

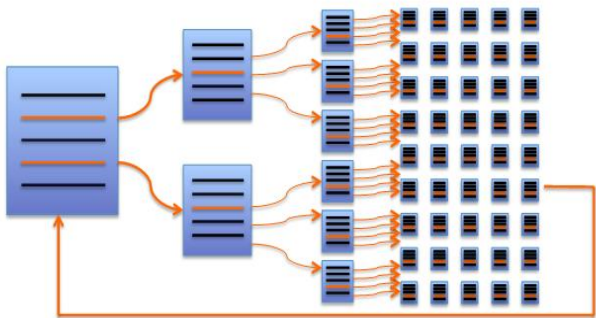
HTML Document Structure

1. What is the HTML?

Documents on the web are generally coded in a markup language called Hypertext Markup Language (HTML). HTML is used to describe the structure of a document and links in a hypertext document. HTML adds **tags** that identify elements in a document such as headings, subheadings, paragraphs, and appendices. The HTML codes embedded in the document text explicitly describe the text, providing information to the web client about how to interpret it. The primary focus of HTML is the content of the document, not its appearance. It is a language for describing structured documents.

- HTML stands for **Hyper Text** Markup Language. Its makes parts of a document into links to other documents.

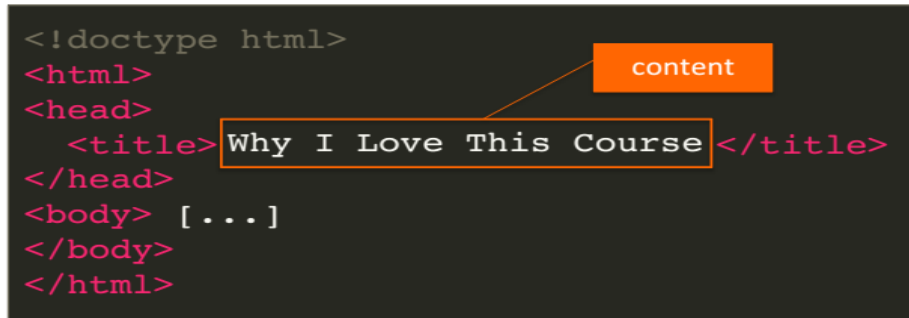
Hypertext Markup Language Hypertext Markup Language



- HTML describes the content of Web pages using **markup** represented by **tags**.

Hypertext **Markup** Language

```
<!doctype html>
<html>
<head>
  <title>Why I Love This Course</title>
</head>
<body> [...]
</body>
</html>
```




- HTML is the markup **language** for creating Web pages.

Hypertext **Markup** Language

```
<h1>
  <div>Hello World!</h1>
</div>
```



```
<h1>
  <div>Hello World!</div>
</h1>
```



2. HTML Tags and Attributes

HTML Tags

HTML Tags are used to mark up the start and the end of HTML element and are usually surround content and apply meaning to it. Each tag consists of an opening angled bracket (<) and a closing bracket (>). They are normally come in pairs like

<head> and </head> and Nothing within the brackets will be displayed in the browser. The tag name is generally abbreviation to the tag function.

Example: <h1> </h1>.

HTML Attributes

Tags may have attributes which contain additional pieces of information. It generally provides additional styling (attribute) to the element. Attributes appear inside the opening tag and their values sit inside quotation marks.

Example:

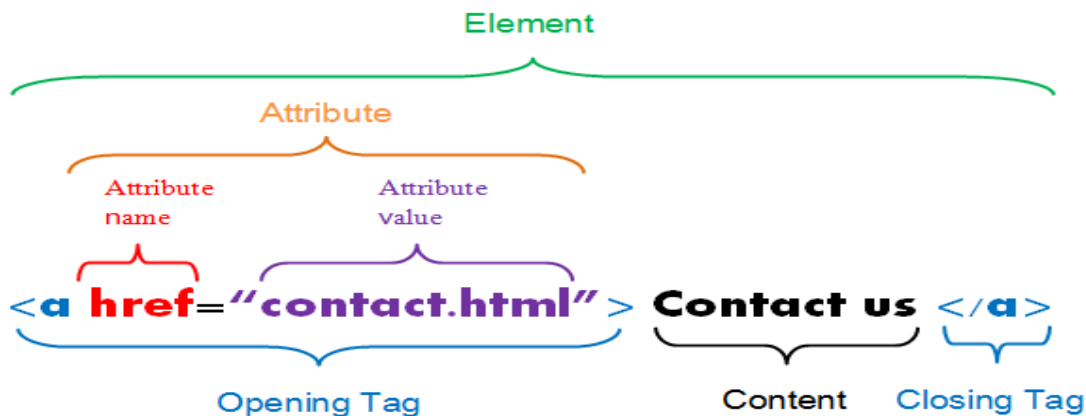
In this example, the image source (src) is the attribute name and the "myimage.jpg" is attribute value "of the tag.

HTML Elements

Tags mark the beginning and end of an element. Elements are the bits that make up web pages. They consist of some kind of structure or expression.

Example: This is the content.

Where, is the starting tag and is the ending tag.



The table below provides a brief comparison of tags, attributes and elements.

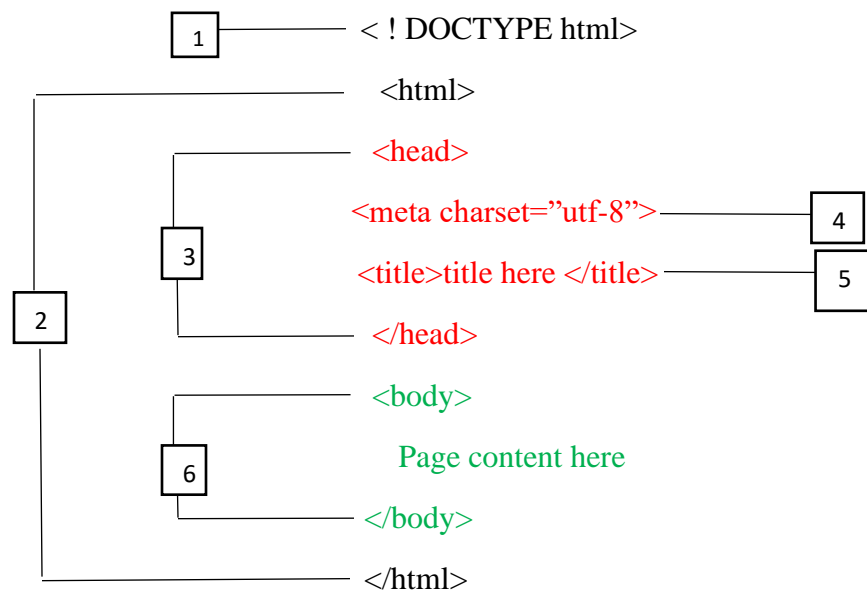
HTML TAGS	HTML ELEMENTS	HTML ATTRIBUTES
HTML tags are used to hold the HTML element.	HTML element holds the content.	HTML attributes are used to describe the characteristic of an HTML element in detail.
HTML tag starts with < and ends with >	Whatever written within a HTML tag are HTML elements.	HTML attributes are found only in the starting tag.
HTML tags are almost like keywords where every single tag has unique meaning.	HTML elements specifies the general content.	HTML attributes specify various additional properties to the existing HTML element.

3. HTML document structure

HTML document contains the text (the content of the page) with embedded tags, which provide [instruction](#), [appearance](#) and [function of the content](#). The HTML document is divided into two major portions: the head and the body.

- The **head** contains information about the document such as the title and "meta" information describing the content.
- The **body** contains the actual contents of the document (the parts that is displayed in the browser window).

The following examples show the tags that make up the standard structure of an HTML document:

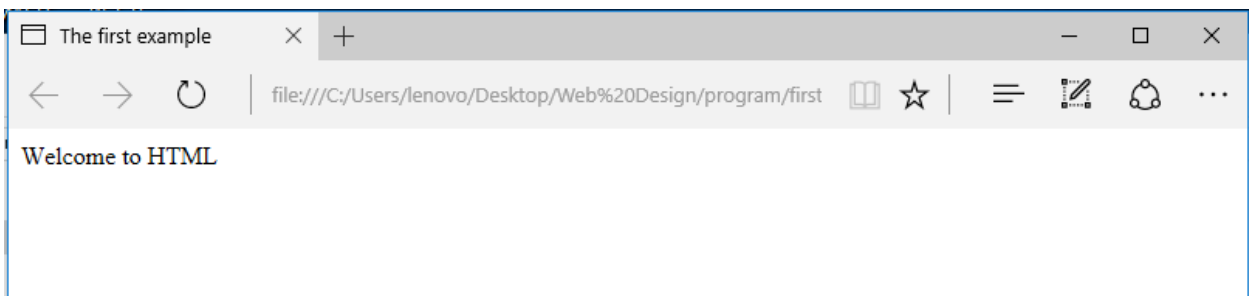


- 1- It is a document type declaration (also called DOCTYPE declaration) that identifies this document as an HTML document.
- 2- The `<html>` element is called the **root element** of an HTML page because it contains all the elements in the document. Within the html element, the document is divided into a head and a body.
- 3- The `<head >` element: The head element contains descriptive information about the document itself, such as its title, the style sheet(s) it uses, scripts, and other types of “meta” information.
- 4- The **meta elements** within the head element provide information about the document itself but no information that will be displayed on the page itself. A meta element can be used to provide all sorts of information, but in this case, it specifies the character encoding (the standardized collection of letters, numbers, and symbols) used in the document
- 5- The **<title>** element also in the head element, which tells the browser what to display in its title bar (the title bar is the very top part of the browser window—the part with the minimize, maximize, and close buttons)
- 6- The **<body>** element contains the visible page content also body element contains almost everything that you see on the screen: headings, paragraphs, images, any navigation that’s required, and footers that sit at the bottom of the web page

Example 1

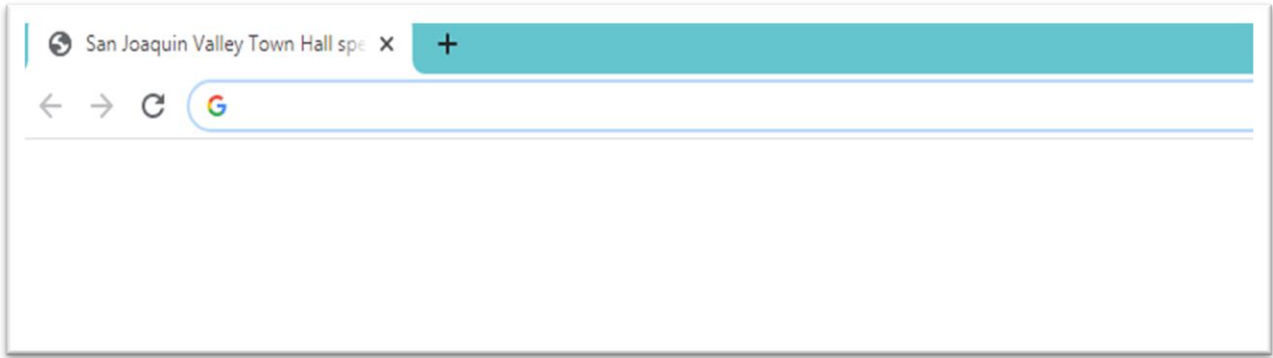
```
<!DOCTYPE html>
<Html>
<Head>
<Title>The first example </Title>
</Head>
<Body>
Welcome to HTML
</Body>
</Html>
```

The purpose of a web browser is to read HTML documents and display them. The browser does not display the HTML tags, but uses them to determine how to display the document:



Example 2: A head section that includes metadata

```
<head>
  <title>San Joaquin Valley Town Hall lectures
    speakers and luncheons
  </title>
  <meta charset="utf-8">
  <meta name="description" content="A yearly lecture
    series with speakers that present new
    information on a wide range of subjects">
  <meta name="keywords" content="san joaquin,
    town hall, speakers, lectures, luncheons">
</head>
```



4. HTML Headings

Use the heading tags to [show the structure and importance of the content on a page](#). Always use the h1 tag to identify the most important information on the page, and only code a single h1 tag on each page. Then, decrease one level at a time to show subsequent levels of importance.

Note: Don't use heading levels as a way to size text. Instead, use CSS to size the headings.

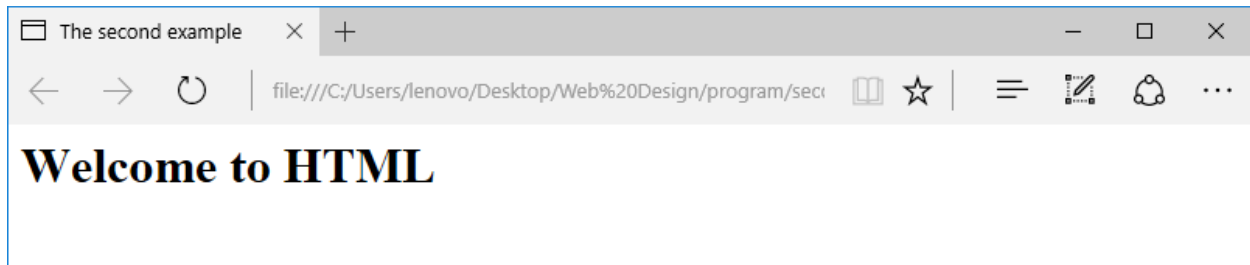
The tags of heading and paragraph are:

- **h1**
- **h2**
- **h3**
- **h4**
- **h5**
- **h6**

Example 3: if we write the same program as below

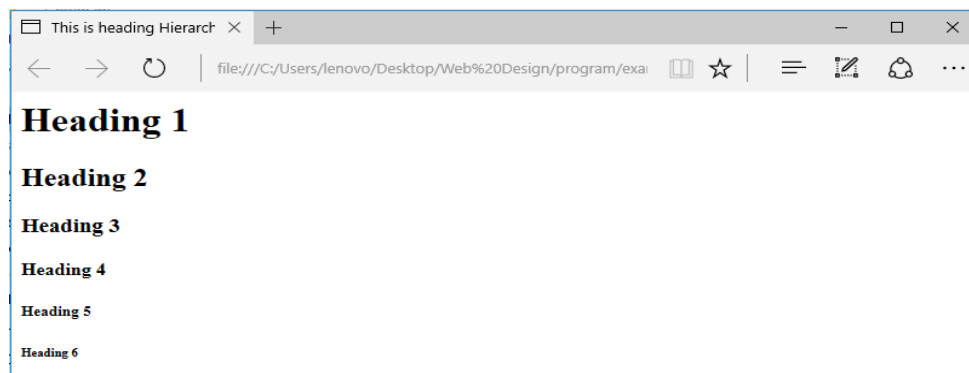
```
<Html>
<Head>
<Title>The second example</Title>
</Head>
<Body>
<h1>Welcome to HTML</h1>
</Body>
</Html>
```

Then the output will be



In this example the `<h1>` tag representing **heading element** within the body element. The opening `<h1>` and closing `</h1>` tags are wrapped around the words “Welcome to HTML” making that the main heading for the page.

Example4: `<html>`
`<title> This is heading Hierarchal example </title>`
`<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>`



In the example 4 above, we use an h1 element to show a major heading. If we wanted to include a subheading beneath this heading, we'd use the h2 element. A subheading under an h2 would use an h3 element, and so on, until we hit h6. The lower the heading level, the lesser its importance and the smaller the font size: **h1 h2 h3 h4 h5 h6**

5. HTML Paragraphs

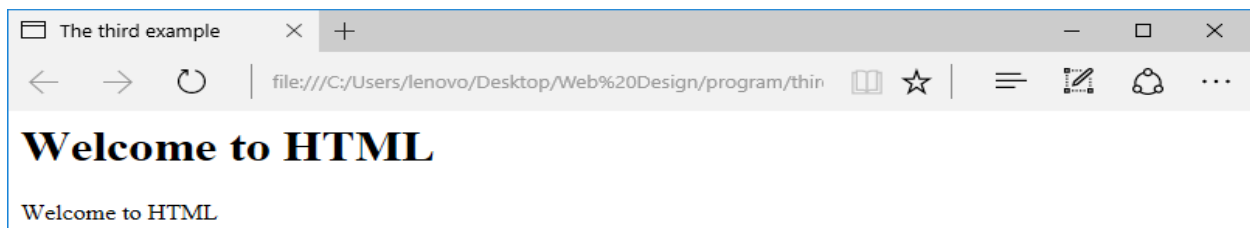
Paragraph Tag: The <p> element defines a paragraph. It uses to deal with blocks of text in the web site document.

Example 5

if we add another **element** <p> such as

```
<Html>
<Head>
<Title>The third example</Title>
</Head>
<Body>
<h1>Welcome to HTML</h1>
<p>Welcome to HTML</p>
</Body>
</Html>
```

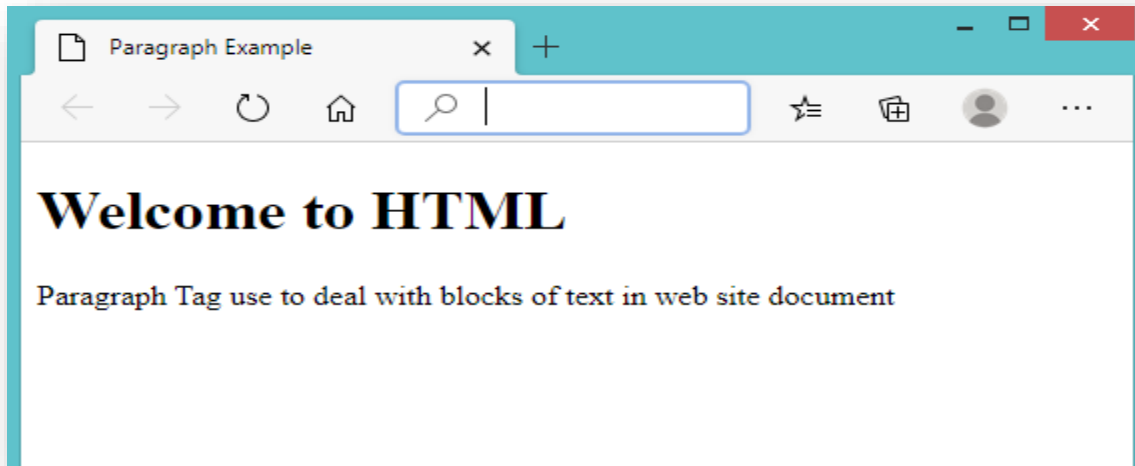
The output will be



Example 6:

```
<!DOCTYPE html>
<Html>
<Head>
<Title> Paragraph Example </Title>
</Head>
<Body>
```

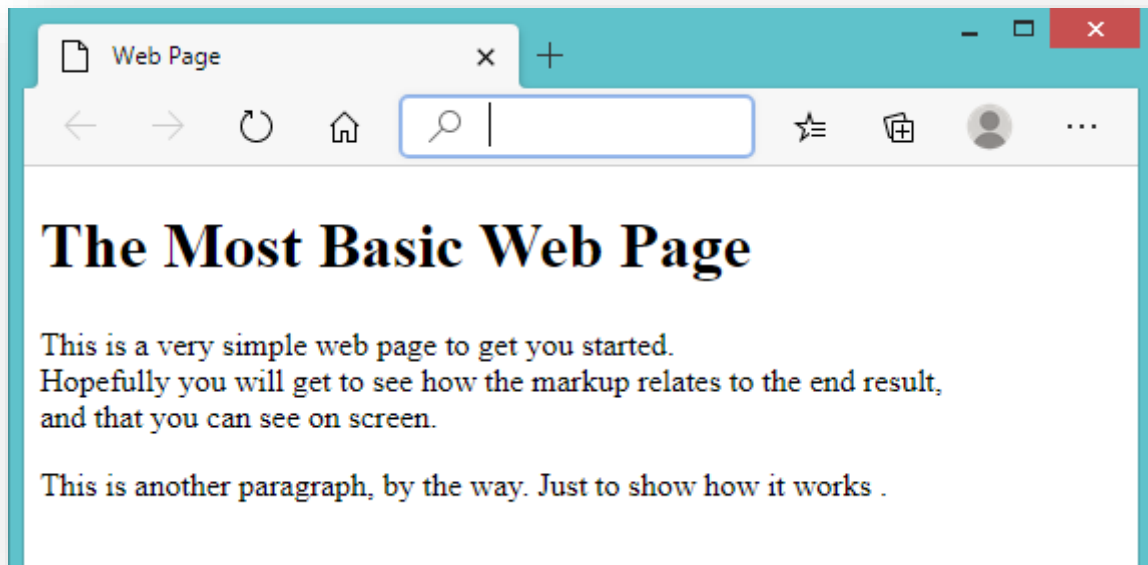
```
<h1>Welcome to HTML</h1>
<p> Paragraph Tag use to deal with blocks of text in web site document</p>
</Body>
</Html>
```



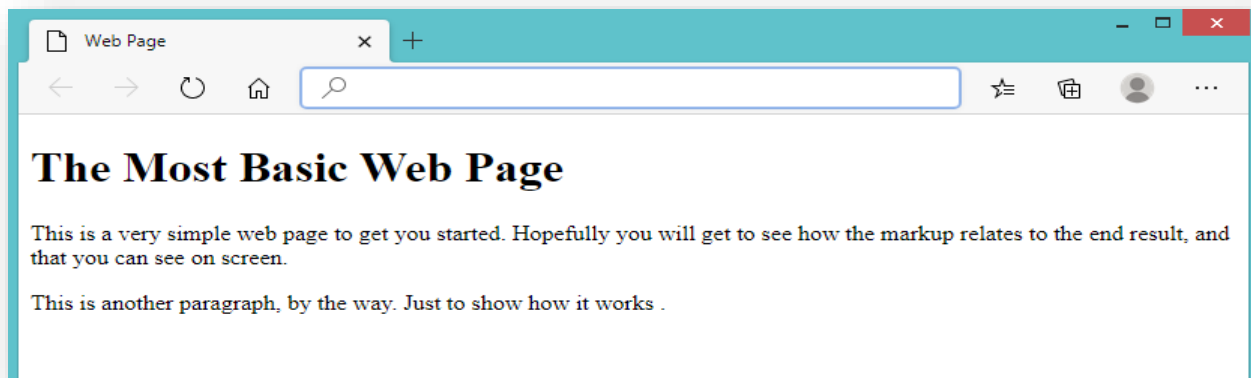
Line Break Tag: `
` element is used to start a new line rather than a new paragraph. The `
` tag is an empty tag which means that it has no end tag.

Example 7:

```
<!DOCTYPE html>
<html>
<head>
<title> Web Page </title>
</head>
<body>
<h1>The Most Basic Web Page </h1>
<p>This is a very simple web page to get you started. <br> Hopefully you will get
to see how the markup relates to the end result, <br> and that you can see on
screen. </p>
<p> This is another paragraph, by the way. Just to show how it works. </p>
</body>
</html>
```



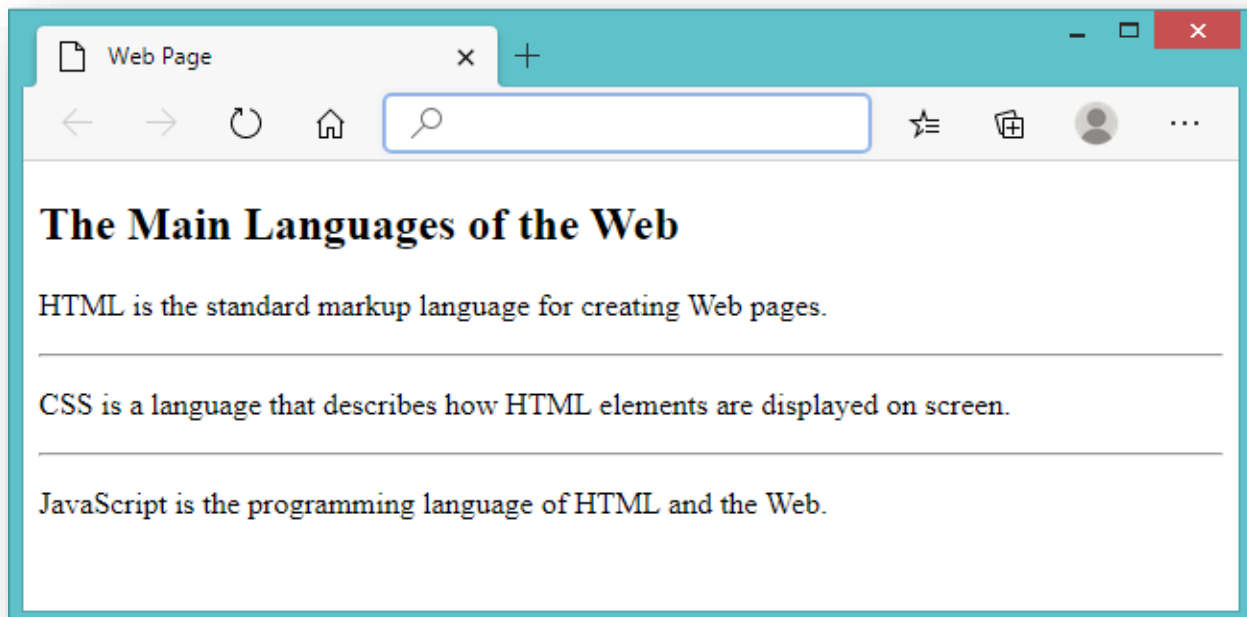
If Rewrite Example 7 without using line break the output will be:



Horizontal Rules Tag: The `<hr>` tag defines a thematic break in an HTML page and is most often displayed as a horizontal rule. The `<hr>` element is used to separate content or define a change in an HTML page. The `<hr>` tag is also an empty tag, which means that it has no end tag.

Example 8: Design a web page with three paragraphs separated by horizontal rule

```
<!DOCTYPE html>
<html>
<head>
<title> Web Page </title>
</head>
<body>
<h2>The Main Languages of the Web</h2>
<p>HTML is the standard markup language for creating Web pages. </p>
<hr>
<p>CSS is a language that describes how HTML elements are displayed on screen.
</p>
<hr>
<p>JavaScript is the programming language of HTML and the Web.</p>
</body>
</html>
```



Comment Tag: comments can be added to HTML source by using the following syntax: `<!-- Write comments here -->`

Anything between comment tags will not display in the browser and will not have any effect on the rest of the source. Comments are perfect for making notes on the written work and are useful for labeling and organizing long documents, particularly when document are shared by a team of developers. An example of a comment:

```
<!-- This is a comment -->  
<p>This is a paragraph.</p>  
<!-- Remember to add more information here -->
```

What is the output of this segment HTML code????

6. HTML character Entities

An HTML entity is a piece of text that begins with an ampersand (**&**) and ends with a semicolon (**;**). Entities are frequently used to display reserved characters which would otherwise be interpreted as HTML code. Entity can also use in place of other characters that are difficult to type with a standard keyboard.

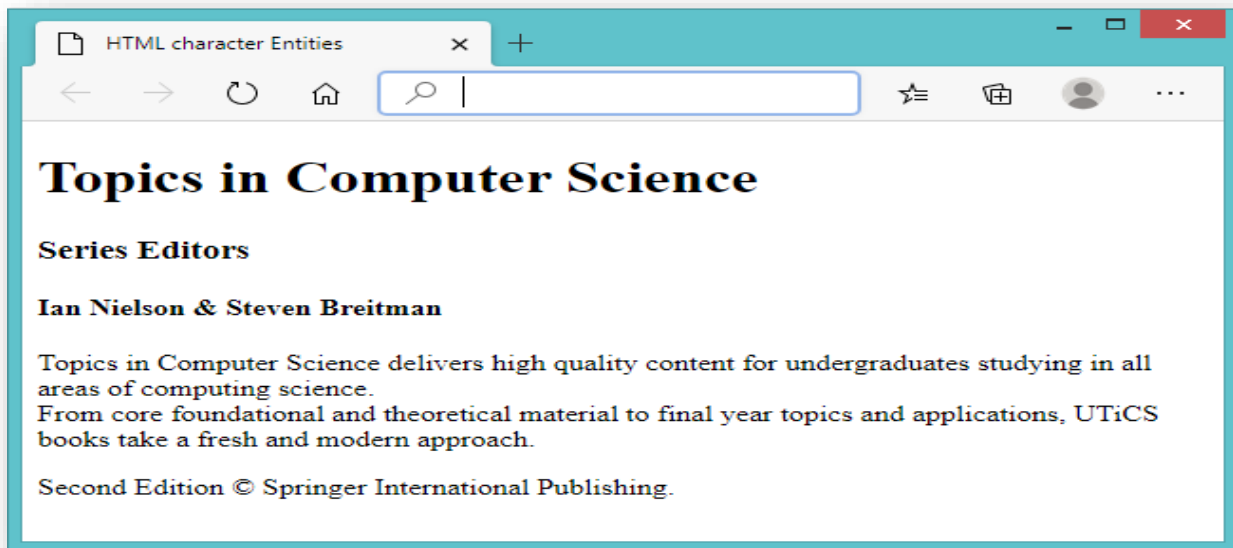
Instead of:	Instead of:	Instead of:
<	>	&
USE:	USE:	USE:
&lt;	&gt;	&amp;

Table below provide some examples of HTML entities:

Result	Description	Entity Name
<	less than	<
>	greater than	>
&	ampersand	&
"	double quotation mark	"
'	single quotation mark	'
¢	cent	¢
©	copyright	©
®	registered trademark	®

Example 9:

```
<!DOCTYPE html>
<html>
<head>
<title> HTML character Entities </title>
</head>
<body>
<h1> Topics in Computer Science </h1>
<h3> Series Editors </h3>
<h4>Ian Nielson &amp; Steven Breitman </h4>
<p>Topics in Computer Science delivers high quality content for undergraduates
studying in all areas of computing science.<br>From core foundational and
theoretical material to final year topics and applications, UTiCS books take a fresh
and modern approach. </p>
<p> Second Edition &copy; Springer International Publishing. </p>
</body>
</html>
```



Q/ What is the output of the following HTML code?

```
<!DOCTYPE html>
<html>
<head>
<title> This is HTML page </title>
</head>
<body>
<!--there are two heading separated by horizontal lines -->
<h1> Software Competition </h1>
<hr>
<h2> Announcement </h2>
<hr>
<!-- This is an ad required -->
<p> This is an ad about a competition to design a site that includes simple
elementary education classes. <br> The site includes the following lessons:
<br>Arabic characters
<br>English characters
<br>Numbers in Arabic
```

```
<br>Numbers in English
```

```
</p>
```

```
<!--The end of required -->
```

```
<p> The last date to submit the design is the end of the this month </p>
```

```
</body>
```

```
</html>
```