rest of the page.
2. On a page with multiple pieces of content (a blog index page, a search results page, a category page, a news feed), multiple `<article>` elements can be used to contain each individual piece of content.

Either way, this is functionally similar to using `<div>` elements, and the display and styling work the same. However, using the `<article>` element instead of `<div>` provides more semantic information to screen readers, search engines, and third-party applications.

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Article Tag</title>
  </head>

  <body>
    <h1>Best Flowers In Nepal</h1>
    <p> Marigold, Rose, and Hydrangea are the best flowers found in nepal.</p>
    <article >
      <h2> Poppy </h2>
      <p> Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also.
      It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from
```

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poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow.

!</p>

</article>

<article>

<h2> Rose </h2>

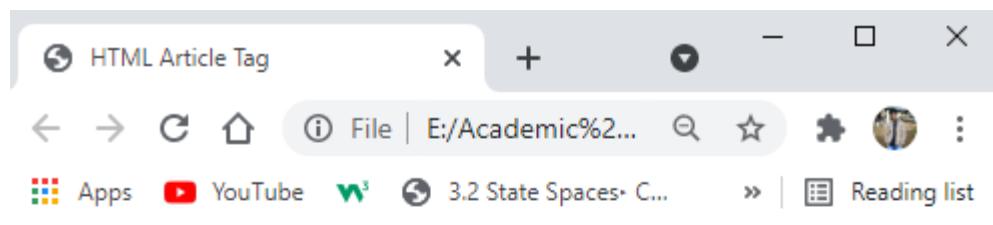
<p> There are different types of Flower in Nepal. Some of the types of Rose found in Nepal are Climbing Rose, Floribunda Rose, Grandiflora Rose, Miniature Rose, Shrub Rose etc. Rose is one of the most common and famous flower. It denotes the sign of love. Red rose is mostly used by lovers.</p>

</article>

</body>

</html>

Output:



Best Flowers In Nepal

Marigold, Rose, and Hydrangea are the best flowers found in nepal.

Poppy

Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also. It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow. !

Rose

There are different types of Flower in Nepal. Some of the types of Rose found in Nepal are Climbing Rose, Floribunda Rose, Grandiflora Rose, Miniature Rose, Shrub Rose etc. Rose is one of the most common and famous flower. It denotes the sign of love. Red rose is mostly used by lovers.

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Header and footer tag

The <header> and <footer> elements can be used for:

- The main header or footer that appears at the top or bottom of every page on the site.
- A header or footer for an individual <article> or <section> within the page.

Header

The <header> HTML element represents introductory content, typically a group of introductory or navigational aids. It may contain some heading elements but also a logo, a search form, an author name, and other elements.

The <header> tag in HTML is used to define the header for a document or a section. The header tag contains information related to the title and heading of the related content. The <header> element is intended to usually contain the section's heading (an h1-h6 element), logo or icon authorship information etc. The <header> element can also be used to wrap a section's table of contents, a search form, or any relevant logos. The <header> tag is a new tag in HTML5 and it requires a starting tag as well as an end tag. There can be several <header> elements in one document. A <header> tag cannot be placed within a <footer>, <address> or another <header> element.

You can have several <header> elements in one HTML document. However, <header> cannot be placed within a <footer>, <address> or another <header> element.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <title>Title of the document</title>
        <style>
            ul {
                padding: 0;
            }
            ul li {
                display: inline-block;
                margin-right: 10px;
                color: #778899;
            }
            .flower {
                background: white;
```

```

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}

</style>
</head>

<body>
<header>
    <h1>Best Flowers In Nepal</h1>
    <hr>
    <nav>
        <ul>
            <li>Home</li>
            <li>About us</li>
        </ul>
    </nav>
    <hr>
    <h3>Flowers In Nepal</h3>
    <p> Marigold, Rose, and Hydrangea are the best flowers found in nepal.</p>
</header>

<article>
<header>
    <h2> Poppy </h2>
    <p> Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also. It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow.
    !</p>

</header>
</article>
</body>
</html>

```

Output:

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The screenshot shows a web browser window with the following details:

- Title Bar:** Title of the document
- Toolbar:** Back, Forward, Stop, Refresh, Home, File (E:/Academic%20Stuff...), Search, Favorites, Apps, YouTube, 3.2 State Spaces+ C..., Reading list.
- Page Content:**
 - ## Best Flowers In Nepal
 - [Home](#) [About us](#)
 - ### Flowers In Nepal

Marigold, Rose, and Hydrangea are the best flowers found in nepal.
 - ### Poppy

Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also. It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow. !



Note: Difference between <head> and <Header> tag

Head

tag:

The HTML element provides general information (metadata) about the document, including its title and links to/definitions of scripts and style sheets.

Header

tag:

The HTML element represents a group of introductory or navigational aids. It may contain some heading elements but also other elements like a logo, wrapped section's header, a search form, and so on.

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Footer

The <footer> HTML element represents a footer for its nearest sectioning content or sectioning root element. A <footer> typically contains information about the author of the section, copyright data or links to related documents. The <footer> tag defines a footer for a document or section. You can have several <footer> elements in one document.

A <footer> element typically contains:

- authorship information
- copyright information
- contact information
- sitemap
- back to top links
- related documents

Example:

```
<!DOCTYPE html>
<html>
<head>
    <title>Title of the document</title>
    <style>
        ul {
            padding: 0;
        }
        ul li {
            display: inline-block;
            margin-right: 10px;
            color: #778899;
        }
        .flower {
            background: white;
        }
        footer {
            text-align: left;
            padding: 3px;
            background-color: DarkSalmon;
            color: white;
        }
    </style>
</head>
```

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```
<body>
    <header>
        <h1>Best Flowers In Nepal</h1>
        <hr>
        <nav>
            <ul>
                <li>Home</li>
                <li>About us</li>
            </ul>
        </nav>
        <hr>
        <h3>Flowers In Nepal</h3>
        <p> Marigold, Rose, and Hydrangea are the best flowers found in nepal.</p>
    </header>

    <article>
        <header>
            <h2> Poppy </h2>
            <p> Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also. It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow.
            !</p>
            
        </header>

        <footer>
            <p>Author:Mr XYZ<br>
            <a href="mailto:hege@example.com">mailto:hege@example.com</a></p>
        </footer>
    </article>
</body>
</html>
```

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Output:

Best Flowers In Nepal

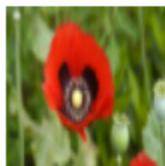
Home About us

Flowers In Nepal

Marigold, Rose, and Hydrangea are the best flowers found in nepal.

Poppy

Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also. It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow. !



Author:Mr XYZ
<mailto:hege@example.com>

The <aside> element

The `<aside>` element is used to identify content that is related to the primary content of the webpage, but does not constitute the primary content of the page. Author information, related links, related content, and advertisements are examples of content that may be found in an aside element.

The `<aside>` HTML element represents a portion of a document whose content is only indirectly related to the document's main content. Asides are frequently presented as sidebars or call-out boxes.

The `<aside>` tag is used to describe the main object of the web page in a shorter way like a highlighter. It basically identifies the content that is related to the primary content of the web page but does not constitute the main intent of the primary page. The `<aside>` tag contains mainly author information, links, related content, and so on.

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Example:

```
<!DOCTYPE html>
<html>
<head>
    <title>Title of the document</title>
    <style>
        ul {
            padding: 0;
        }
        ul li {
            display: inline-block;
            margin-right: 10px;
            color: #778899;
        }
        .flower {
            background: white;
        }
        aside {
            width: 40%;
            padding-left: .5rem;
            margin-left: .5rem;
            float: right;
            box-shadow: inset 5px 0 5px -5px #29627e;
            font-style: italic;
            color: #29627e;
        }
        aside > p {
            margin: .5rem;
        }
        footer {
            text-align: left;
            padding: 3px;
            background-color: DarkSalmon;
            color: white;
            width: 58%;
        }
    </style>
</head>
```

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```
<body>
  <header>
    <h1>Best Flowers In Nepal</h1>

    <hr>
    <nav>
      <ul>
        <li>Home</li>
        <li>About us</li>
      </ul>
    </nav>
    <hr>
    <h3>Flowers In Nepal</h3>
    <p> Marigold, Rose, and Hydrangea are the best flowers found in nepal.</p>
  </header>

  <article>
    <header>
      <h2> Poppy </h2>
      <p> Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also.
      It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow.
      !</p>
      
    </header>

    <aside>
      <p> Checkout For:</p>
      <ul>
        <li>Marigold Flower Information</li>
        <li>Rose Flower Information</li>
        <li>Flower PNG Images HD</li>
        <li>Tulip Flower Information</li>
        <li>Flowers That Start With P</li>
        <li>Hydrangea Flower Information</li>
        <li>Hospitals In Kathmandu</li>
      </ul>
    </aside>
```

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```
<footer>
    <p>Author:Mr XYZ<br>
        <a href="mailto:hege@example.com">mailto:hege@example.com</a></p>
</footer>

</article>

</body>
</html>
```

Output:

Best Flowers In Nepal

Home About us

Flowers In Nepal

Marigold, Rose, and Hydrangea are the best flowers found in nepal.

Poppy

Poppy flower is one of the best flower, that makes us feel fresh. This flower is very beautiful and its dangerous also. It is danger because people grow Poppy flower in large scale and make Drugs from these plants. The name of Drug made from poppy flower is Opium. Some of the color of Poppy flower found in Nepal are Red, Pink and Yellow. !



Author:Mr XYZ
<mailto:hege@example.com>

Checkout For:

[Marigold Flower Information](#)
[Rose Flower Information](#)
[Flower PNG Images HD](#)
[Tulip Flower Information](#)
[Flowers That Start With P](#)
[Hydrangea Flower Information](#)
[Hospitals In Kathmandu](#)

The <nav>: element

The `<nav>` tag is one of the HTML5 elements. The `<nav>` HTML element represents a section of a page whose purpose is to provide navigation links, either within the current

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document or to other documents. Common examples of navigation sections are menus, tables of contents, and indexes.

One HTML document may contain several `<nav>` tags, for example, one for site navigation and one for intra-page navigation.

Note that not all links in the HTML document are placed inside the `<nav>` element, it includes major navigation blocks. The `<nav>` tag can be placed for defining links in the footer of the website, but the `<footer>` tag is usually used in such cases.

Example:

```
<!DOCTYPE html>
<html>
<head>
    <title> Best Flowers In Nepal </title>
    <style>
        ul {
            padding: 0;
        }
        ul li {
            display: inline-block;
            margin-right: 10px;
            color: #778899;
        }
        .flower {
            background: white;
        }
    </style>
</head>
<body>
    <header>
        <h1>Best Flowers In Nepal</h1>
        <hr>
        <nav>
            <ul>
                <li>Home</li>
                <li>About us</li>
            </ul>
        </nav>

        <hr>
        <h3>Flowers In Nepal</h3>
        <p> Marigold, Rose, and Hydrangea are the best flowers found in nepal.</p>
    </header>
</body>
```

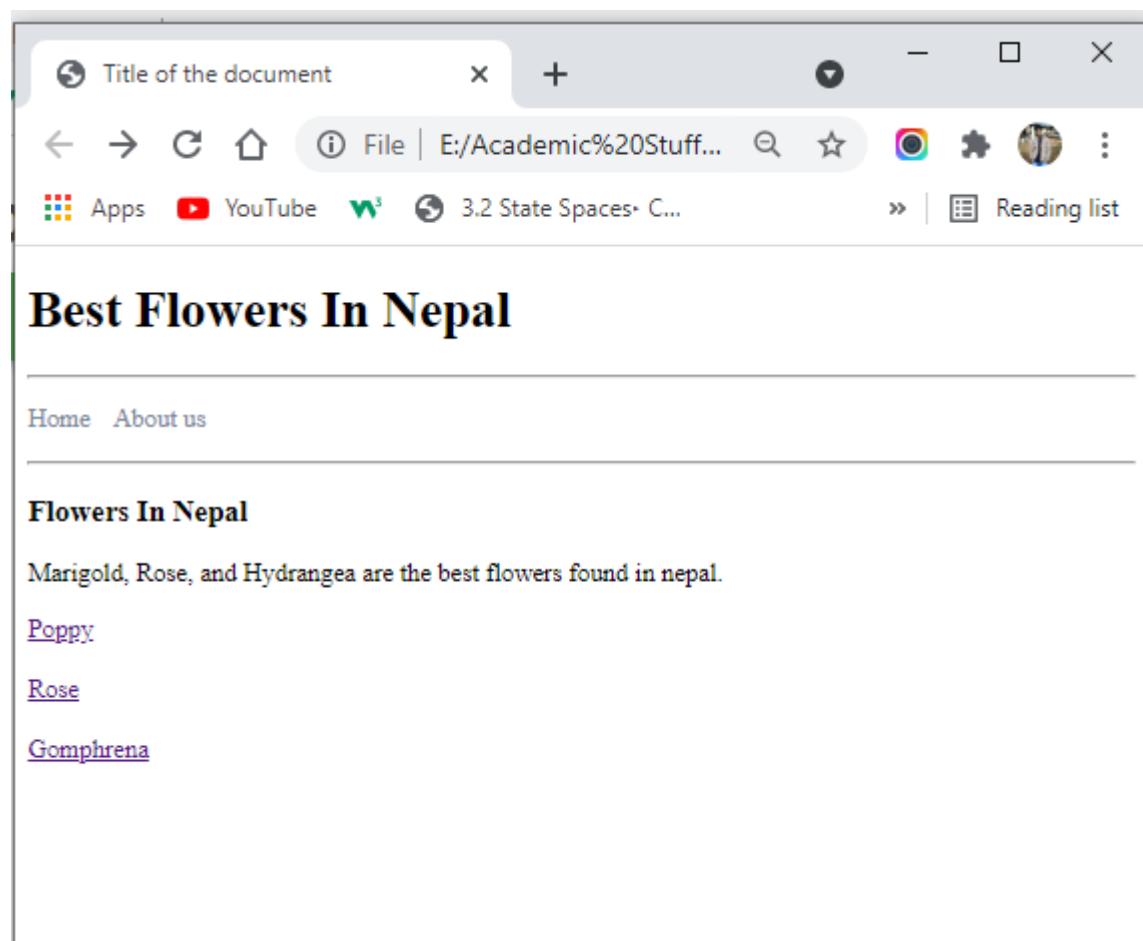
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```
</header>

<nav>
    <a href="E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online
    web technology\practical sem 5\forms\poppy.html">Poppy</a> <br>
    <br>
    <a href="E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online
    web technology\practical sem 5\forms\rose.html">Rose </a>
    <br>
    <br>
    <a href="E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online
    web technology\practical sem 5\forms\gomphrena.html">Gomphrena </a>
</nav>
</body>
</html>
```

Output:



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Figure Tags

The `<figure>` element identifies self-contained content related to the main content, such as an image, table, or chart. The `<figcaption>` element is often nested within a `<figure>` element to add a caption to the content identified by the `<figure>` tags.

The `<figure>` tag in HTML is used to add self-contained content like illustrations, diagrams, photos, or codes listing in a document. It is related to main flow, but it can be used in any position of a document and the figure goes with the flow of the document and if remove it then it should not affect the flow of the document.

The `<figure>` element represents a unit of content, optionally with a caption, that is self-contained and typically referenced as a single unit. Usually this is an image, an illustration, a diagram, or a code snippet that is referenced in the main text.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <title>Lakes In Nepal</title>
        <style>
            ul {
                padding: 0;
            }
            ul li {
                display: inline-block;
                margin-right: 10px;
                color: #778899;
            }
        </style>
    </head>

    <body>
        <header>
            <h1>Lakes In Nepal</h1>
            <hr>
            <nav>
                <ul>
                    <li>Home</li>
                    <li>About us</li>
                </ul>
            </nav>
            <hr>

        </header>
```

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<figure>

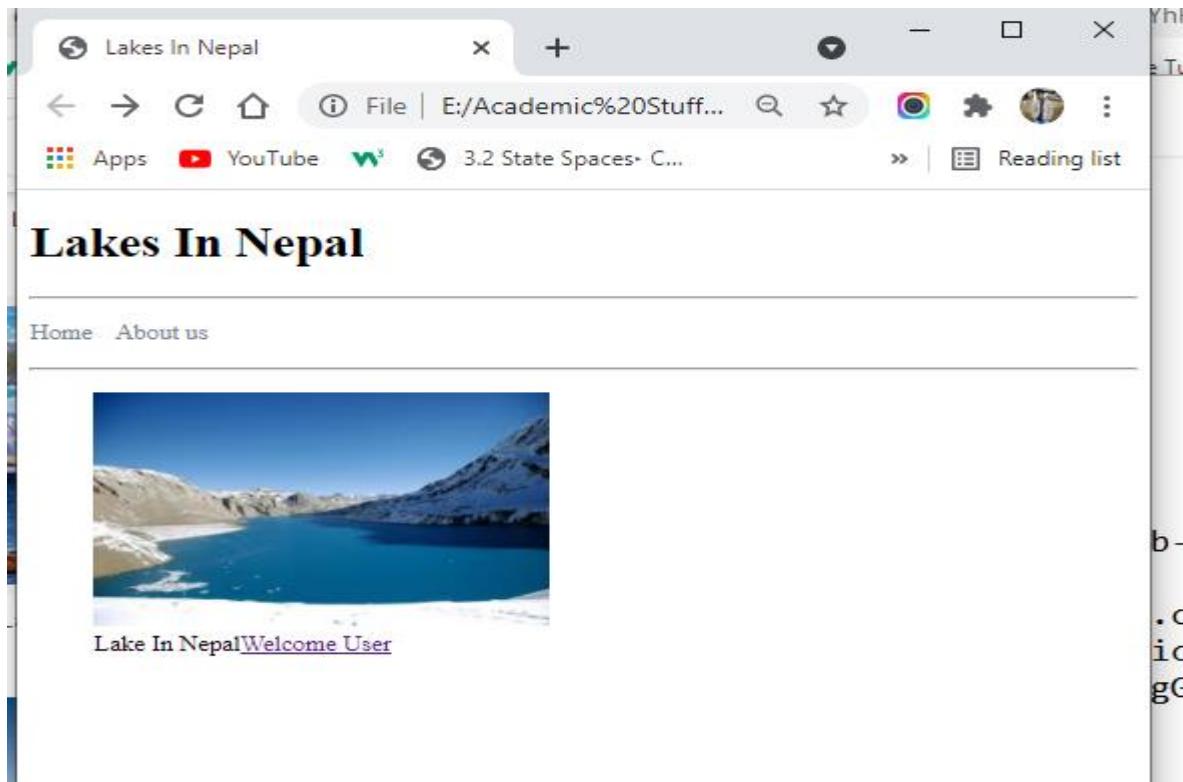
```
  
<figcaption>Lake In Nepal<a href="https://www.google.com/search?q=lakes+in+nepal&rlz=1C1CHZL_enI  
N779IN779&sxsrf=ALeKk00rDihXJYhRictz8WS5dp0hlku63w:1627190953  
164&source=lnms&tbs=isch&sa=X&ved=2ahUKEwiKk_rVvv3xAhUuwzg  
GHanqCEcQ_AUoAXoECAEQAw&biw=1366&bih=625">Welcome  
User</a></figcaption>
```

</figure>

</body>

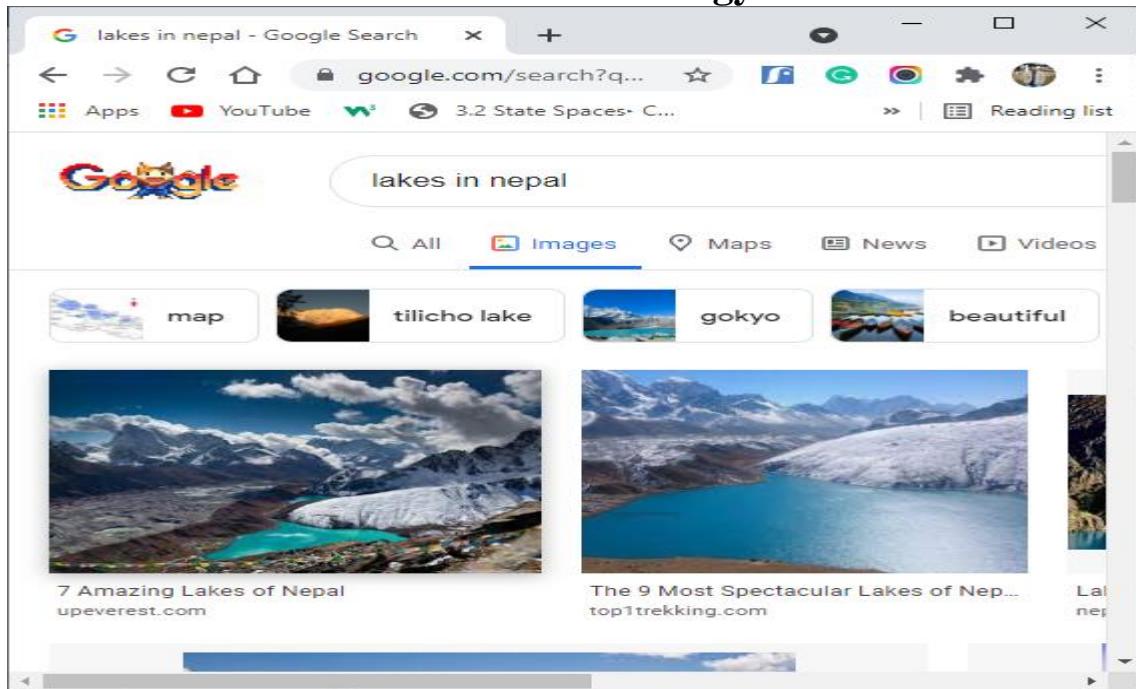
</html>

Output:



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HTML Events

When a user visits your website, they do things like click on text and images and given links, hover over things etc. When the user clicks a button, that click too is an event. So, browser reacts on user action, then it is called as an event. For example, when you click on the submit button, the page gets load, then browser displays an information. Other examples include events like pressing any key, closing a window, resizing a window, etc.

Each and every event has its event handler, which is a block of code (JavaScript function) that runs when the event fires and can specify by the value of event tag attribute. In HTML5 there are lots of event attributes available which can be activated using a programming language such as JavaScript.

Event handlers are sometimes called event listeners, the listener listens out for the event happening, and the handler is the code that is run in response to it happening.

Type of HTML Events

There are many event attributes available in HTML5, which are classified primarily into 6 different types. These attributes work using JavaScript language.

1. Windows Event Attributes
2. Form Event Attributes
3. Keyboard Event Attributes
4. Mouse Event Attributes
5. Clipboard Event Attributes
6. Media Event Attributes

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Windows Event Attributes

Windows events are related for the window object. This is provided for the action of the windows object and it can only be applied with <body> tag.

<u>Attribute</u>	<u>Description</u>
• <u>onafterprint</u>	• Script to be run after the document is printed
• <u>onbeforeprint</u>	• Script to be run before the document is printed
• <u>onbeforeunload</u>	• Script to be run when the document is about to be unloaded
• <u>onerror</u>	• Script to be run when an error occurs
• <u>onhashchange</u>	• Script to be run when there has been changes to the anchor part of the a URL
• <u>onload</u>	• Fires after the page is finished loading
• <u>onmessage</u>	• Script to be run when the message is triggered
• <u>onoffline</u>	• Script to be run when the browser starts to work offline
• <u>ononline</u>	• Script to be run when the browser starts to work online
• <u>onpagehide</u>	• Script to be run when a user navigates away from a page
• <u>onpageshow</u>	• Script to be run when a user navigates to a page
• <u>onpopstate</u>	• Script to be run when the window's history changes
• <u>onresize</u>	• Fires when the browser window is resized
• <u>onstorage</u>	• Script to be run when a Web Storage area is updated
• <u>onunload</u>	• Fires once a page has unloaded (or the browser window has been closed)

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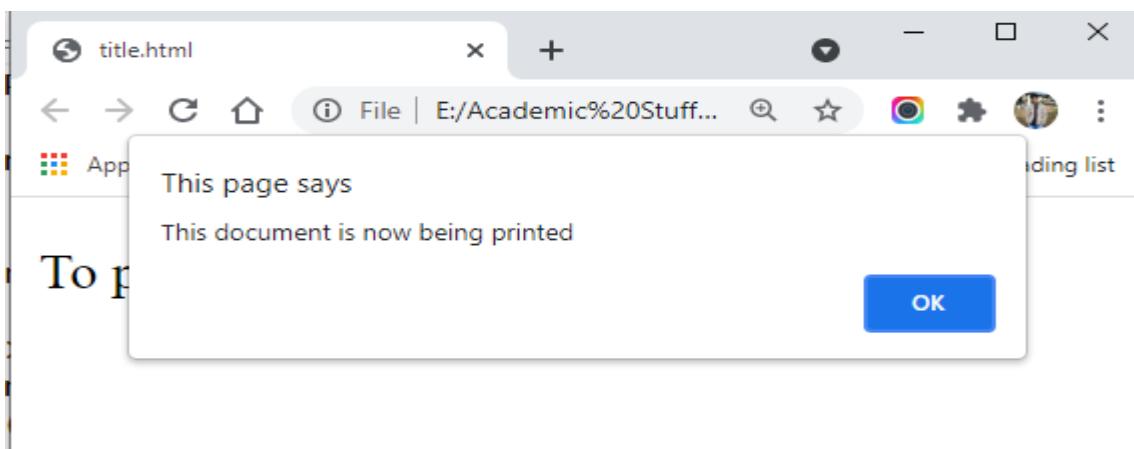
1. onafterprint attribute

Onafterprint works when a page started printing i.e., Script runs after the document is printed. Here comes an example of HTML code.

```
<!DOCTYPE html>
<html>
    <head>
        <script>
            function funtoPrint() {
                alert("This document is now being printed");
            }
        </script>
    </head>

    <body onafterprint="funtoPrint()">
        <p>To print this document Press Ctrl+P </p>
    </body>
</html>
```

Output:



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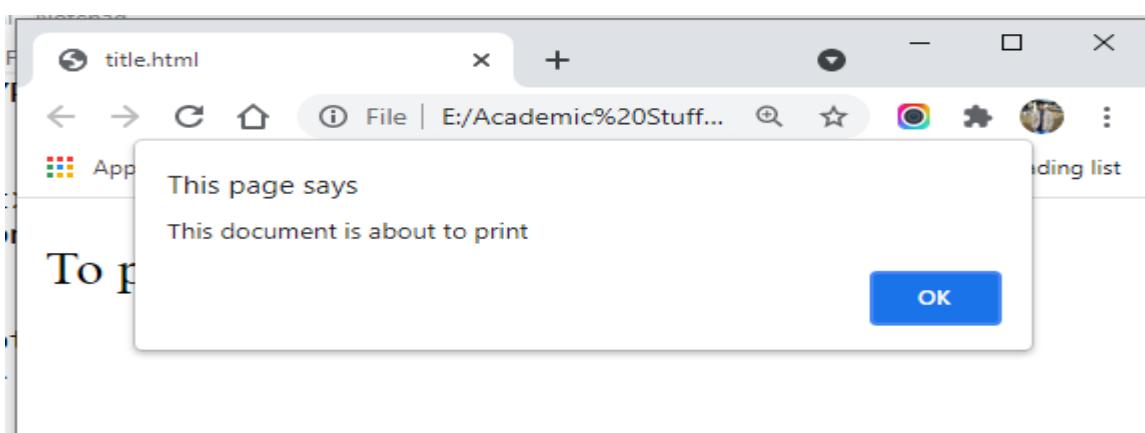
2.onbeforeprint attribute

The onbeforeprint attribute works when a page is about to be printed. The alert message display before the print dialogue box appears.

```
<!DOCTYPE html>
<html>
    <head>
        <script>
            function funtoPrint() {
                alert("This document is about to print");
            }
        </script>
    </head>

    <body onbeforeprint="funtoPrint()">
        <p>To print this document Press Ctrl+P </p>
    </body>
</html>
```

Output:



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3. onbeforeunload

The onbeforeunload event run when the document is about to be unloaded. This event is used to allow to display a message in a dialog box to inform the user, so he/she wants to stay or leave the current page.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <script>
            function funtoload()
            {
                return "This document is unloaded";
            }
        </script>
    </head>

    <body onbeforeunload="return funtoload()">
        <p>Close this window, press F5 to invoke the onbeforeunload event.</p>

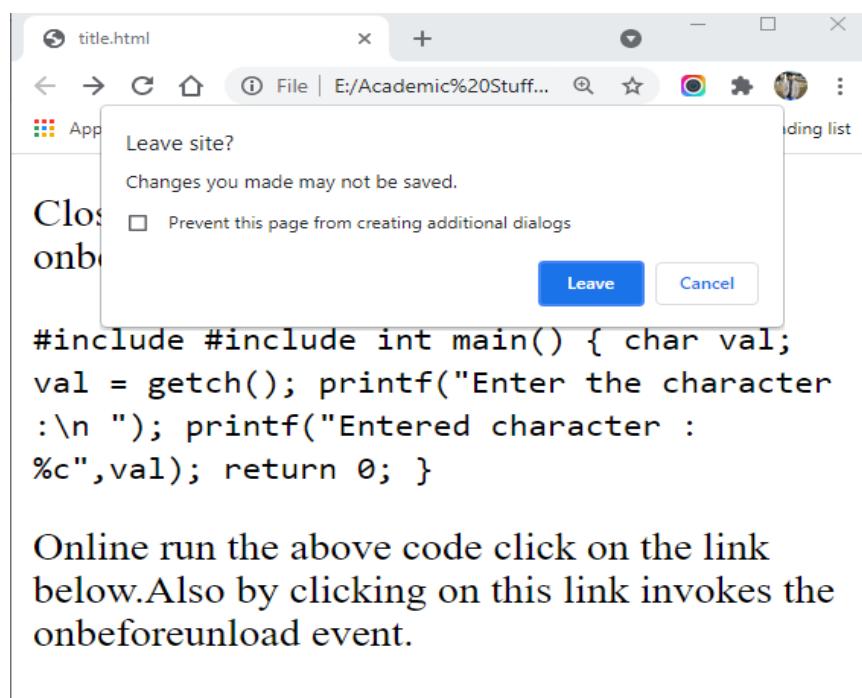
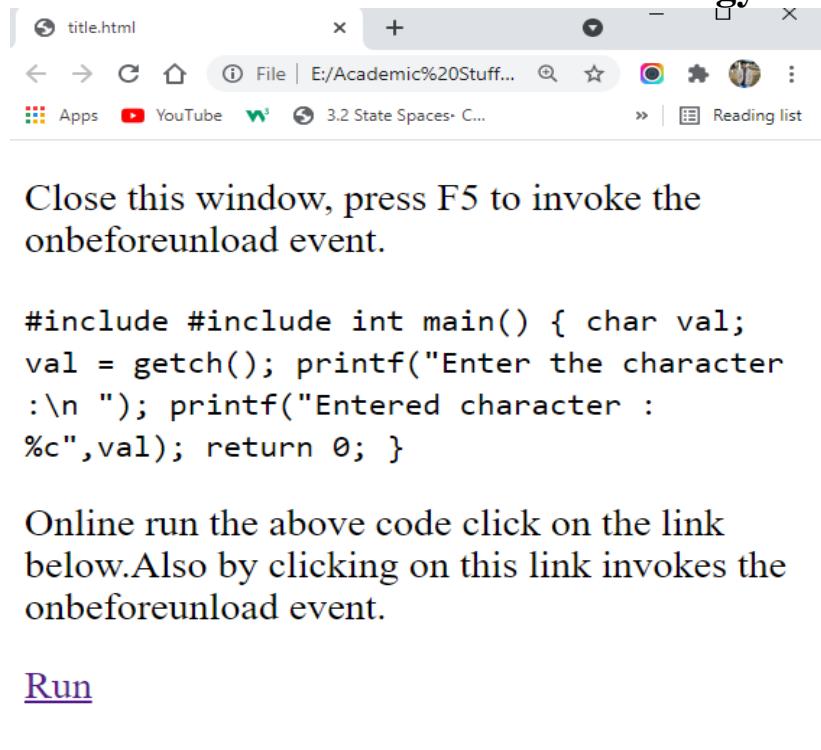
        <code>
            #include <stdio.h>
            #include<conio.h>
            int main()
            {
                char val;
                val = getch();
                printf("Enter the character :\n ");
                printf("Entered character : %c",val);
                return 0;
            }
        </code>
        <p>Online run the above code click on the link below. Also by clicking on this link invokes the onbeforeunload event.</p>

        <a href="https://www.onlinegdb.com/online_c_compiler">Run</a>

    </body>
</html>
```

Output:

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4.onerror attribute:

Script to be run when an error occurs. This attribute fires when an error occurs in the associated document. This attribute works when an error occurs while loading an external file. The external file may contain a document file or an image file.

Example:

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

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```
<head>
<title>onerror event attribute</title>
<style>
    body {
        text-align:center;
    }

    H2 {
        color:green;
    }
</style>

<script>
    function myFunction()
    {
        alert("The image could not be loaded.");
    }
</script>

</head>
<body>
    <h2>onerror event attribute</h2>
    
</body>
</html>
```

Output

Apps YouTube 3.2 State Spaces C... >> | Reading

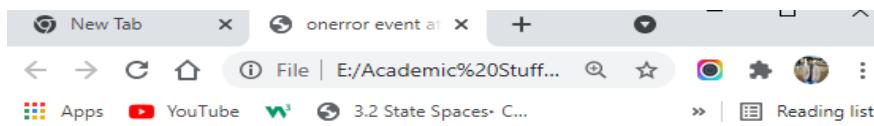
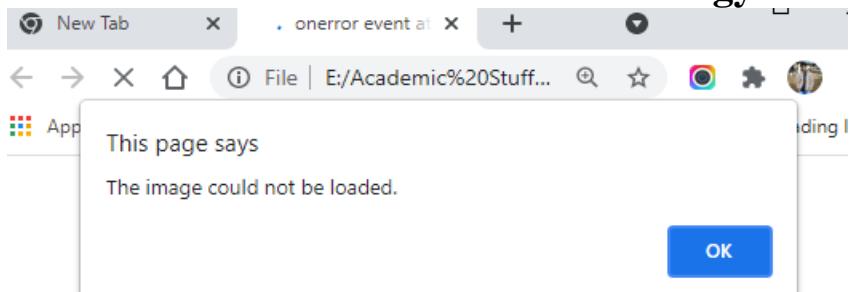
onerror event attribute



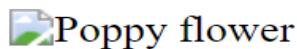
Alter the path where pic does not reside and see...

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onerror event attribute



5.onhashchange Attribute

When the anchor part in the webpage URL is changed, the script is executed. The anchor part starts with '#' symbol of the current URL. The hash property sets or returns the anchor part of a URL, including the hash sign (#).

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <script>
      function changePart()
      {
        location.hash = "2";
        var a = "Anchor part: " + location.hash;
        document.getElementById("d1").innerHTML = a;
      }

      function hashFunction()
      {
        alert("The anchor part has changed!");
      }
    </script>
  </head>

<body onhashchange="hashFunction()">
  <h2>onhashchange event attribute</h2>
```

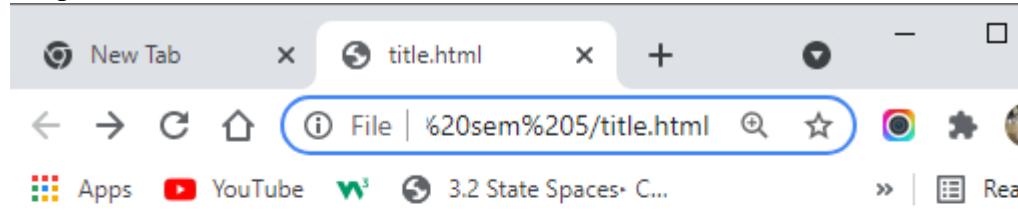
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```
<p>Click the button to set the anchor part of the current URL to #2</p>
<button onclick="changePart()">submit</button>
<p id="d1">Anchor part</p>
<body>

</html>
```

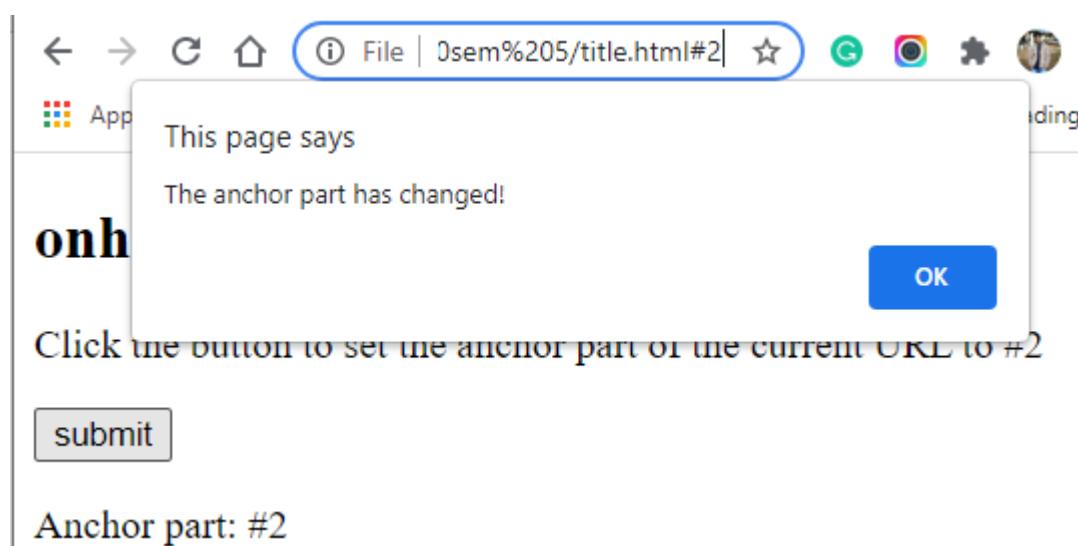
Output:



onhashchange event attribute

Click the button to set the anchor part of the current URL to #2

Anchor part



6.onload attribute

This function helps in loading an object and works well to see if a web page is correctly loaded.

```
<!DOCTYPE html>
<html>
  <head>
    <script>
      function myFun()
```

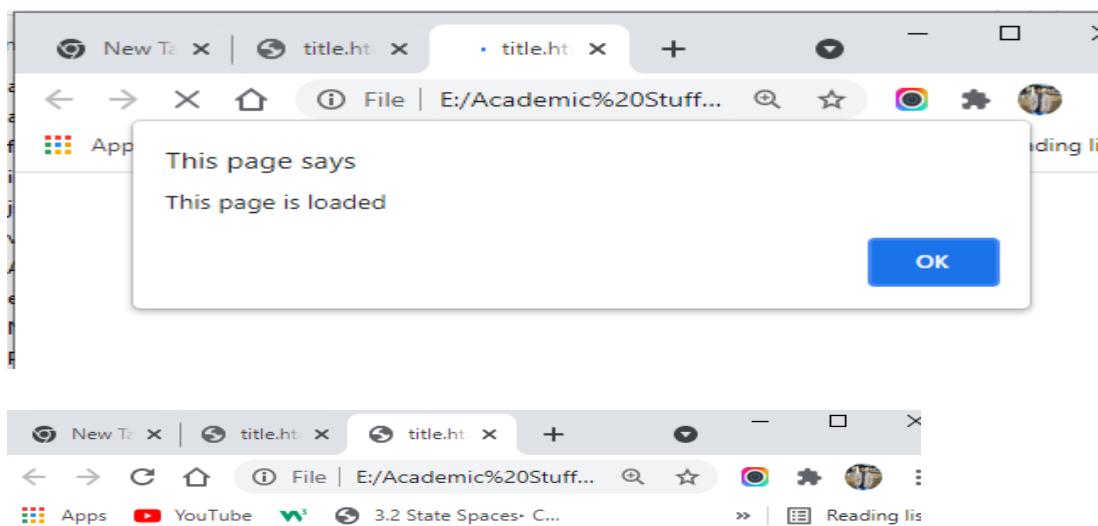
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```
<head>
    {
        alert("This page is loaded");
    }
</script>
</head>

<body onload="myFun()">
    <h1>onload function</h1>
</body>

</html>
```

Output:



onload function

Form Event Attributes

Form event occurs when the user performs some action within the form such as submitting the form, selecting input field, etc. The form events can be used with any element, but these are mainly used with HTML form elements.

<u>Attribute</u>	<u>Description</u>
onblur	Some form validation object loses the focus, then event fired.
onchange	The value changes in the form, then event fired.

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onfocus	In the form <input>, <a> , <select> object has focus. Working on this object then event fired.
oninput	The user gives input of value in the form then this event fired.
oninvalid	The event works on when the element does not satisfy its predefined constraints.
onreset	User reset the form information, then event fired.
onsearch	Users search the required field, then event fired.
onselect	The user selects the text or text area in form, then event fired.
onsubmit	The user submits the form at the end then the event fired.

Onblur Attribute:

onblur is an in-built event that is available in JavaScript which gets triggered when the elements on which it is applied loses its focus. This event is fired when the item comes out of focus on the web page.

onblur event is mostly used with the input field element such as in form where input validation can be performed for example when the user enters input into the field and goes to the next element, the onblur event can be attached on that field and validation can be performed.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <script>
            function fireEvent( )
            {
                document.getElementById( "myText" ).style.backgroundColor = 'pink';
                document.getElementById("result1").innerHTML = " Input field lost focus ";
            }
        </script>
        <style>
            .resultText {
                margin: 0 0 3px 0;
                padding: 0px;
                display: block;
                font-weight: bold;
            }
        </style>
    </head>
```

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```
<body>
    <h3> JavaScript onblur Event </h3>
    <p> Click in the textbox then click outside to trigger the event </p>
    <div class ="resultText" >
        <input type = "text" id = "myText" onblur = "fireEvent()" >
        <p id = "result1" > Default Text </p>
    </div>
</body>
</html>
```

Output:

JavaScript onblur Event

Click in the textbox then click outside to trigger
the event

Default Text

=====

JavaScript onblur Event

Click in the textbox then click outside to trigger
the event

Input field lost focus

2.onchange attribute:

The onchange event attribute works when the value of the element changes and select the new value from the List.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <style>
            body {
                text-align:center;
```

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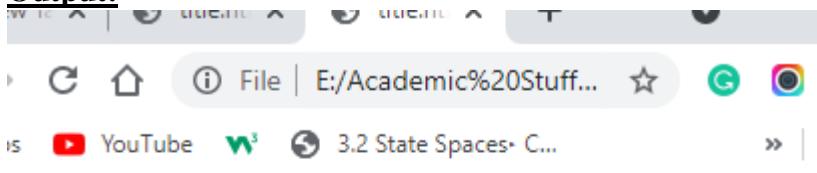
Web technology

```
        }
    h2 {
        color:green;
    }
</style>
<script>
    function onchangefun()
    {
        var x = document.getElementById("s1").value;
        document.getElementById("p1").innerHTML ="Selected Subject: " + x;
    }
</script>
</head>

<body>
<h2>onchange Event Attribute</h2>
<p>Choose the Stream:</p>

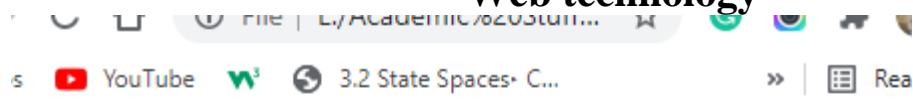
<select id="s1" onchange="onchangefun()">
    <option value="CSIT">BSc CSIT</option>
    <option value="BCA">BCA</option>
    <option value="BIM">BIM</option>
</select>
<p id="p1"></p>
</body>
</html>
```

Output:



onchange Event Attribute

Choose the Stream:



onchange Event Attribute

Choose the Stream:

BCA

Selected Subject: BCA

3.onfocus attribute:

This onFocus attribute works when the element gets focused. This event attribute is mostly used with <input>, <select>, <a> elements. This event attribute is supported by all HTML elements excepts <base>, <bdo>,
, <head>, <html>, <iframe>, <meta>, <param>, <script>, <style>, and <title> elements.

Example:

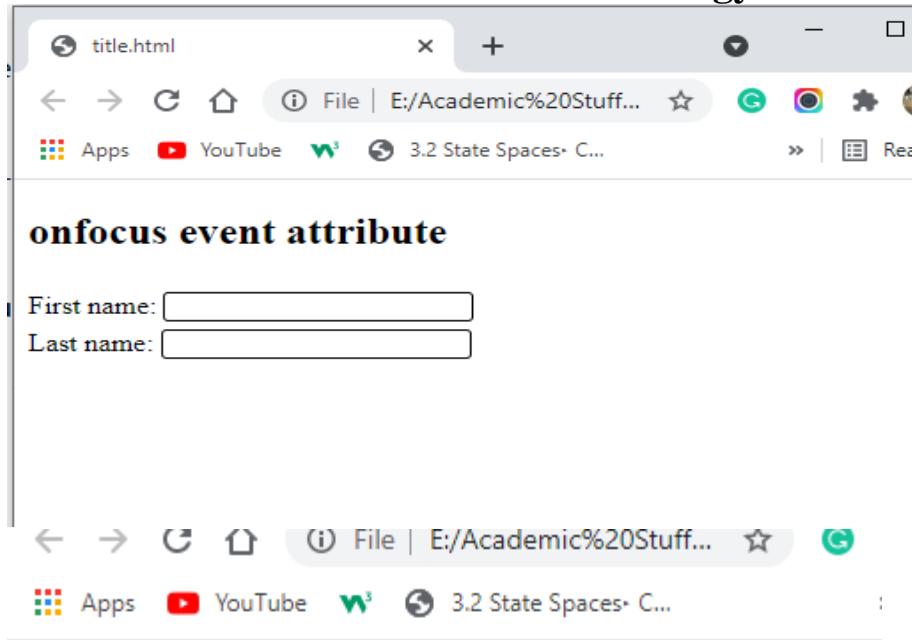
```
<!DOCTYPE html>
<html>
  <head>
    <style>
      input {
        color:white;
        margin-top:5px;
        border:1px solid black;
        border-radius:3px;
      }
    </style>
    <script>
      function onfocusFun(x)
      {
        document.getElementById(x).style.background ="pink";
      }
    </script>
  </head>

  <body>
    <h2>onfocus event attribute</h2>
    First name: <input type="text" id="fname" onfocus="onfocusFun(this.id)"><br>
    Last name: <input type="text" id="lname" onfocus="onfocusFun(this.id)">
  </body>
</html>
```

Output:

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The screenshot shows a web browser window with the title "title.html". Below the title bar, there's a toolbar with icons for back, forward, search, and other browser functions. The main content area displays the text "onfocus event attribute" followed by two input fields. The first input field is labeled "First name:" and the second is "Last name:". Both fields have a pink background, indicating they are currently focused or selected.

onfocus event attribute

First name: Last name:

4.oninput attribute:

The oninput attribute fires when an element gets user input. This attribute fires when the value of an <input> or <textarea> element is changed. This event is similar to the onchange event. The oninput event occurs immediately after the value of an element has changed, while onchange occurs when the element loses focus.

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <style>
      input {
        color:white;
        margin-top:5px;
        border:1px solid black;
        border-radius:3px;
      }
    </style>
    <script>
      function oninputFun(x)
      {
```

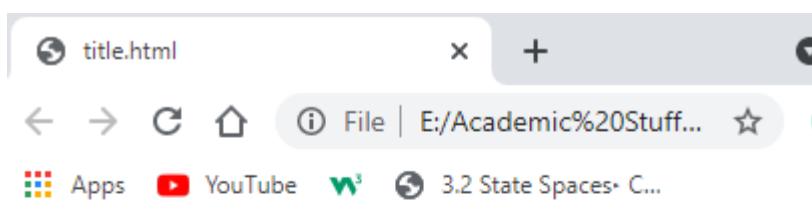
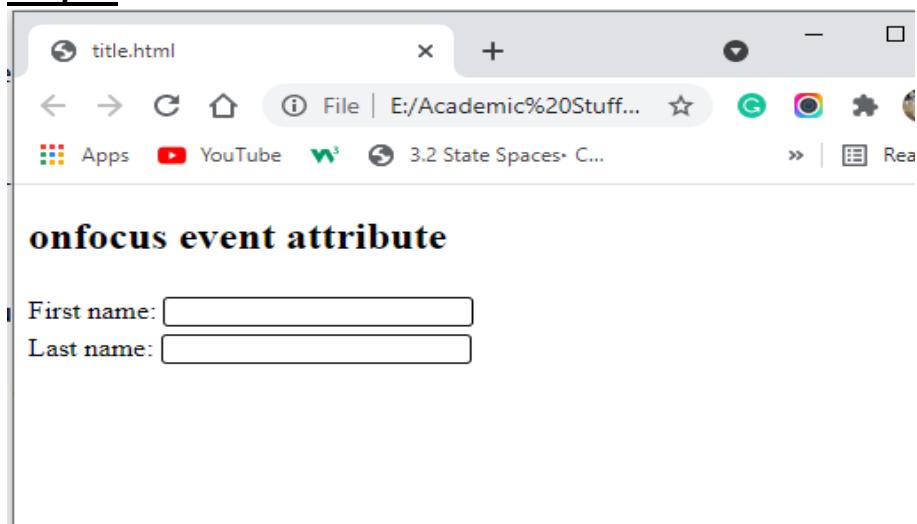
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```
document.getElementById(x).style.background = "pink";
    }
</script>
</head>

<body>
<h2>oninput event attribute</h2>
First name: <input type="text" id="fname" oninput="oninputFun(this.id)"><br>
Last name: <input type="text" id="lname" oninput="oninputFun(this.id)">
</body>
</html>
```

Output:



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5.oninvalid Attribute

- The oninvalid event occurs when a submittable <input> element is invalid.
- For example, the input field is invalid if the required attribute is set and the field is empty.
- The required attribute sets that the input field must be filled out before submitting the form.

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <style>
      input {
        color:black;
        margin-top:5px;
        border:1px solid black;
        border-radius:3px;
      }
    </style>
  </head>

  <body>
    <form method="get">
      <h2>oninvalid event attribute</h2>
      First name: <input type="text" id="fname" oninvalid="alert('You must fill out the input field!');" required><br>
      Last name: <input type="text" id="lname"><br>
      <input type="submit" value="Submit">
    </form>

  </body>
</html>
```

Output:



oninvalid event attribute

First name:

Last name:

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This page says
You must fill out the input field!

First name:

Last name:

Submit

6.onreset Attribute

The onreset attribute fires when a form is reset.

Example:

```
<!DOCTYPE html>
<html>
<head>
<style>
input {
    color:black;
    margin-top:5px;
    border:1px solid black;
    border-radius:3px;
}
</style>
<script>
function onresetFun()
{
    document.getElementById('p1').innerHTML = "The form is reset";
}
</script>
</head>

<body>
<form onreset="onresetFun()">
    <h2>onreset attribute</h2>
    First name: <input type="text" id="fname"><br>
    Last name: <input type="text" id="lname" "><br>
    <input type="submit" value="Submit">
    <input type="reset">
</form>
<p id='p1'></p>

</body>
</html>
```

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Output:

title.html?

File | E:/Academic%20Stuff... ☆

Apps YouTube 3.2 State Spaces+ C...

onreset attribute

First name:

Last name:

title.html?

File | E:/Academic%20Stuff... ☆ G

Apps YouTube 3.2 State Spaces+ C...

onreset attribute

First name:

Last name:

The form is reset

7.onsearch Attribute

The onsearch event occurs when the user presses the ENTER key or clicks the 'search text' button in an input search field. <input> elements of type search are text fields designed for the user to enter search queries into. These are functionally identical to text inputs, but may be styled differently by the user.

Example:

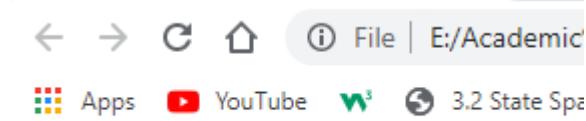
```
<!DOCTYPE html>
<html>
<head>
<script>
    function onsearchFun()
    {
        var x = document.getElementById("s1");
        document.getElementById("p1").innerHTML = "You are searching for: " +
        x.value;
    }
</script>
</head>
<body>
<p>Enter the value to be search</p>
```

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```
<input type="search" id="s1" onsearch="onsearchFun()">
<p id="p1"></p>
</body>
</html>
```

Output:



Enter the value to be search



ruben ×

You are searching for: ruben

8. onselect Attribute

The onselect attribute execute the specified code when some text of the associated element is selected. The onselect attribute runs a Javascript after selecting text in an element.

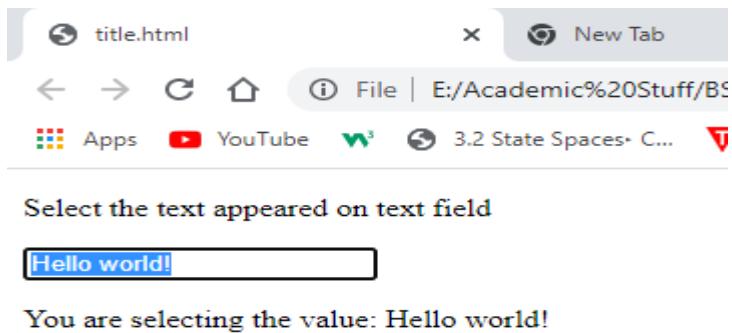
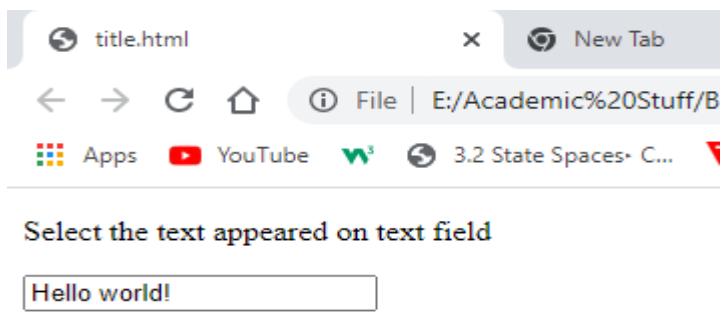
Example:

```
<!DOCTYPE html>
<html>
<head>
    <script>
        function onselectFun()
        {
            var x = document.getElementById("s1");
            document.getElementById("p1").innerHTML = "You are selecting the value:
            " + x.value;
        }
    </script>
</head>
<body>
    <p>Select the text appeared on text field</p>
    <input type="text" id="s1" onselect="onselectFun()" value="Hello world!">
    <p id="p1"></p>
</body>
</html>
```

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Output:



9. onsubmit Attribute

The onsubmit attribute fires when a form is submitted.

Example:

```
<!DOCTYPE html>
<html>
<head>
<style>
    input {
        color:black;
        margin-top:5px;
        border:1px solid black;
        border-radius:3px;
    }
</style>
<script>
    function onsubmitFun()
    {
        alert("The form is submitted");
    }
</script>
</head>
<body>
<form onsubmit="onsubmitFun()">
    <h2>onsubmit event attribute</h2>
    First name: <input type="text" id="fname"><br>
```

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```
Last name: <input type="text" id="lname" "><br>
<input type="submit" value="Submit">
</form>
</body>
</html>
```

Output:



First name:

Last name:

This page says
The form is submitted

OK

Keyboard Event Attributes

This keyboard event attributes used for keyboard action and user interaction.

Attribute	Description
onkeydown	Using a keyboard, the user press the key down at that point event works
onkeypress	Using the keyboard, users press the key and display characters at that point event works.
onkeyup	After the press, the key user releases the key then the event works.

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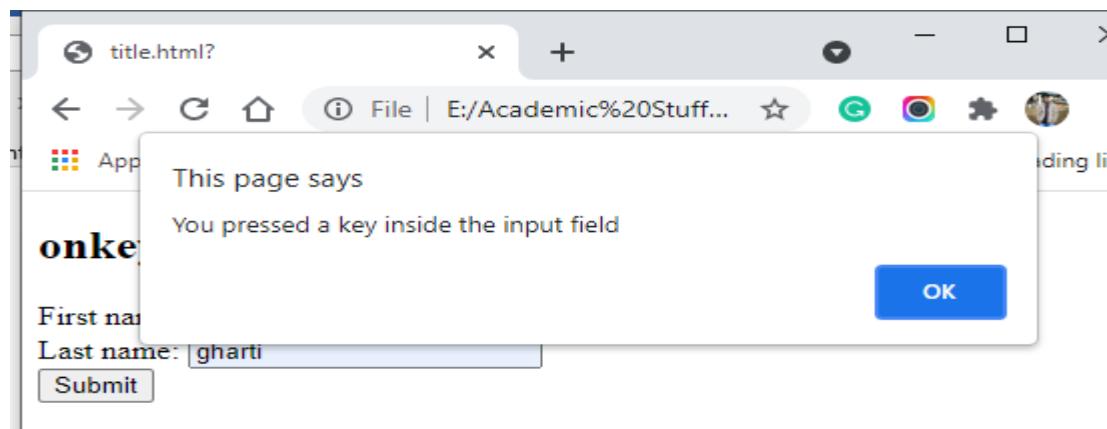
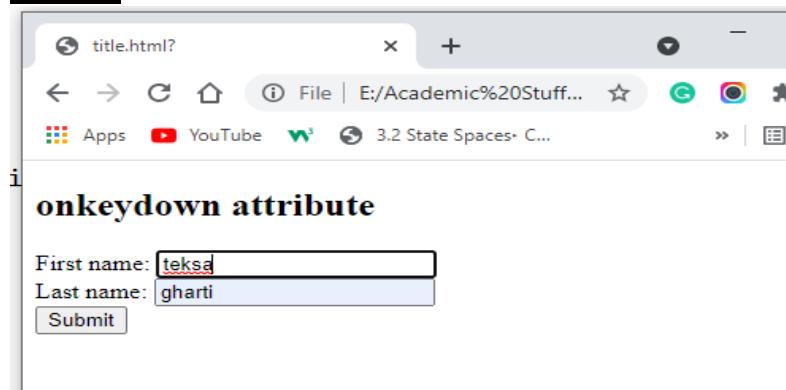
1.onkeydown Attribute

The onkeydown attribute is part of the Event Attributes, and can be used on any HTML elements. The onkeydown attribute fires when the user is pressing a key or A function is triggered when the user is pressing a key in the input field.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <script>
            function onkeydownFun()
            {
                alert("You pressed a key inside the input field");
            }
        </script>
    </head>
<body>
    <h2>onkeydown attribute</h2>
    First name: <input type="text" id="fname" onkeydown="onkeydownFun()"><br>
    Last name: <input type="text" id="lname" onkeydown="onkeydownFun()"><br>
    <input type="submit" value="Submit">
</body>
</html>
```

Output:



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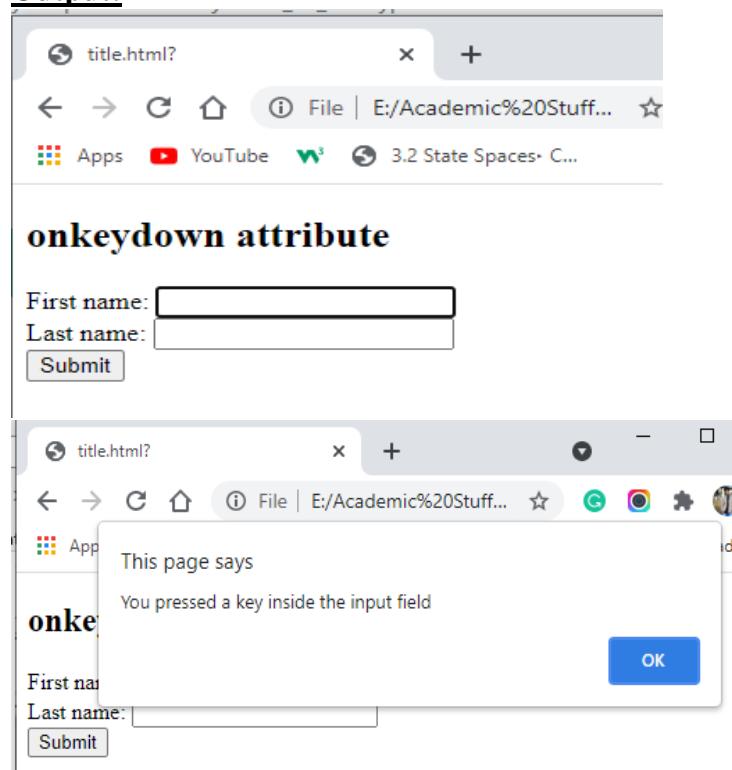
2.onkeypress Attribute

The onkeypress attribute is part of the Event Attributes, and can be used on any HTML elements. The onkeypress attribute fires when the user presses a key (on the keyboard) or a function is triggered when the user is pressing a key in the input field

Example:

```
<!DOCTYPE html>
<html>
<head>
<script>
    function onkeypressFun()
    {
        alert("You pressed a key inside the input field");
    }
</script>
</head>
<body>
<h2>onkeydown attribute</h2>
    First name: <input type="text" id="fname" onkeypress="onkeypressFun()"><br>
    Last name: <input type="text" id="lname" onkeypress="onkeypressFun()"><br>
    <input type="submit" value="Submit">
</body>
</html>
```

Output:



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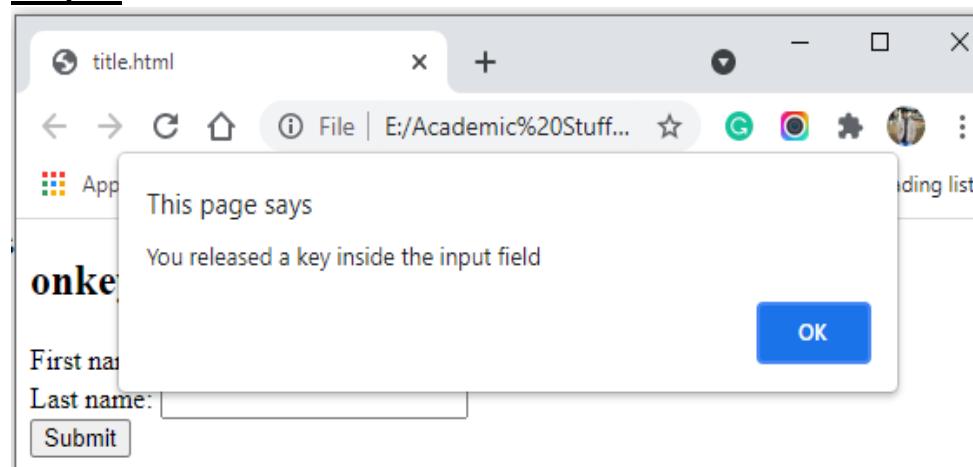
3.onkeyup Attribute

The onkeyup attribute is part of the Event Attributes, and can be used on any HTML elements. The onkeyup attribute fires when the user releases a key (on the keyboard) or A function is triggered when the user releases a key in the input field .

Example:

```
<!DOCTYPE html>
<html>
<head>
<script>
    function onkeyupFun()
    {
        alert("You released a key inside the input field");
    }
</script>
</head>
<body>
<h2>onkeydown attribute</h2>
    First name: <input type="text" id="fname" onkeyup="onkeyupFun()"><br>
    Last name: <input type="text" id="lname" onkeyup="onkeyupFun()"><br>
    <input type="submit" value="Submit">
</body>
</html>
```

Output:



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4.Mouse Event Attributes

Mouse event attribute used for mouse action that is move, click, wheel, etc.

Attribute	Description
onclick	The user clicks the mouse on the button then an event occurred.
ondblclick	Users double click the mouse then the event occurred.
onmousedown	The user presses the mouse button on the element then the event occurred.
onmousemove	The user moves the mouse pointer over the element then the event occurred.
onmouseout	The user moves the mouse outside of the element then the event occurred.
onmouseover	The user moves the mouse over the element then the event occurred.
onmouseup	The user released the mouse button then the event occurred.
onmousewheel	Using the mouse wheel user rolls the up and down on element then the event occurred.
onwheel	Using a mouse wheel user roll them up and down then the event occurred.

1.onclick Attribute

The onclick attribute is part of the Event Attributes, and can be used on any HTML elements. The onclick attribute fires on a mouse click on the element.

Example:

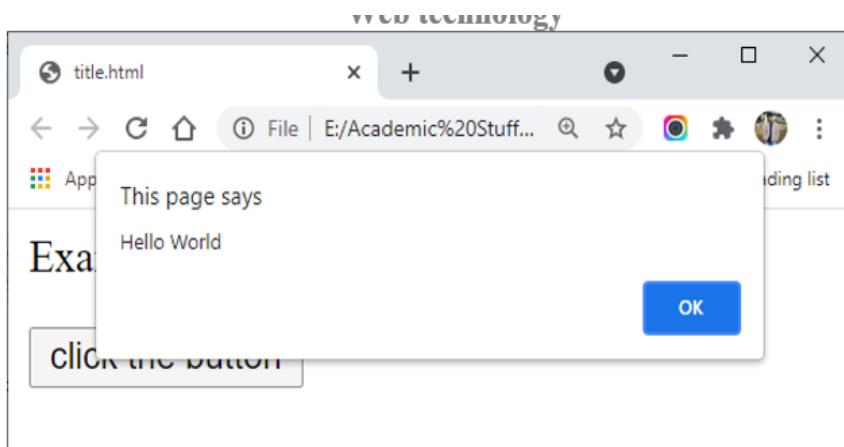
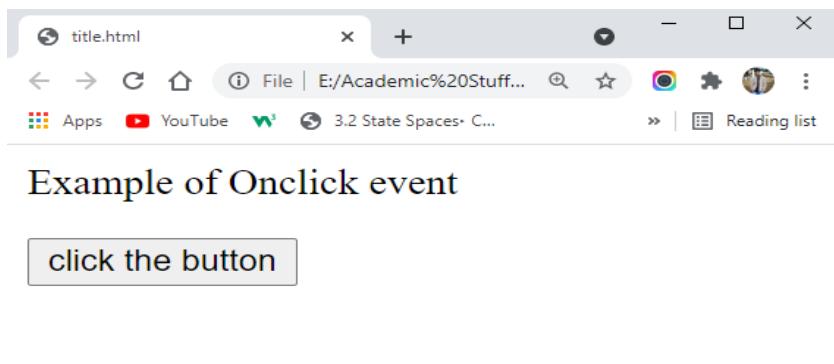
```
<html>
<head>
    <script type = "text/javascript">
        function clickBtn()
        {
            alert("Hello World")
        }
    </script>
</head>
```

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```
<body>
    <p>Example of Onclick event</p>
    <form>
        <input type = "button" onclick = "clickBtn()" value = "click the button" />
    </form>
</body>
</html>
```

Output:



2.ondblclick Attribute

The ondblclick attribute is part of the Event Attributes, and can be used on any HTML elements. The ondblclick attribute fires on a mouse double-click on the element.

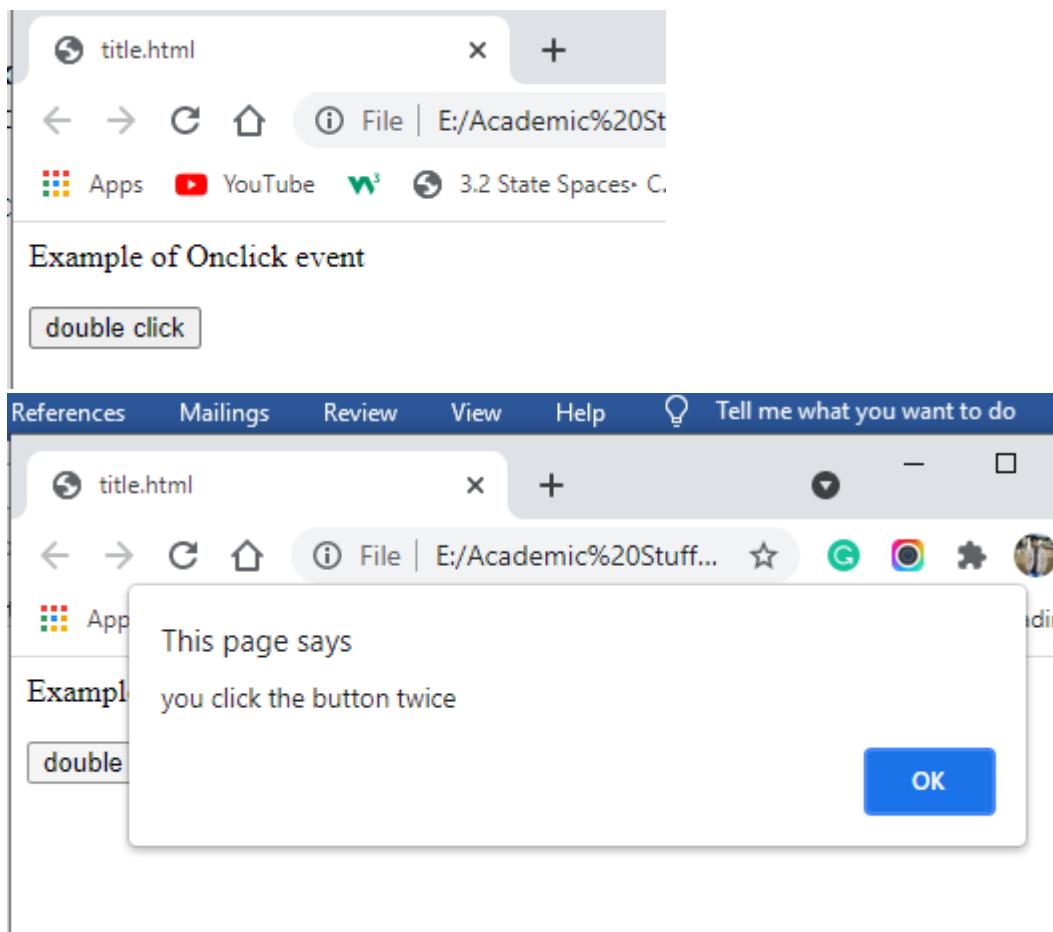
Example:

```
<html>
    <head>
        <script type = "text/javascript">
            function dblclickBtn()
            {
                alert("you click the button twice")
            }
        </script>
    </head>
    <body>
        <p>Example of Ondblclick event</p>
        <form>
            <input type = "button" ondblclick = "dblclickBtn()" value = "click the button" />
        </form>
    </body>
</html>
```

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```
</script>
</head>
<body>
    <p>Example of Onclick event</p>
    <form>
        <input type = "button" ondblclick= "dbclickBtn()" value = "double click" />
    </form>
</body>
</html>
```

Output:



3.onmousedown Attribute

The onmousedown attribute is part of the Event Attributes, and can be used on any HTML elements. The onmousedown attribute fires when a mouse button is pressed down on the element or it can be triggered when the mouse button is pressed down over this paragraph.

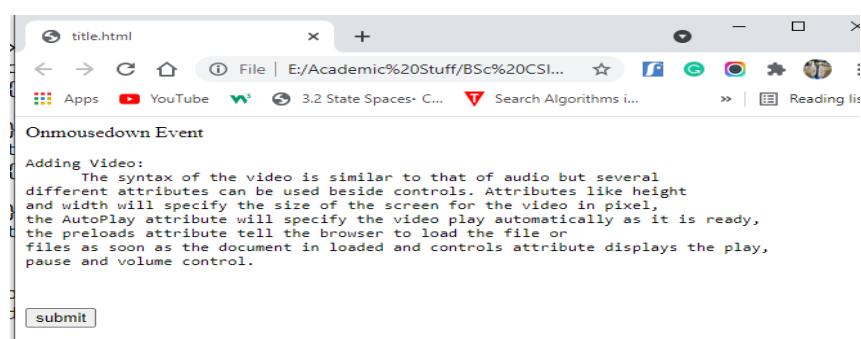
Example:

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```
<html>
    <head>
        <script>
            function mouseDown1()
            {
                document.getElementById("pre1").style.color ="pink";
            }
            function mouseDown2()
            {
                alert("Mouse down")
            }
        </script>
    </head>
    <body>
        <p>Onmousedown Event</p>
        <pre id="pre1" onmousedown="mouseDown1()">
            Adding Video:
            The syntax of the video is similar to that of audio but several different attributes can be used beside controls. Attributes like height and width will specify the size of the screen for the video in pixel, the AutoPlay attribute will specify the video play automatically as it is ready, the preloads attribute tell the browser to load the file or files as soon as the document is loaded and controls attribute displays the play, pause and volume control.
        </pre>
        <form>
            <input type = "button" onmousedown="mouseDown2()" value="submit"/>
        </form>
    </body>
</html>
```

Output:



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The screenshot shows a web browser window with the title "title.html". An alert dialog box is displayed, containing the text "This page says" and "Mouse down". Below the alert, the browser's address bar shows the path "E:/Academic%20Stuff/BSc%20CS...". The main content area contains a pre tag with the following text:

```
Onmousedown Event
Adding Video:
The syntax of the video is similar to that of audio but several different attributes can be used beside controls. Attributes like height and width will specify the size of the screen for the video in pixel, the AutoPlay attribute will specify the video play automatically as it is ready, the preload attribute tell the browser to load the file or files as soon as the document is loaded and controls attribute displays the play, pause and volume control.
```

A "submit" button is visible at the bottom left of the page.

4.onmouseup Attribute

The onmouseup attribute is part of the Event Attributes, and can be used on any HTML elements. The onmouseup attribute fires when a mouse button is released over the element. or it can be triggered when the mouse button is released.

Example:

```
<html>
<head>
<script>
    function mouseup1()
    {
        document.getElementById("pre1").style.color ="pink";
    }
    function mouseup2()
    {
        alert("Mouse button up")
    }
</script>
</head>
<body>
    <p>Onmouseup Event</p>
    <pre id="pre1" onmouseup="mouseup1()" >
```

Adding Video:

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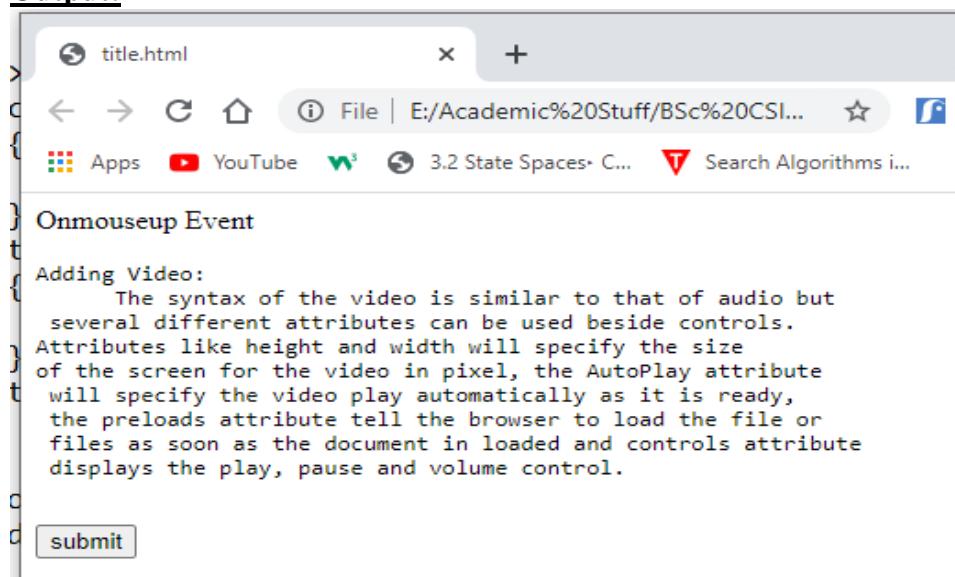
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The syntax of the video is similar to that of audio but several different attributes can be used beside controls.

Attributes like height and width will specify the size of the screen for the video in pixel, the AutoPlay attribute will specify the video play automatically as it is ready, the preloads attribute tell the browser to load the file or files as soon as the document is loaded and controls attribute displays the play, pause and volume control.

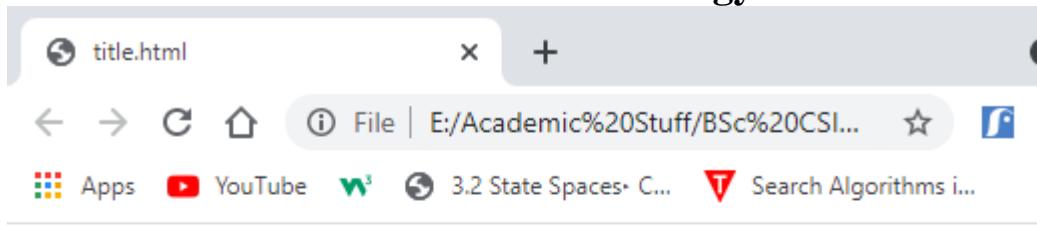
```
</pre>
<form>
    <input type = "button" onmouseup="mouseup2()" value="submit"/>
</form>
</body>
</html>
```

Output:



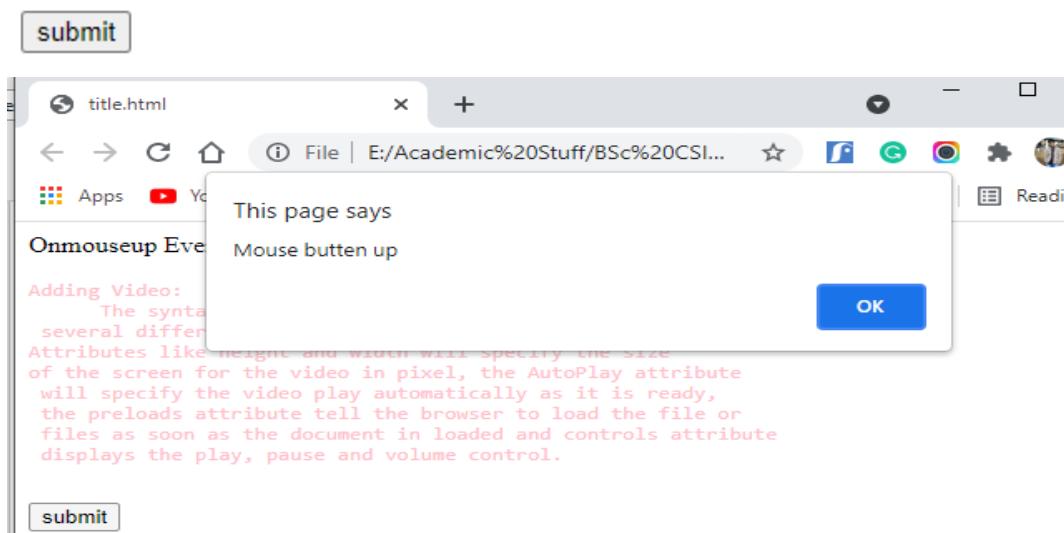
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Adding Video:

The syntax of the video is similar to that of audio but several different attributes can be used beside controls. Attributes like height and width will specify the size of the screen for the video in pixel, the AutoPlay attribute will specify the video play automatically as it is ready, the preload attribute tell the browser to load the file or files as soon as the document is loaded and controls attribute displays the play, pause and volume control.



5. onmousewheel Attribute

The onmousewheel attribute is part of the Event Attributes, and can be used on any HTML elements. The onmousewheel attribute fires when the mouse wheel is rolled up or down over an element. The onmousewheel attribute is deprecated, you should use the onwheel attribute instead.

Example:

```
<html>
  <head>
    <script>
      function onmousewheel1()
      {
        document.getElementById("pre1").style.color ="pink";
      }
    </script>
```

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```
</head>
<body>
    <p>onmousewheel Event</p>
    <pre id="pre1" onmousewheel="onmousewheel1()">
        Adding Video:
        The syntax of the video is similar to that of audio but
        several different attributes can be used beside controls.
        Attributes like height and width will specify the size
        of the screen for the video in pixel, the AutoPlay attribute
        will specify the video play automatically as it is ready,
        the preloads attribute tell the browser to load the file or
        files as soon as the document is loaded and controls attribute
        displays the play, pause and volume control.
    </pre>
</body>
</html>
```

Output:

onmousewheel Event

Adding Video:

The syntax of the video is similar to that of audio but several different attributes can be used beside controls. Attributes like height and width will specify the size of the screen for the video in pixel, the AutoPlay attribute will specify the video play automatically as it is ready, the preloads attribute tell the browser to load the file or files as soon as the document is loaded and controls attribute displays the play, pause and volume control.

6. onwheel Attribute

Using a mouse wheel user roll them up and down then the event occurred. The onwheel attribute is part of the Event Attributes, and can be used on any HTML elements. The onwheel attribute fires when the wheel of a pointing device is rolled up or down over an element. The onwheel attribute also fires when the user scrolls or zooms on an element by using a touch pad.

Example:

```
<html>
    <head>
        <script>
            function onwheel1()
            {
                document.getElementById("pre1").style.color ="pink";
            }
        </script>
    </head>
    <body>
        <p>onwheel Event</p>
        <pre id="pre1" onwheel="onwheel1()">
            Adding Video:
            The syntax of the video is similar to that of audio but
            several different attributes can be used beside controls.
            Attributes like height and width will specify the size
            of the screen for the video in pixel, the AutoPlay attribute
            will specify the video play automatically as it is ready,
            the preloads attribute tell the browser to load the file or
            files as soon as the document is loaded and controls attribute
            displays the play, pause and volume control.
        </pre>
    </body>
</html>
```

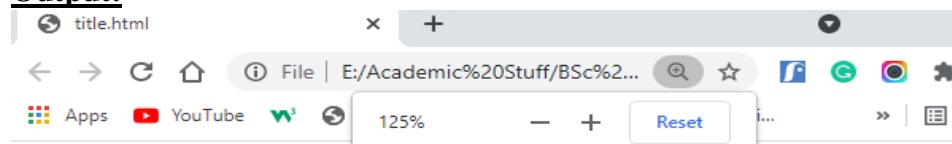
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```
</head>
<body>
    <p>onwheel Event</p>
    <pre id="pre1" onwheel="onwheel1()">
        Adding Video:
        The syntax of the video is similar to that of audio but
        several different attributes can be used beside controls.
        Attributes like height and width will specify the size
        of the screen for the video in pixel, the AutoPlay attribute
        will specify the video play automatically as it is ready,
        the preloads attribute tell the browser to load the file or
        files as soon as the document is loaded and controls attribute
        displays the play, pause and volume control.
    </pre>
```

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

Output:



7. onmousemove and onmouseout Attribute

The onmousemove attribute is part of the Event Attributes, and can be used on any HTML elements. The onmousemove attribute fires when the pointer is moving while it is over an element. Similarly, The onmouseout attribute fires when the mouse pointer moves out of an element.

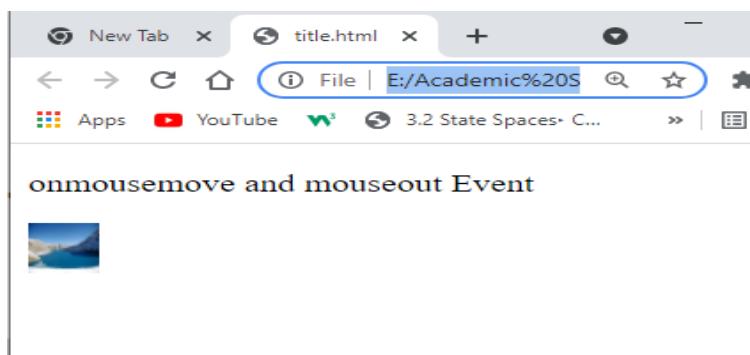
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Example:

```
<!DOCTYPE html>
<html>
<head>
<script>
    function mousemove1(x)
    {
        x.style.height = "64px";
        x.style.width = "64px";
    }
    function mouseout1(x)
    {
        x.style.height = "32px";
        x.style.width = "32px";
    }
</script>
</head>
<body>
    <p>onmousemove and mouseout Event</p>
    
</body>
</html>
```

Output:



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Clipboard Event Attributes

This event attributes used for clipboard action: example, cut, copy, pest.

Attribute	Description
oncopy	Using mouse users to copy the content, then the event occurred.
oncut	Using a mouse, users cut the content then the event occurred.
onpaste	Using a mouse user, paste the content, then an event occurred.

1.oncopy attribute

The oncopy attribute is part of the Event Attributes, and can be used on any HTML elements. The oncopy attribute fires when the user copies the content of an element. The oncopy attribute is often used on <input> elements with type="text".

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <script>
      function oncopyFun1()
      {
        document.getElementById("p1").innerHTML ="You copied from input text!"
      }
      function oncopyFun2()
      {
        document.getElementById("p2").innerHTML ="You copied from p tag!"
      }
      function oncopyFun3()
      {
        document.getElementById("p3").innerHTML ="You copied from text area!"
      }
    </script>
  </head>
  <body>
    <p>oncopy Event</p>
    <input type="text" oncopy="oncopyFun1()" value="hello world">
    <p oncopy="oncopyFun2()">welcome</p>
    <textarea oncopy="oncopyFun3()" rows="4" cols="50">
The oncopy attribute is part of the Event Attributes, and can be used on any HTML
elements.
The oncopy attribute fires when the user copies the content of an element.
The oncopy attribute is often used on <input> elements with type="text".
    </textarea>
```

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```
<p id="p1"></p>
<p id="p2"></p>
<p id="p3"></p>
</body>
</html>
```

Output:

oncopy Event

hello world

welcome

The oncopy attribute is part of the Event Attributes, and can be used on any HTML elements. The oncopy attribute fires when the user copies the content of an element.

You copied from text area!

oncopy Event

hello world

welcome

The oncopy attribute is part of the Event Attributes, and can be used on any HTML elements. The oncopy attribute fires when the user copies the content of an element.

You copied from input text!

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2.oncut attribute

The oncut attribute is part of the Event Attributes, and can be used on any HTML elements. The oncut attribute fires when the user cuts the content of an element.

Example:

```
<!DOCTYPE html>
<html>
    <head>
        <script>
            function oncutFun1()
            {
                document.getElementById("p1").innerHTML ="You cut from input text!"
            }
            function oncutFun2()
            {
                document.getElementById("p2").innerHTML ="You cut from text p tag!"
            }
            function oncutFun3()
            {
                document.getElementById("p3").innerHTML ="You cut from text area!"
            }
        </script>
    </head>
    <body>
        <p>oncut Event</p>
        <input type="text" oncut="oncutFun1()" value="hello world">
        <p oncut ="oncutFun2()">welcome</p>
        <textarea oncut="oncutFun3()" rows="4" cols="50">
            The oncopy attribute is part of the Event Attributes, and can be used on
            any HTML elements.
            The oncopy attribute fires when the user copies the content of an
            element.
            The oncopy attribute is often used on <input> elements with
            type="text".
        </textarea>
        <p id="p1"></p>
        <p id="p2"></p>
        <p id="p3"></p>
    </body>
</html>
```

Output:

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oncut Event

hello world

welcome

The oncopy attribute is part of the Event Attributes, and can be used on any HTML elements. The oncopy attribute fires when the user copies the content of an element.

oncut Event

hello world

welcome

The oncopy attribute is part of the Event Attrib. The oncopy attribute is often used on <input> elements with type="text".

You cut from text area!

3.onpaste attribute

The onpaste attribute is part of the Event Attributes, and can be used on any HTML elements. The onpaste attribute fires when the user pastes some content in an element. The onpaste attribute is mostly used on <input> elements with type="text".

Example:

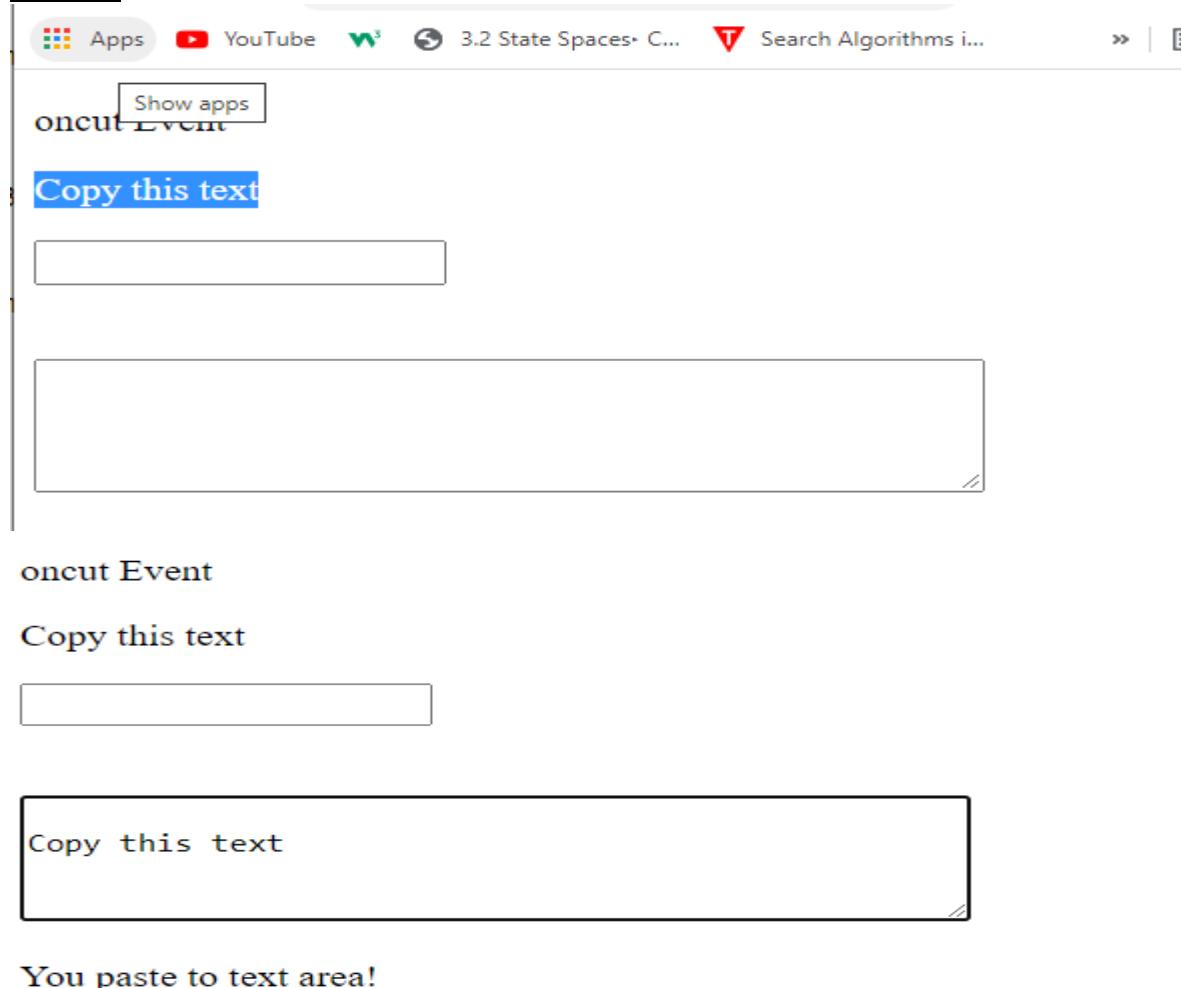
```
<!DOCTYPE html>
<html>
  <head>
    <script>
      function onpasteFun1()
      {
        document.getElementById("p1").innerHTML ="You paste to input text!"
      }
    </script>
  </head>
  <body>
    <p id="p1">Hello World</p>
    <input type="text" onpaste="onpasteFun1()" />
  </body>
</html>
```

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```
function onpasteFun3()
{
    document.getElementById("p3").innerHTML ="You paste to text area!"
}
</script>
</head>
<body>
<p>oncut Event</p>
<p>Copy this text</p>
<input type="text" onpaste="onpasteFun1()" value=""><br><br><br>
<textarea onpaste="onpasteFun3()" rows="4" cols="50">
</textarea>
<p id="p1"></p>
<p id="p3"></p>
</body>
</html>
```

Output:



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6.Media Event Attributes

This event attribute works on media files like video etc

Attribute	Description
onabort	When media files aborted for download and play again, then an event occurs.
oncanplay	When any media file ready for play, then this trigger is fired.
oncanplaythrough	Media file ready to play without buffering and loading.
oncuechange	Element changes the cue of <track> then event fired.
ondurationchange	The Media file changes the length of time then the trigger is fired.
onemptied	If the Media file unavailable and come fatal error, then the trigger is fired.
onended	The Media file comes on endpoint then the trigger is fired.
onerror	When an error occurred to get the media file, the trigger is fired
onloadeddata	The Media file loads the data then the trigger is fired.
onloadedmetadata	The Media file loads the metadata then the trigger is fired.
onloadstart	The Media file starts to load then the trigger is fired.
onpause	The Media file paused to play again then the trigger is fired.
onplay	Media file ready to play, then trigger is fired.
onplaying	The Media file starts to play when the trigger is fired.
onprogress	This script act when the browser is working on connecting with the media data.
onratechange	If the videos playback speed is changed, then the trigger is fired.
onseeked	Users completed moving; otherwise, skip the new position of video. this attribute set as false.

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onseeking	The user wants to move; otherwise, skip the new position of the video. this attribute set as true.
onstalled	When the browser suddenly stops to the connection of data, then the event works.
onsuspend	When the web Browser on purpose does not get media data, then events work.
ontimeupdate	When a user changes the video play position like forward and backward.
onvolumechange	To change media volume low to high.
onwaiting	If the data load the information, current video stop with buffering then event works.

1. onplay and onpause Attribute

The onplay attribute is part of the Event Attributes, and can be used on the `<audio>` and `<video>` elements. The onplay attribute defines a script to be run when the audio/video has been started or is no longer paused. The onpause attribute is used to define a script when the audio/video has been paused.

The onpause attribute is part of the Event Attributes, and can be used on the `<audio>` and `<video>` elements. The onpause attribute defines a script to be run when the audio/video is paused either by the user or programmatically. The onplay attribute is used to define a script to run when the audio/video has been started or is no longer paused.

Example:

```

<!DOCTYPE html>
<html>
  <head>
    <script>
      function onplayFun()
      {
        document.getElementById('p1').innerHTML = "The video is playing";
      }
      function onpausefun()
      {
        document.getElementById('p2').innerHTML = "The video file has been
        paused";
      }
    </script>
  </head>
  <body>

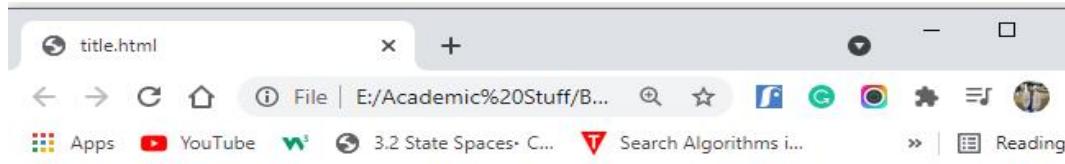
```

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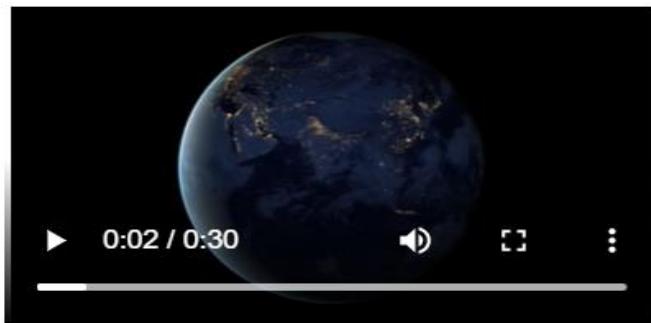
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```
<p>Play the video.</p>
<video id="myVideo" width="320" height="176" controls onplay="onplayFun()" onpause="onpausefun()">
    <source src = "E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A online web technology\practical sem 5\video file\videomp4.mp4" type="video/mp4">
</video>
<p id='p1'></p>
<p id='p2'></p>
</body>
</html>
```

Output:



Play the video.



The video is playing

The audio file has been paused

Onabort attribute

The onabort attribute is part of the Event Attributes, and can be used on the `<audio>`, `<video>`, ``, `<object>` elements. The onabort event occurs when the loading of an audio/video is aborted. This event occurs when the media data download has been aborted, and not because of an error.

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Example:

```
<!DOCTYPE html>
<html>
  <head>
    <script>
      function onplayFun()
      {
        document.getElementById('p1').innerHTML = "The video is playing";
      }
      function onpausefun()
      {
        document.getElementById('p2').innerHTML = "The vodeo file has been
paused";
      }
      function onabortFun()
      {
        alert("Video aborted");
      }
      function myAbort()
      {
        document.getElementById("myVideo").src = "";
      }
    </script>
  </head>

  <body>
    <p>Play the video.</p>
    <video id="myVideo" width="320" height="176" controls onplay="onplayFun()"
onpause="onpausefun()" onabort="onabortFun()" controls>
      <source src = "E:\Academic Stuff\BSc CSIT\5th semester\Web-Technology\A
online web technology\practical sem 5\video file\videomp4.mp4"
type="video/mp4">
    </video><br><br>

    <button onclick="myAbort()">Abort this Video</button>
    <p id='p1'></p>
    <p id='p2'></p>
  </body>
</html>
```

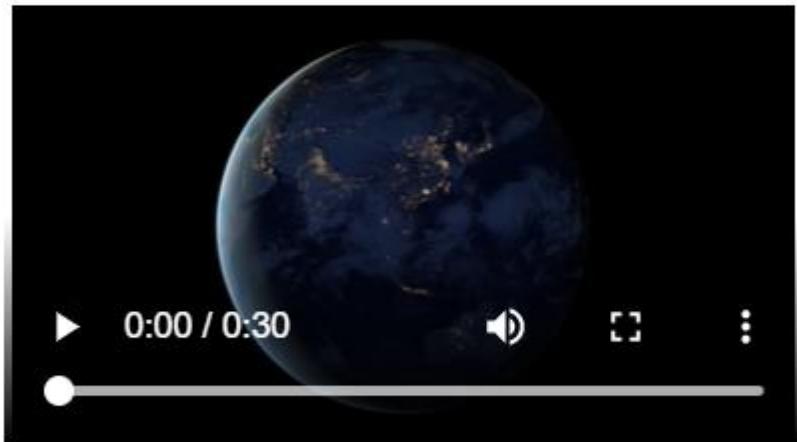
Output:

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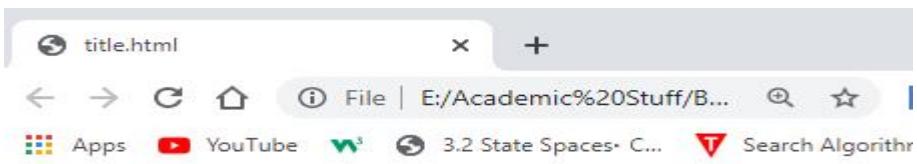
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Play the video.



Abort this Video



Play the video.

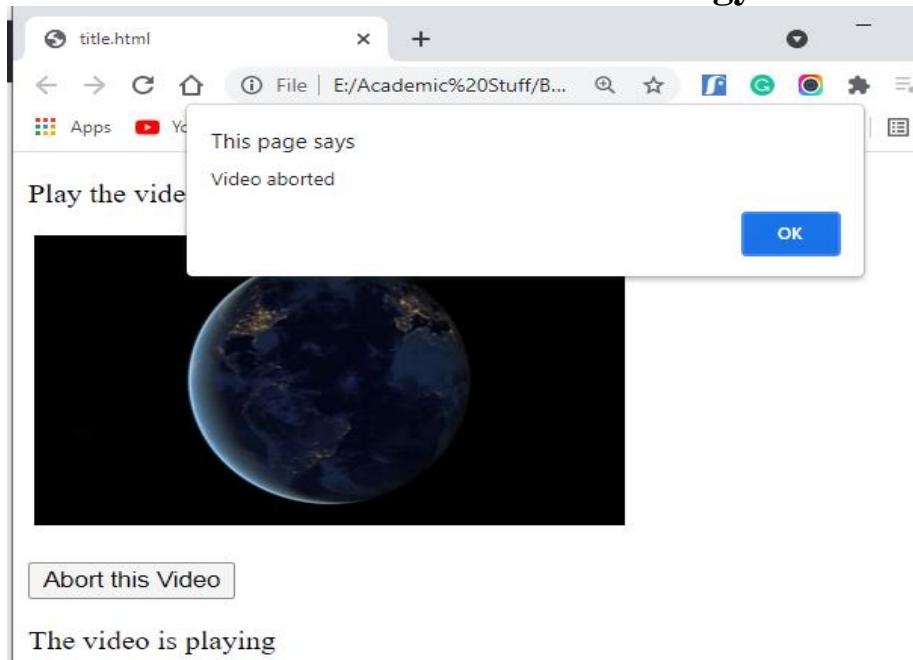


Abort this Video

The video is playing

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===== End of Unit-2 =====

Unit 2: Hyper Text Markup Language(10 Hrs.)

Introduction to HTML; Elements of HTML Document; HTML Elements and HTML Attributes, Headings, Paragraph, Division, Formating: b, i, small, sup, sub; Spacing: Pre, Br; Formatting Text Phrases: span, strong, tt; Image element; Anchors; Lists: Ordered and Unordered and Definition; Tables; Frames; Forms: Form Elements, ID attributes, Class Attributes of HTML Elements; Meta Tag, Audio, Video, Canvas, Main, Section, Article, Header, Footer, Aside, Nav, Figure Tags; HTML Events: Window Events, Form Element Events, Keyboard Events, Mouse Events
