



SRI RAMACHANDRA
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Category - I Deemed to be University) Porur, Chennai
SRI RAMACHANDRA ENGINEERING AND TECHNOLOGY

CSE 150 WEB DESIGN – FRONTEND DEVELOPMENT

MODULE 1



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HTML



HTML is the standard markup language for Web pages.

With HTML you can create your own Website.

HTML is easy to learn - You will enjoy it!

[Start learning HTML now »](#)

What is HTML?

- 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.

A Simple HTML Document (html:5)

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

Output :

My First Heading
My first paragraph.

Example Explained

- The `<!DOCTYPE html>` declaration defines that this document is an HTML5 document.
- The `<html>` element is the root element of an HTML page.
- The `<head>` element contains meta information about the HTML page.
- The `<title>` element specifies a title for the HTML page.
(which is shown in the browser's title bar or in the page's tab)
- The `<body>` element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.
- The `<h1>` element defines a large heading
- The `<p>` element defines a paragraph

Content

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

Start tag

End tag

What is an HTML Element?

An HTML element is defined by a start tag, some content, and an end tag:

`<tagname>Content goes here...</tagname>`

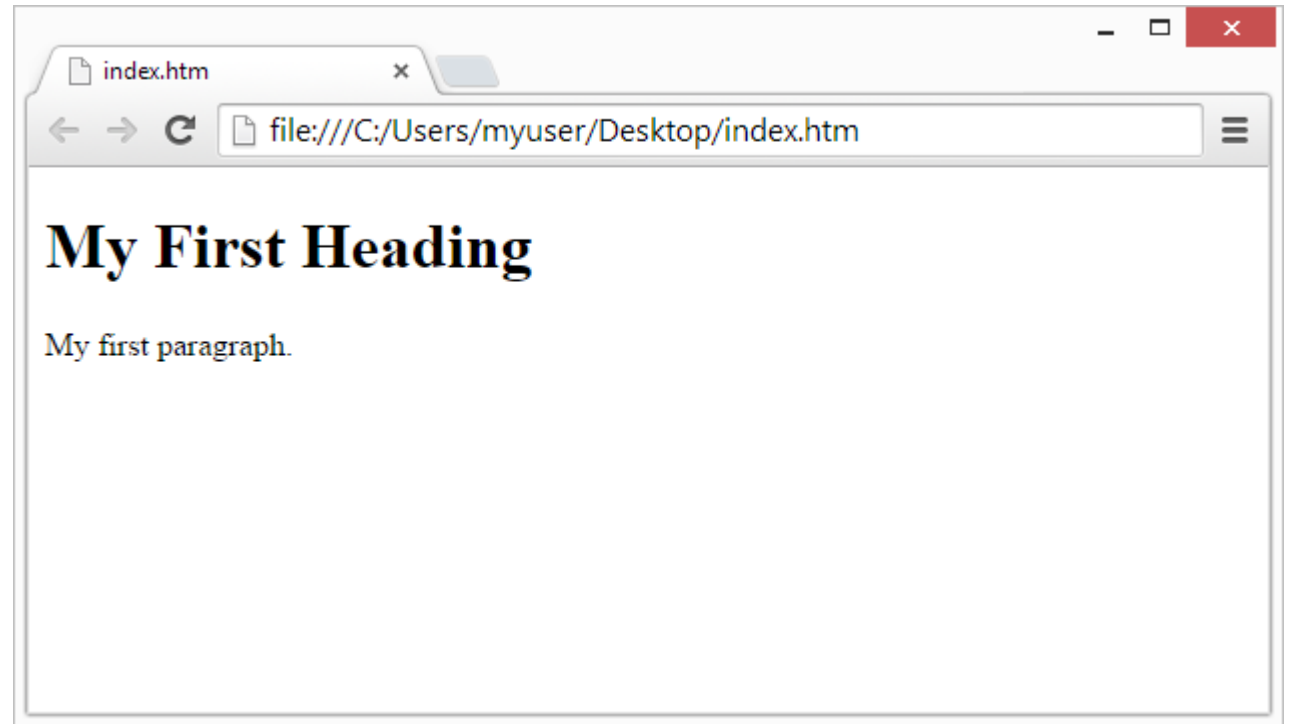
The HTML **element** is everything from the start tag to the end tag:

`<h1>My First Heading</h1>`

`<p>My first paragraph.</p>`

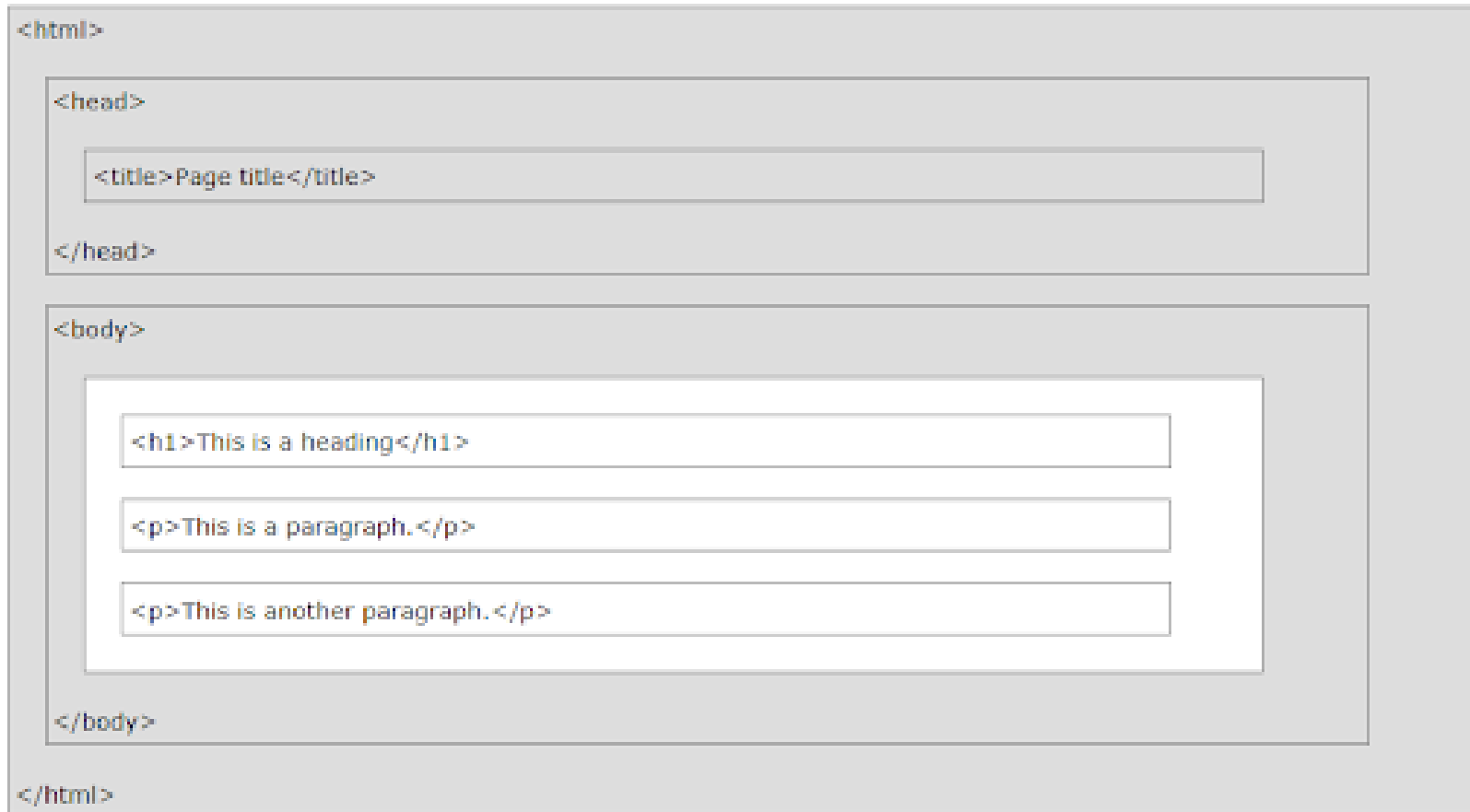
Web Browsers

- The purpose of a web browser (Chrome, Edge, Firefox, Safari) is to read HTML documents and display them correctly.
- A browser does not display the HTML tags, but uses them to determine how to display the document



HTML Page Structure

Below is a visualization of an HTML page structure:



Note: The content inside the <body> section (the white area above) will be displayed in a browser. The content inside the <title> element will be shown in the browser's title bar or in the page's tab.

HTML Editors

A simple text editor is all you need to learn HTML.

Step 1: Open Notepad (PC)

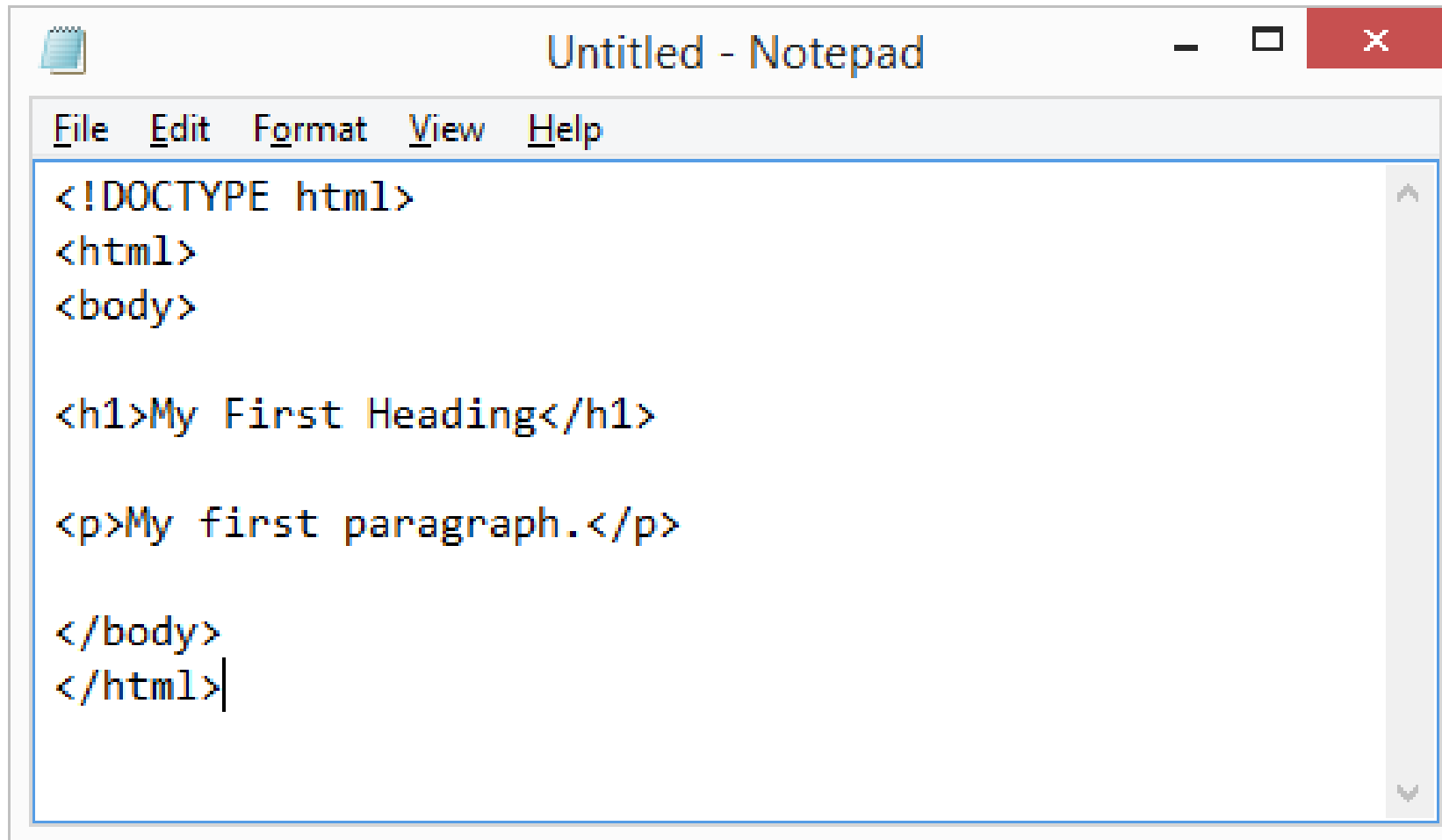
Windows 8 or later:

Open the **Start Screen** (the window symbol at the bottom left on your screen). Type **Notepad**.

Windows 7 or earlier:

Open **Start > Programs > Accessories > Notepad**

Step 2: Write Some HTML

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

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

<h1>My First Heading</h1>

<p>My first paragraph.</p>

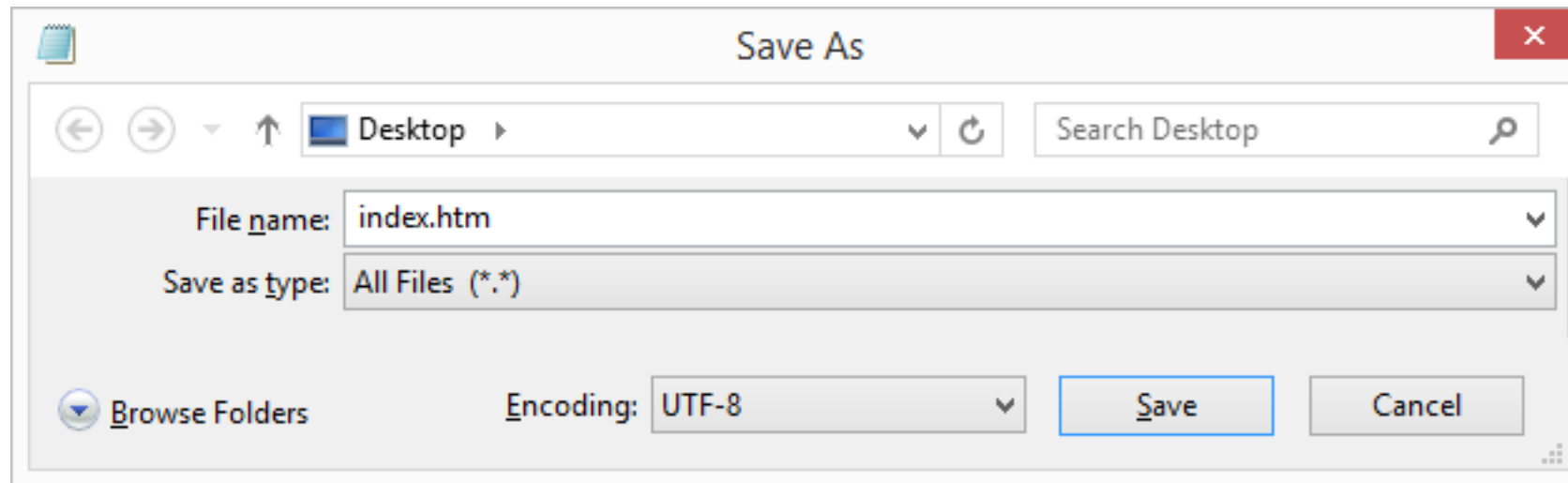
</body>
</html>
```

The code is written in a monospaced font, and the tags are color-coded: opening and closing tags are blue, and attribute values are red. The cursor is at the end of the last line, after the closing HTML tag. The window has a scrollbar on the right side.

Step 3: Save the HTML Page

Save the file on your computer. Select **File > Save as** in the Notepad menu.

Name the file "**index.htm**" and set the encoding to **UTF-8** (which is the preferred encoding for HTML files).

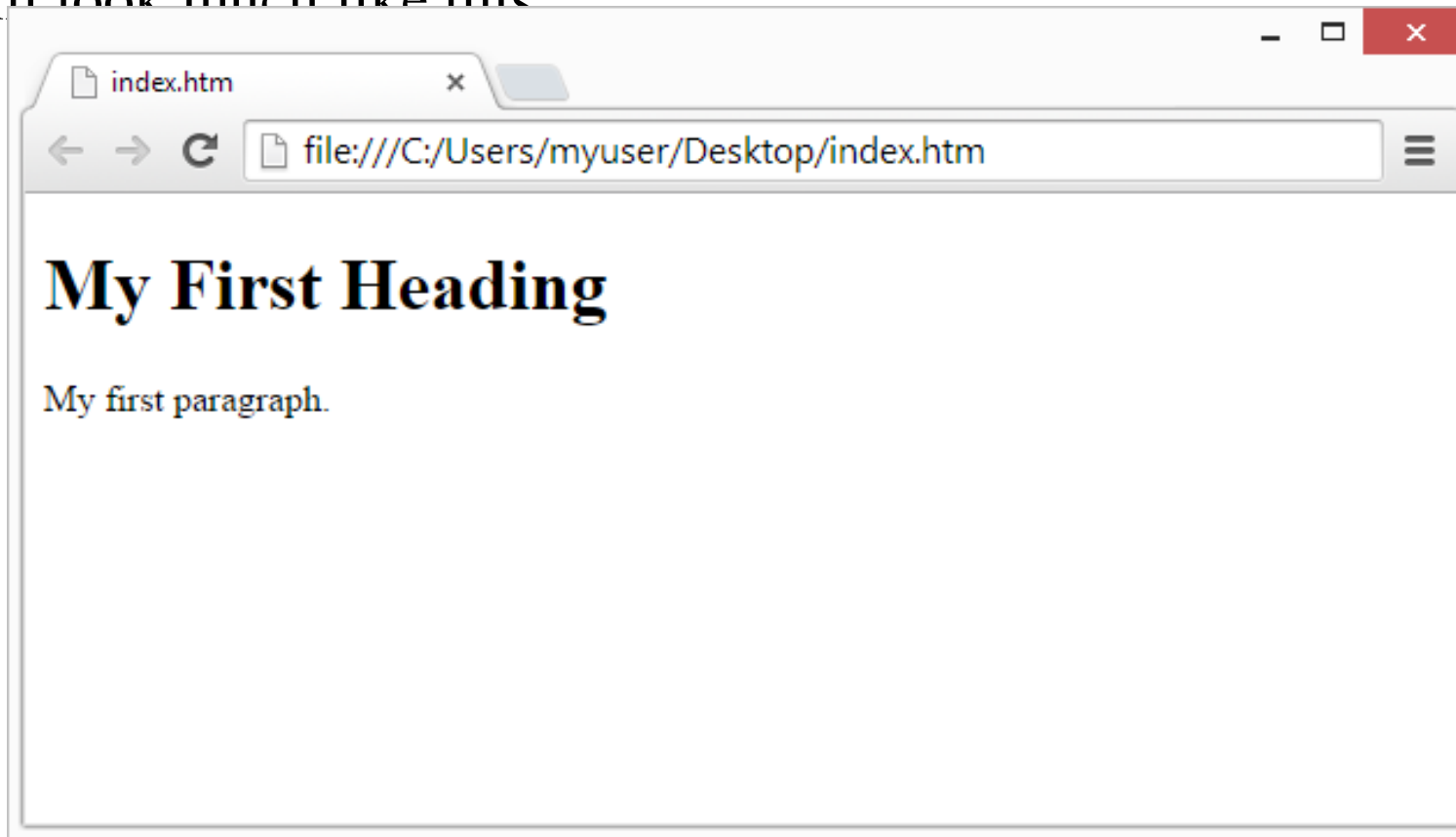


Tip: You can use either .htm or .html as file extension. There is no difference, it is up to you.

Step 4: View the HTML Page in Your Browser

Open the saved HTML file in your favorite browser (double click on the file, or right-click - and choose "Open with").

The result will look much like this:



HTML Basic Examples

HTML Documents

- All HTML documents must start with a document type declaration: `<!DOCTYPE html>`.
- The HTML document itself begins with `<html>` and ends with `</html>`.
- The visible part of the HTML document is between `<body>` and `</body>`.

A Simple HTML Document

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

Output :

My First Heading
My first paragraph.

HTML Headings

HTML headings are defined with the `<h1>` to `<h6>` tags.

`<h1>` defines the most important heading. `<h6>` defines the least important heading:

Example

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

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

</body>
</html>
```

Output

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

Bigger Headings

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

<h1 style="font-size:60px;">Heading 1</h1>

<p>You can change the size of a heading with
the style attribute, using the font-size
property.</p>

</body>
</html>
```

OUTPUT

Heading 1

You can change the size of a heading with the style attribute, using the font-size property.

HTML Paragraphs

- A paragraph always starts on a new line, and is usually a block of text.
- HTML paragraphs are defined with the `<p>` tag:

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

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

</body>
</html>
```

OUTPUT :

This is a paragraph.
This is another paragraph.

HTML Paragraphs

<p>

This paragraph
contains a lot of lines
in the source code,
but the browser
ignores it.

</p>

OUTPUT :

This paragraph contains a lot of lines in the source code, but the browser ignores it.

HTML Paragraphs

<p>

This paragraph
contains a lot of spaces
in the source code,
but the browser
ignores it.

</p>

OUTPUT :

This paragraph contains a lot of lines in the source code, but the browser ignores it.

HTML Paragraphs

<p>

The number of lines in a paragraph depends on the size of the browser window. If you resize the browser window, the number of lines in this paragraph will change.

</p>

Output :

The number of lines in a paragraph depends on the size of the browser window. If you resize the browser window, the number of lines in this paragraph will change.

HTML Horizontal Rules

- 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:

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

<h1>This is heading 1</h1>
<p>This is some text.</p>
<hr>

<h2>This is heading 2</h2>
<p>This is some other text.</p>
<hr>

<h2>This is heading 2</h2>
<p>This is some other text.</p>

</body>
</html>
```

This is heading 1

This is some text.

This is heading 2

This is some other text.

This is heading 2

This is some other text.

The `<hr>` tag is an empty tag, which means that it has no end tag.

HTML Line Breaks

- The HTML `
` element defines a line break.
- Use `
` if you want a line break (a new line) without starting a new paragraph:

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

<p>This is<br>a paragraph<br>with line breaks.</p>

</body>
</html>
```

Output :

This is
a paragraph
with line breaks.

The `
` tag is an empty tag, which means that it has no end tag.

The Poem Problem

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

<p>In HTML, spaces and new lines are ignored:</p>

<p>

    My Bonnie lies over the ocean.

    My Bonnie lies over the sea.

    My Bonnie lies over the ocean.

    Oh, bring back my Bonnie to me.

</p>

</body>
</html>
```

Output :

In HTML, spaces and new lines are ignored:

My Bonnie lies over the ocean. My Bonnie lies over the sea. My Bonnie lies over the ocean. Oh, bring back my Bonnie to me.

Solution - The HTML `<pre>` Element

- The HTML `<pre>` element defines preformatted text.
- The text inside a `<pre>` element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks:

```
<p>The pre tag preserves both spaces and line breaks:</p>
```

```
<pre>
```

```
My Bonnie lies over the ocean.
```

```
My Bonnie lies over the sea.
```

```
My Bonnie lies over the ocean.
```

```
Oh, bring back my Bonnie to me.
```

```
</pre>
```

```
The pre tag preserves both spaces and line breaks:
```

```
My Bonnie lies over the ocean.
```

```
My Bonnie lies over the sea.
```

```
My Bonnie lies over the ocean.
```

```
Oh, bring back my Bonnie to me.
```

HTML Styles

The HTML **style** attribute is used to add styles to an element, such as color, font, size, and more.

```
<p>I am normal</p>  
<p style="color:red;">I am red</p>  
<p style="color:blue;">I am blue</p>  
<p style="font-size:50px;">I am big</p>
```

I am normal

I am red

I am blue

I am big

The HTML Style Attribute

- Setting the style of an HTML element, can be done with the **style** attribute.
- The HTML **style** attribute has the following syntax:
- `<tagname style="property:value;">`
- The *property* is a CSS property. The *value* is a CSS value.

Background Color – property

The CSS **background-color** property defines the background color for an HTML element.

```
<h1 style="background-color:powderblue;">This is a heading</h1>
```

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

This is a heading

This is a paragraph.

- **Color – property**

The CSS **color** property defines the text color for an HTML element:

```
<h1 style="color:blue;">This is a heading</h1>
```

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

This is a heading

This is a paragraph.

- **Font – property**

The CSS **font-family** property defines the font to be used for an HTML element:

```
<h1 style="font-family:verdana;">This is a heading</h1>
```

```
<p style="font-family:courier;">This is a paragraph.</p>
```

This is a heading

This is a paragraph.

- **Text size – property**

The CSS **font-size** property defines the text size for an HTML element:

```
<h1 style="font-size:300%;">This is a heading</h1>
```

```
<p style="font-size:160%;">This is a paragraph.</p>
```

This is a heading

This is a paragraph.

- **Text Alignment – property**

The CSS **text-align** property defines the horizontal text alignment for an HTML element:

```
<h1 style="text-align:center;">Centered Heading</h1>
```

```
<p style="text-align:center;">Centered paragraph.</p>
```

Centered Heading

Centered paragraph.

HTML Formatting Elements

- `` - Bold text
- `` - Important text
- `<i>` - Italic text
- `` - Emphasized text
- `<mark>` - Marked text
- `<small>` - Smaller text
- `` - Deleted text
- `<ins>` - Inserted text
- `<sub>` - Subscript text
- `<sup>` - Superscript text

HTML Text Formatting

<p>This text is bold</p>

<p><i>This text is italic</i></p>

<p>This text is emphasized.</p>

<p>This is_{subscript} and ^{superscript}</p>

<p>This text is important!</p>

<p><small>This is some smaller text.</small></p>

<p>Do not forget to buy <mark>milk</mark> today.</p>

<p>My favorite color is blue red.</p>

<p>My favorite color is blue <ins>red</ins>.</p>

This text is bold

This text is italic

This text is emphasized.

This is _{subscript} and ^{superscript}

This text is important!

This is some smaller text.

Do not forget to buy milk today.

My favorite color is blue red.

My favorite color is blue red.

HTML <address> for Contact Information

<address>

Written by John Doe.

Visit us at:

Example.com

Box 564, Disneyland

USA

</address>

Written by John Doe.

Visit us at:

Example.com

Box 564, Disneyland

USA

HTML Comments

<!-- Write your comments here -->

<body>

<!-- This is a comment -->

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

<!-- Comments are not displayed in the browser -->

</body>

HTML Colors

Background Color

You can set the background color for HTML elements:

Hello World

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Example

```
<h1 style="background-color:DodgerBlue;">Hello World</h1>  
<p style="background-color:Tomato;">Lorem ipsum...</p>
```

HTML Colors

Text Color

You can set the color of text:

Hello World

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat.

Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Example

```
<h1 style="color:Tomato;">Hello World</h1>  
<p style="color:DodgerBlue;">Lorem ipsum...</p>  
<p style="color:MediumSeaGreen;">Ut wisi enim...</p>
```

HTML Colors

Border Color

You can set the color of borders:

Hello World

Hello World

Hello World

Example

```
<h1 style="border:2px solid Tomato;">Hello World</h1>  
<h1 style="border:2px solid DodgerBlue;">Hello World</h1>  
<h1 style="border:2px solid Violet;">Hello World</h1>
```

HTML Styles - CSS

- CSS stands for Cascading Style Sheets.
- CSS saves a lot of work.
- It can control the layout of multiple web pages all at once.

What is CSS?

- Cascading Style Sheets (CSS) is used to format the layout of a webpage.
- With CSS, you can control the color, font, the size of text, the spacing between elements, how elements are positioned and laid out, what background images or background colors are to be used, different displays for different devices and screen sizes, and much more!

Using CSS

CSS can be added to HTML documents in 3 ways:

- **Inline** - by using the `style` attribute inside HTML elements
- **Internal** - by using a `<style>` element in the `<head>` section
- **External** - by using a `<link>` element to link to an external CSS file

Inline CSS

- An inline CSS is used to apply a unique style to a single HTML element.
- An inline CSS uses the **style** attribute of an HTML element.
- The following example sets the text color of the **<h1>** element to blue,
- and the text color of the **<p>** element to red:

```
<h1 style="color:blue;">A Blue Heading</h1>  
<p style="color:red;">A red paragraph.</p>
```

A Blue Heading

A red paragraph.

Internal CSS

- An internal CSS is used to define a style for a single HTML page.
- An internal CSS is defined in the `<head>` section of an HTML page, within a `<style>` element.
- The following example sets the text color of ALL the `<h1>` elements (on that page) to blue.
- The text color of ALL the `<p>` elements to red.
- In addition, the page will be displayed with a "powderblue" background color:

```
<html>
<head>
<style>
body {background-color: powderblue;}
h1 {color: blue;}
p {color: red;}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

This is a heading

This is a paragraph.

External CSS

- An external style sheet is used to define the style for many HTML pages.
- To use an external style sheet, add a link to it in the <head> section of each HTML page:

```
<html>
<head>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

"styles.css"

```
body {
  background-color: powderblue;
}
h1 {
  color: blue;
}
p {
  color: red;
}
```

This is a heading

This is a paragraph.

CSS Colors, Fonts and Sizes

```
<html>
<head>
<style>
h1 {
  color: blue;
  font-family: verdana;
  font-size: 300%;
}
p {
  color: red;
  font-family: courier;
  font-size: 160%;
}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

- The CSS **color** property defines the text color to be used.
- The CSS **font-family** property defines the font to be used.
- The CSS **font-size** property defines the text size to be used.

This is a heading

This is a paragraph.

HTML Links – Hyper links

Links are found in nearly all web pages. Links allow users to click their way from page to page.

HTML links are defined with the `<a>` tag:

HTML Links - Syntax

The HTML `<a>` tag defines a hyperlink. It has the following syntax:

```
<a href="url">link text</a>
```

Why do we put a # in the href attribute of the link?

Since we do not have any page to link it to, and we do not want to get a "404" message, we put # as the link. In real life it should of course been a real URL to the "Search" page.

The link's destination is specified in the `href` attribute.

HTML Links

- By default, links will appear as follows in all browsers:
 - An unvisited link is underlined and blue
 - A visited link is underlined and purple
 - An active link is underlined and red

HTML Links - The target Attribute

The **target** attribute specifies where to open the linked document.

The **target** attribute can have one of the following values:

- **_self** - Default. Opens the document in the same window/tab as it was clicked
- **_blank** - Opens the document in a new window or tab
- **_parent** - Opens the document in the parent frame
- **_top** - Opens the document in the full body of the window

HTML Links

Links are found in nearly all web pages. Links allow users to click their way from page to page.

HTML links are defined with the `<a>` tag:

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

<h2>HTML Links</h2>
<p>HTML links are defined with the a tag:</p>

<a href="https://www.google.com">This is a link</a>

</body>
</html>
```

OUTPUT :

HTML Links

HTML links are defined with the a tag:

[This is a link](https://www.google.com)

The link's destination is specified in the `href` attribute.

HTML Images

Images can improve the design and the appearance of a web page.

HTML Images Syntax

The HTML `` tag is used to embed an image in a web page.

The `` tag is empty, it contains attributes only, and does not have a closing tag.

The `` tag has two required attributes:

- ✓ src - Specifies the path to the image
- ✓ alt - Specifies an alternate text for the image

Syntax

```

```

HTML Images

HTML images are defined with the `` tag.

The source file (`src`), alternative text (`alt`), `width`, and `height` are provided as attributes:

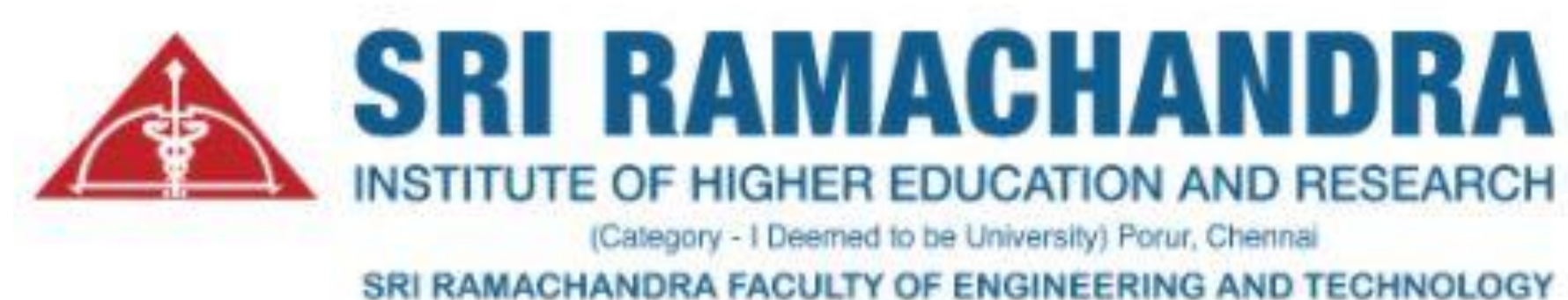
```

```

Style attribute :

```


```



HTML Images

<p>If a browser cannot find the image, it will display the alternate text:</p>

If a browser cannot find the image, it will display the alternate text:

 Flowers in Chania

HTML Links - Use an Image as a Link

```
<h2>Image as a Link</h2>
```

```
<p>The image below is a link. Try to click on it.</p>
```

```
<a href="https://www.google.com/">
```

```
   </a>
```

HTML Images

<p> The text is aligned with the image at the bottom.</p>

<p> The text is aligned with the image at the middle.</p>

<p> The text is aligned with the image at the top.</p>

Output

The text is aligned with the image at the bottom.

The logo for Sri Ramachandra Institute of Higher Education and Research. It features a red triangle on the left containing a white stylized figure. To the right of the triangle, the text "SRI RAMACHANDRA" is in large blue bold letters, followed by "INSTITUTE OF HIGHER EDUCATION AND RESEARCH" in smaller blue letters. Below this, in very small text, is "Category - I Government University Poona District". At the bottom, in small blue letters, is "SRI RAMACHANDRA FACULTY OF ENGINEERING AND TECHNOLOGY".

The text is aligned with the image at the middle.

The logo for Sri Ramachandra Institute of Higher Education and Research. It features a red triangle on the left containing a white stylized figure. To the right of the triangle, the text "SRI RAMACHANDRA" is in large blue bold letters, followed by "INSTITUTE OF HIGHER EDUCATION AND RESEARCH" in smaller blue letters. Below this, in very small text, is "Category - I Government University Poona District". At the bottom, in small blue letters, is "SRI RAMACHANDRA FACULTY OF ENGINEERING AND TECHNOLOGY".

The text is aligned with the image at the top.

The logo for Sri Ramachandra Institute of Higher Education and Research. It features a red triangle on the left containing a white stylized figure. To the right of the triangle, the text "SRI RAMACHANDRA" is in large blue bold letters, followed by "INSTITUTE OF HIGHER EDUCATION AND RESEARCH" in smaller blue letters. Below this, in very small text, is "Category - I Government University Poona District". At the bottom, in small blue letters, is "SRI RAMACHANDRA FACULTY OF ENGINEERING AND TECHNOLOGY".

HTML Tables

HTML tables allow web developers to arrange data into rows and columns.(9*6)

No.	Union Territory	Administrative / ExecutiveCapital	LegislativeCapital	Judicial Capital	Year of establishment
1	<u>Andaman and Nicobar Islands</u>	<u>Port Blair</u>	-	<u>Kolkata</u>	1956
2	<u>Chandigarh</u>	<u>Chandigarh</u>	-	<u>Chandigarh</u>	1966
3	<u>Dadra and Nagar Haveli and Daman and Diu</u>	<u>Daman</u>	-	<u>Mumbai</u>	2020
4	<u>Delhi</u>	<u>New Delhi</u>	New Delhi	New Delhi	1956
5	<u>Jammu and Kashmir</u>	<u>Srinagar</u> (Summer) <u>Jammu</u> (Winter)	Srinagar (Summer) Jammu (Winter)	Srinagar (Summer) Jammu (Winter)	2019
6	<u>Ladakh</u>	<u>Leh</u> (Summer) <u>Kargil</u> (Winter)	-	Srinagar (Summer) Jammu (Winter)	2019
7	<u>Lakshadweep</u>	<u>Kavaratti</u>	-	<u>Kochi</u>	1956
8	<u>Puducherry</u>	<u>Pondicherry</u>	<u>Pondicherry</u>	<u>Chennai</u>	1954

Define an HTML Table

- The `<table>` tag defines an HTML table.
- Each table row is defined with a `<tr>` tag.
- Each table header is defined with a `<th>` tag.
- Each table data/cell is defined with a `<td>` tag.
- By default, the text in `<th>` elements are bold and centered.
- By default, the text in `<td>` elements are regular and left-aligned.

A simple HTML table:

```
<table style="width:100%">
<tr>
  <th>Union Territory</th>
  <th>Capital</th>
  <th>Year</th>
</tr>
<tr>
  <td>Delhi</td>
  <td>New Delhi</td>
  <td>1956</td>
</tr>
```

```
<tr>
  <td>Jammu and Kashmir</td>
  <td>Srinagar</td>
  <td>2019</td>
</tr>
```

```
<tr>
  <td>Ladakh</td>
  <td>Kargil</td>
  <td>2019</td>
</tr>
</table>
```

Union Territory	Capital	Year
Delhi	New Delhi	1956
Jammu and Kashmir	Srinagar	2019
Ladakh	Kargil	2019

A simple HTML table: with border

```
<table style="width:100%">
<tr>border = "1"
  <th>Union Territory</th>
  <th>Capital</th>
  <th>Year</th>
</tr>
<tr>
  <td>Delhi</td>
  <td>New Delhi</td>
  <td>1956</td>
</tr>
```

```
<tr>
  <td>Jammu and Kashmir</td>
  <td>Srinagar</td>
  <td>2019</td>
</tr>
```

```
<tr>
  <td>Ladakh</td>
  <td>Kargil</td>
  <td>2019</td>
</tr>
</table>
```

Union Territory	Capital	Year
Delhi	New Delhi	1956
Jammu and Kashmir	Srinagar	2019
Ladakh	Kargil	2019

HTML Tables – Add a Border

To add a border to a table, use the CSS **border** property:

```
<head>
<style>
table, th, td {
  border: 1px solid black;
}
</style>
</head>
```

Union Territory	Capital	Year
Delhi	New Delhi	1956
Jammu and Kashmir	Srinagar	2019
Ladakh	Kargil	2019

```
<head>
<style>
table, th, td {
  border: 1px solid black;
  border-collapse : collapse;
}
</style>
</head>
```

HTML Tables

With a normal border:

First	Row
Second	Row

`border = "1"`

With a thick border:

First	Row
Second	Row

`border = "8"`

With a very thick border:

First	Row
Second	Row

`border = "15"`

HTML Tables

```
<table border="1">  
<tr>  
<th>Heading</th>  
<th>Another Heading</th>  
</tr>  
<tr>  
<td>row 1, cell 1</td>  
<td>row 1, cell 2</td>  
</tr>  
<tr>  
<td>row 2, cell 1</td>  
<td>row 2, cell 2</td>  
</tr>  
</table>
```

Heading	Another Heading
row 1, cell 1	row 1, cell 2
row 2, cell 1	row 2, cell 2

HTML Tables

<h4>Vertical headers:</h4>

<table border="1">

<tr>

<th>First Name:</th>

<td>Bill Gates</td>

</tr>

<tr>

<th>Telephone:</th>

<td>555 777 1854</td>

</tr>

<tr>

<th>Telephone:</th>

<td>555 777 1855</td>

</tr>

</table>

Vertical headers:

First Name:	Bill Gates
Telephone:	555 777 1854
Telephone:	555 777 1855

HTML Table with a caption

```
<h4>This table has a caption, and a thick border:</h4>
```

```
<table border="6">
```

```
<caption>My Caption</caption>
```

```
<tr>
```

```
<td>100</td>
```

```
<td>200</td>
```

```
<td>300</td>
```

```
</tr>
```

```
<tr>
```

```
<td>400</td>
```

```
<td>500</td>
```

```
<td>600</td>
```

```
</tr>
```

```
</table>
```

This table has a caption, and a thick border:

100	200	300
400	500	600

HTML Table Cells Spanning Multiple Columns

<h4>Cell that spans two columns:</h4>

```
<table border="1">
```

```
<tr>
```

```
<th>Name</th>
```

```
<th colspan="2">Telephone</th>
```

```
</tr>
```

```
<tr>
```

```
<td>Bill Gates</td>
```

```
<td>555 77 854</td>
```

```
<td>555 77 855</td>
```

```
</tr>
```

```
</table>
```

Cell that spans two columns:

Name	Telephone	
Bill Gates	555 77 854	555 77 855

HTML Table Cells Spanning Multiple Columns

<h4>Cell that spans two rows:</h4>

```
<table border="1">
```

```
<tr>
```

```
<th>First Name:</th>
```

```
<td>Bill Gates</td>
```

```
</tr>
```

```
<tr>
```

```
<th rowspan="2">Telephone:</th>
```

```
<td>555 77 854</td>
```

```
</tr>
```

```
<tr>
```

```
<td>555 77 855</td>
```

```
</tr>
```

```
</table>
```

Cell that spans two rows:

First Name:	Bill Gates
Telephone:	555 77 854
	555 77 855

HTML Table Cell Padding

This example demonstrates how to use cell padding to create more white space between the cell content and its borders

```
<h4>Without cellpadding:</h4>
<table border="1">
<tr>
<td>First</td>
<td>Row</td>
</tr>
<tr>
<td>Second</td>
<td>Row</td>
</tr>
</table>
```

Without cellpadding:

First	Row
Second	Row

HTML Table Cell Padding

This example demonstrates how to use cell padding to create more white space between the cell content and its borders

```
<h4>With cellpadding:</h4>
<table border="1" cellpadding="10">
<tr>
<td>First</td>
<td>Row</td>
</tr>
<tr>
<td>Second</td>
<td>Row</td>
</tr>
</table>
```

With cellpadding:

First	Row
Second	Row

HTML Table Cell Spacing

This example demonstrates how to use cell spacing to increase the distance between the cells

```
<h4>Without cellspacing:</h4>
<table border="1">
<tr>
<td>First</td>
<td>Row</td>
</tr>
<tr>
<td>Second</td>
<td>Row</td>
</tr>
</table>
```

Without cellspacing:

First	Row
Second	Row

HTML Table Cell Spacing

This example demonstrates how to use cell spacing to increase the distance between the cells

```
<h4>With cellpadding:</h4>
<table border="1" cellpadding="10">
<tr>
<td>First</td>
<td>Row</td>
</tr>
<tr>
<td>Second</td>
<td>Row</td>
</tr>
</table>
```

With cellpadding:

First	Row
Second	Row

HTML Table Background colors and images

```
<h4>A background color:</h4>
<table border="1" bgcolor="gray">
<tr>
<td>First</td>
<td>Row</td>
</tr>
<tr>
<td>Second</td>
<td>Row</td>
</tr>
</table>
```

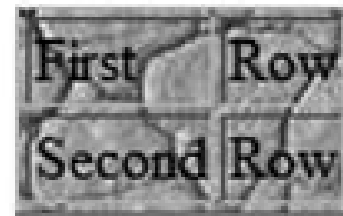
A background color:

First	Row
Second	Row

HTML Table Background colors and images

```
<h4>A background image:</h4>
<table border="1" background="bgdesert.jpg">
<tr>
<td>First</td>
<td>Row</td>
</tr>
<tr>
<td>Second</td>
<td>Row</td>
</tr>
</table>
```

A background image:



HTML Table – Aligning Cell content

```
<table width="400" border="1">
<tr>
<th align="left">Money spent on....</th>
<th align="right">January</th>
<th align="right">February</th>
</tr>
<tr>
<td align="left">Clothes</td>
<td align="right">$241.10</td>
<td align="right">$50.20</td>
</tr>
<tr>
<td align="left">Make-Up</td>
<td align="right">$30.00</td>
<td align="right">$44.45</td>
</tr>
<tr>
<td align="left">Food</td>
<td align="right">$730.40</td>
<td align="right">$650.00</td>
</tr>
<tr>
<th align="left">Sum</th>
<th align="right">$1001.50</th>
<th align="right">$744.65</th>
</tr>
</table>
```

Money spent on....	January	February
Clothes	\$241.10	\$50.20
Make-Up	\$30.00	\$44.45
Food	\$730.40	\$650.00
Sum	\$1001.50	\$744.65

HTML Table Tags

Tag	Description
<code><table></code>	Defines a table
<code><th></code>	Defines a header cell in a table
<code><tr></code>	Defines a row in a table
<code><td></code>	Defines a cell in a table
<code><caption></code>	Defines a table caption
<code><colgroup></code>	Specifies a group of one or more columns in a table for formatting
<code><col></code>	Specifies column properties for each column within a <code><colgroup></code> element
<code><thead></code>	Groups the header content in a table
<code><tbody></code>	Groups the body content in a table
<code><tfoot></code>	Groups the footer content in a table

HTML Lists

HTML lists allow web developers to group a set of related items in lists.

```
<h2>An Unordered HTML List</h2>
```

```
<ul>
```

```
  <li>Coffee</li>
```

```
  <li>Tea</li>
```

```
  <li>Milk</li>
```

```
</ul>
```

```
<h2>An Ordered HTML List</h2>
```

```
<ol>
```

```
  <li>Coffee</li>
```

```
  <li>Tea</li>
```

```
  <li>Milk</li>
```

```
</ol>
```

An Unordered HTML List

- Coffee
- Tea
- Milk

An Ordered HTML List

- 1.Coffee
- 2.Tea
- 3.Milk

HTML Unordered Lists

An unordered list starts with the tag. Each list item starts with the tag.

```
<h2>An Unordered HTML List</h2>
```

```
<ul>
```

```
<li>Coffee</li>
```

```
<li>Tea</li>
```

```
<li>Milk</li>
```

```
</ul>
```

An Unordered HTML List

•Coffee

•Tea

•Milk

HTML Ordered Lists

An ordered list starts with the `` tag. Each list item starts with the `` tag.

```
<h2>An Ordered HTML List</h2>
```

```
<ol>
```

```
<li>Coffee</li>
```

```
<li>Tea</li>
```

```
<li>Milk</li>
```

```
</ol>
```

An Ordered HTML List

1.Coffee

2.Tea

3.Milk

HTML Description Lists

- A description list is a list of terms, with a description of each term.
- `<dl>` tag defines the description list
- `<dt>` tag defines the term (name)
- `<dd>` tag describes each term

```
<h2>A Description List</h2>
```

```
<dl>
```

```
  <dt>Coffee</dt>
```

```
  <dd>- black hot drink</dd>
```

```
  <dt>Milk</dt>
```

```
  <dd>- white cold drink</dd>
```

```
</dl>
```

A Description List

Coffee

- black hot drink

Milk

- white cold drink

HTML List Tags

Tag	Description
<u></u>	Defines an unordered list
<u></u>	Defines an ordered list
<u></u>	Defines a list item
<u><dl></u>	Defines a description list
<u><dt></u>	Defines a term in a description list
<u><dd></u>	Describes the term in a description list

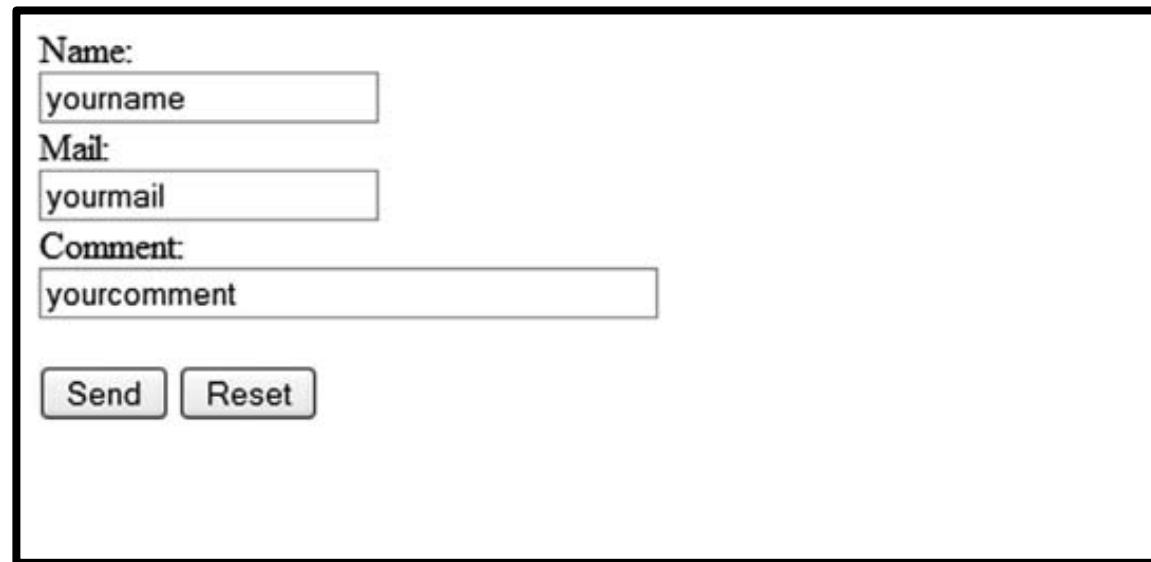
```
<ul type = "disc">  
<ul type = "circle">  
<ul type = "square">
```

```
<ol type = "A">  
<ol type = "a">  
<ol type = "I">  
<ol type = "i">
```

HTML Forms

An HTML form is used to collect user input. The user input is most often sent to a server for processing.

A simple form example

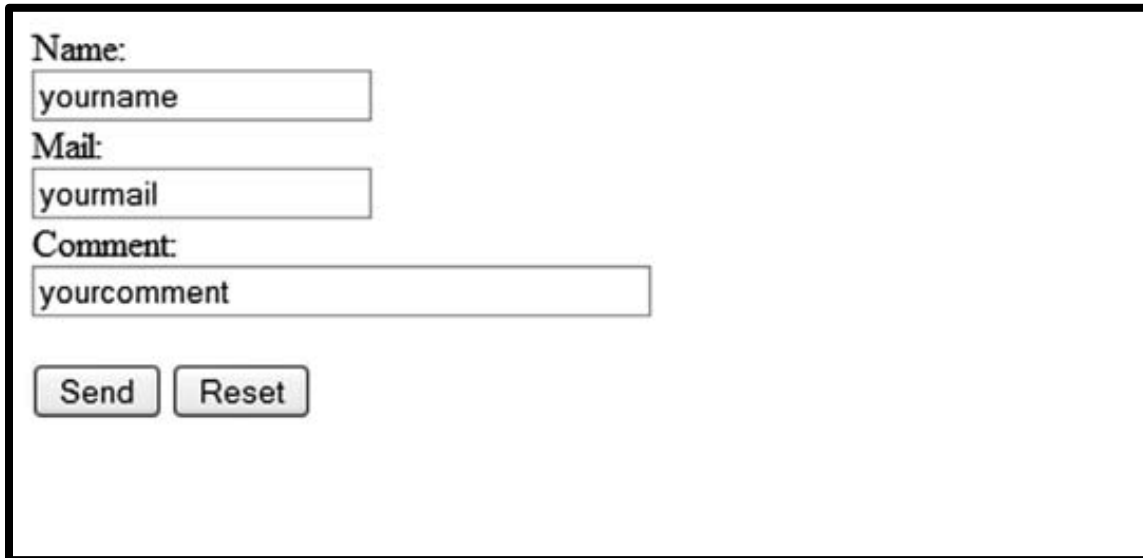


A simple HTML form example is shown, enclosed in a black rectangular border. The form contains three input fields and two buttons. The first input field is labeled "Name:" and contains the text "yourname". The second input field is labeled "Mail:" and contains the text "yourmail". The third input field is labeled "Comment:" and contains the text "yourcomment". Below the input fields are two buttons: "Send" and "Reset".

HTML Forms

An HTML form is used to collect user input. The user input is most often sent to a server for processing.

A simple form example



A simple HTML form example. It contains three input fields: 'Name:' with the placeholder 'yourname', 'Mail:' with the placeholder 'yourmail', and 'Comment:' with the placeholder 'yourcomment'. Below the input fields are two buttons: 'Send' and 'Reset'.

A form is defined with the `<form>` tag:

`<form>`

.

input elements

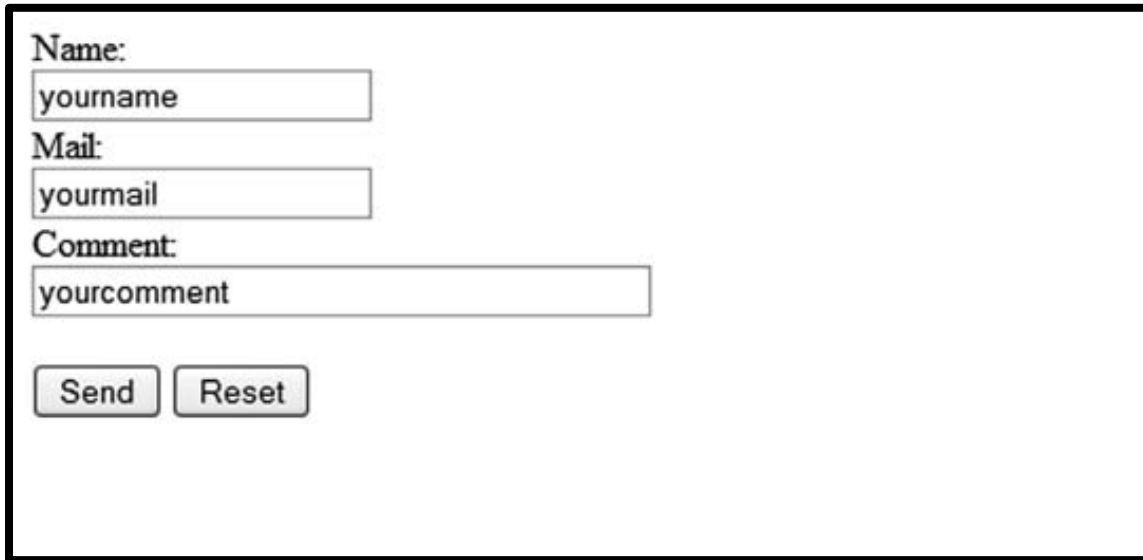
.

`</form>`

HTML Forms

An HTML form is used to collect user input. The user input is most often sent to a server for processing.

A simple form example



A simple HTML form example. It contains three text input fields labeled "Name:", "Mail:", and "Comment:". The "Name:" field contains the text "yourname", the "Mail:" field contains "yourmail", and the "Comment:" field contains "yourcomment". Below the input fields are two buttons labeled "Send" and "Reset".

A form is defined with the `<form>` tag:

`<form>`

.

input elements

.

`</form>`

The `<form>` element is a container for different types of input elements, such as: text fields, checkboxes, radio buttons, submit buttons, etc.

HTML Forms : The <input> Element

Type	Description
<input type="text">	Displays a single-line text input field
<input type="radio">	Displays a radio button (for selecting one of many choices)
<input type="checkbox">	Displays a checkbox (for selecting zero or more of many choices)
<input type="submit">	Displays a submit button (for submitting the form)
<input type="button">	Displays a clickable button

HTML Forms : The <input> Element - Text Fields

The `<input type="text">` defines a single-line input field for text input.

```
<h2>Text input fields</h2>
```

```
<form>
```

```
  <label for="fname">First name:</label><br>
```

```
  <input type="text" id="fname" name="fname" value="Shiyamala"><br>
```

```
  <label for="lname">Last name:</label><br>
```

```
  <input type="text" id="lname" name="lname" value="Gowri">
```

```
</form>
```

Text input fields

First name:

Last name:

HTML Forms : The <input> Element – Radio Buttons

The `<input type="radio">` defines a radio button.

Radio buttons let a user select ONE of a limited number of choices.

```
<h2>Radio Buttons</h2>
```

```
<form>
```

```
<input type="radio" id="male" name="gender" value="male">
```

```
<label for="male">Male</label><br>
```

```
<input type="radio" id="female" name="gender" value="female">
```

```
<label for="female">Female</label><br>
```

```
<input type="radio" id="other" name="gender" value="other">
```

```
<label for="other">Other</label>
```

```
</form>
```

Radio Buttons

- ☐ Male
- ☒ Female
- ☐ Other

HTML Forms : The <input> Element – Check boxes

The `<input type="checkbox">` defines a check box.

Checkboxes let a user select ZERO or MORE options of a limited number of choices.

```
<h2>Checkboxes</h2>

<form action="">
  <input type="checkbox" id="vehicle1" name="vehicle1" value="Bike">
  <label for="vehicle1"> I have a bike</label><br>
  <input type="checkbox" id="vehicle2" name="vehicle2" value="Car">
  <label for="vehicle2"> I have a car</label><br>
  <input type="checkbox" id="vehicle3" name="vehicle3" value="Boat">
  <label for="vehicle3"> I have a boat</label><br><br>
  <input type="submit" value="Submit">
</form>
```

Checkboxes

☒ I have a bike
☒ I have a car
☐ I have a boat

Submit

HTML Forms : The <input> Element – Drop down list

The <select> element defines a drop-down list:

```
<h2>The select Element</h2>

<p>The select element defines a drop-down list:</p>

<form action="">
  <label for="cars">Choose a car:</label>
  <select id="cars" name="cars">
    <option value="volvo">Volvo</option>
    <option value="saab">Saab</option>
    <option value="fiat">Fiat</option>
    <option value="audi">Audi</option>
  </select>
  <input type="submit">
</form>
```

The select Element

The select element defines a drop-down list:

Choose a car:

Volvo
Saab
Fiat
Audi

HTML Forms : The <input> Element – Button element

The **<button>** element defines a clickable button:

```
<h2>The button Element</h2>
```

```
<button type="button" onclick="alert('Hello World!')">Click Me!</button>
```

The button Element

Click Me!

An embedded page on this page says

Hello World!

OK

HTML Forms : The <input> Element – Password

<input type="password"> defines a password field:

```
<h2>Password field</h2>
```

```
<p>The <strong>input type="password"</strong> defines a password field:</p>
```

```
<form action="">
```

```
<label for="username">Username:</label><br>
```

```
<input type="text" id="username" name="username"><br>
```

```
<label for="pwd">Password:</label><br>
```

```
<input type="password" id="pwd" name="pwd"><br><br>
```

```
<input type="submit" value="Submit">
```

```
</form>
```

```
<p>The characters in a password field are masked (shown as asterisks or circles).</p>
```

Password field

The `input type="password"` defines a password field:

Username:

Password:

The characters in a password field are masked (shown as asterisks or circles).

HTML Forms : The <input> types

```
<input type="button">  
<input type="checkbox">  
<input type="color">  
<input type="date">  
<input type="datetime-local">  
<input type="email">  
<input type="file">  
<input type="hidden">  
<input type="image">  
<input type="month">  
<input type="number">  
<input type="password">  
<input type="radio">  
<input type="range">  
<input type="reset">  
<input type="search">  
<input type="submit">  
<input type="tel">  
<input type="text">  
<input type="time">  
<input type="url">  
<input type="week">
```

HTML MULTIMEDIA

- Multimedia comes in many different formats. It can be almost anything you can hear or see, like images, music, sound, videos, records, films, animations, and more.
- Web pages often contain multimedia elements of different types and formats.

The HTML <video> Element

```
<html>
<body>

<video width="400" controls>
  <source src="mov_bbb.mp4" type="video/mp4">
  <source src="mov_bbb.ogv" type="video/ogg">
  Your browser does not support HTML video.
</video>

</body>
</html>
```

video width="320" height="240" autoplay

video width="320" height="240" autoplay muted

HTML Video Formats

Browser	MP4	WebM	Ogg
Edge	YES	YES	YES
Chrome	YES	YES	YES
Firefox	YES	YES	YES
Safari	YES	YES	NO
Opera	YES	YES	YES

The HTML <audio> Element

```
<html>
```

```
<body>
```

```
<audio controls autoplay>
```

```
<source src="horse.ogg" type="audio/ogg">
```

```
<source src="documents\kkhh.mp3" type="audio/mpeg">
```

Your browser does not support the audio element.

```
</audio>
```

```
</body>
```

```
</html>
```



audio controls autoplay

audio controls autoplay muted

HTML audio Formats

Browser	MP3	WAV	OGG
Edge/IE	YES	YES*	YES*
Chrome	YES	YES	YES
Firefox	YES	YES	YES
Safari	YES	YES	NO
Opera	YES	YES	YES

HTML Audio - Media Types

File Format	Media Type
MP3	audio/mpeg
OGG	audio/ogg
WAV	audio/wav

HTML SVG Graphics

What is SVG?

- SVG stands for Scalable Vector Graphics
- SVG is used to define graphics for the Web

The HTML <svg> Element

- ✓ The HTML <svg> element is a container for SVG graphics.
- ✓ SVG has several methods for drawing paths, boxes, circles, text, and graphic images.

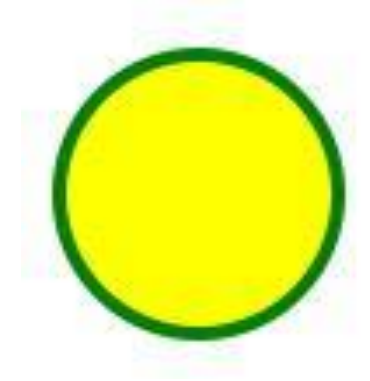
HTML SVG Graphics

```
<svg width="100" height="100">
```

```
<circle cx="50" cy="50" r="40" stroke="green" stroke-width="4" fill="yellow" />
```

Sorry, your browser does not support inline SVG.

```
</svg>
```



```
<svg width="400" height="100">
```

```
<rect width="400" height="100" style="fill:rgb(0,0,255);stroke-width:10;stroke:rgb(0,0,0)" />
```

Sorry, your browser does not support inline SVG.

```
</svg>
```

