



# HTML

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# NOTES

# HTML Document Structure

**<header />**

**<body />**

**<section />**

**<section />**

**<section />**

**<aside />**

**<footer />**

# Basic HTML Page Tags

```
<!DOCTYPE html>

<html>

  <head>

    <title>Hello World!</title>

  </head>

  <body>

    <p>I am loving HTML</p>

  </body>

</html>
```

Tag	Description
<b>&lt;!DOCTYPE html&gt;</b>	It is used to tell the browser the type of document.
<b>&lt;html&gt;</b>	This tag is container for all other HTML tags.
<b>&lt;head&gt;</b>	Tag to define the head portion of the document.
<b>&lt;title&gt;</b>	It is used to set title of the document shown on the browser's tab
<b>&lt;body&gt;</b>	<body> contains all content of HTML document that is shown to the user
<b>&lt;p&gt;</b>	<p> is used to define the paragraph

---

\*Note: In HTML every tag must have an end tag, For Example, if you are inserting a paragraph with <p> it should have an end tag </p>, There are some exception tags that don't have an end tag like <!DOCTYPE html>, <br>.

# HTML Text Formatting

Tag	Description
<b>&lt;h?&gt;Heading&lt;/h?&gt;</b>	Used to insert headings, h1(Largest) to h6 (Smallest)
<b>&lt;b&gt;</b>	To make a text bold
<b>&lt;i&gt;</b>	To make a text italic
<b>&lt;strong&gt;</b>	Used to show important text, makes a text bold
<b>&lt;em&gt;</b>	Used to define emphasised text
<b>&lt;mark&gt;</b>	Used to highlight the text
<b>&lt;s&gt;</b>	To strikethrough the text
<b>&lt;code&gt;</b>	Used to insert the source code in the document
<b>&lt;cite&gt;</b>	To insert title of creative work like <a href="#">coding bugs</a> , <a href="#">notes gallery</a>
<b>&lt;time&gt;</b>	Used to insert the date and time
<b>&lt;address&gt;</b>	Used to insert the address
<b>&lt;sub&gt;</b>	Defines subscript text
<b>&lt;sup&gt;</b>	Defines superscript text
<b>&lt;blockquote&gt;</b>	Block Quote an element from another source within a document
<b>&lt;pre&gt;</b>	Defines pre formatted text

## HTML Text Formatting Example

The below is code demonstrates how to use HTML text formatting tags:

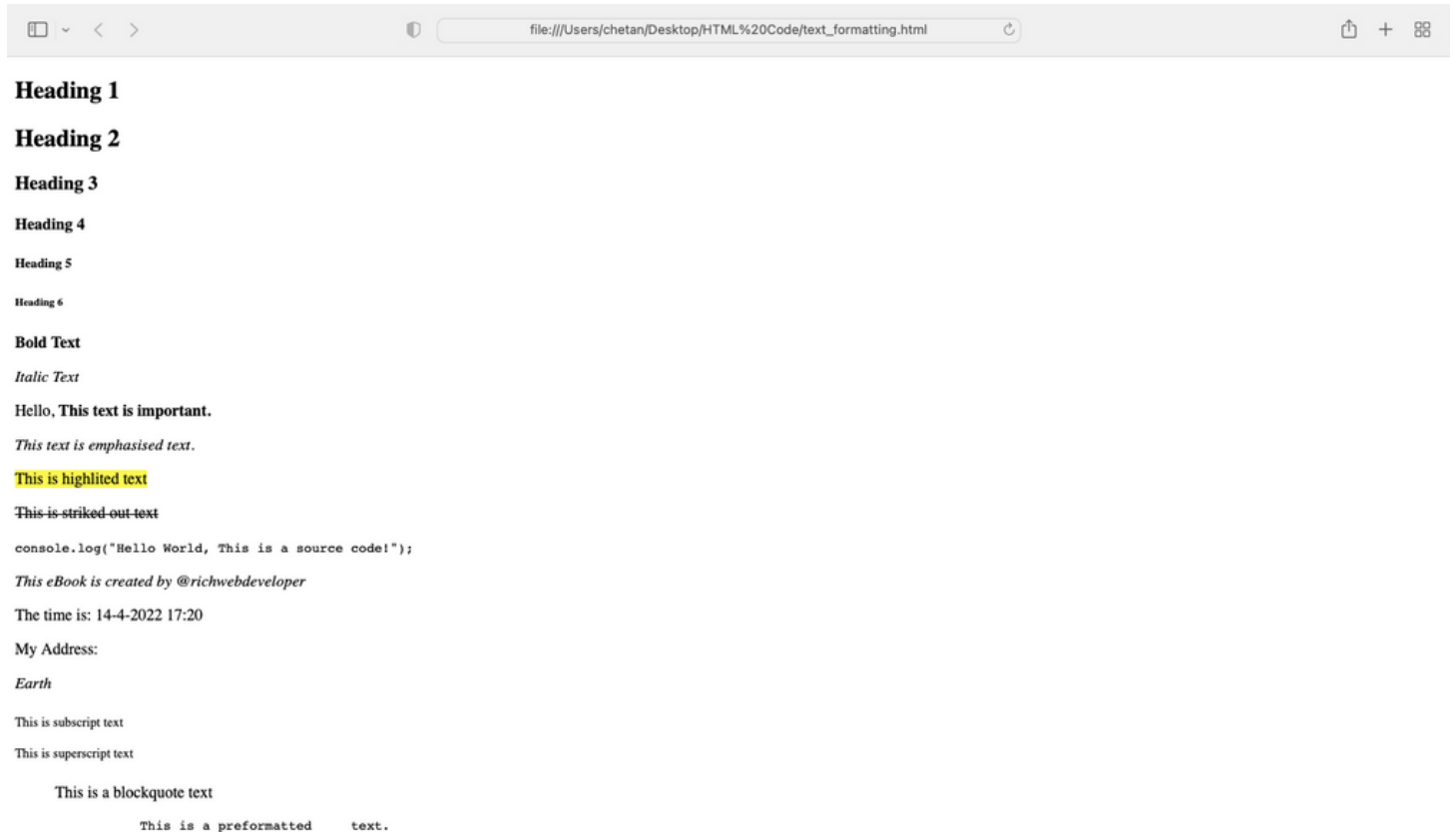
```
<!DOCTYPE html>
<html>

<head>
  <title>Text Formatting</title>
</head>

<body>
  <section>
    <h1>Heading 1</h1>
    <h2>Heading 2</h2>
    <h3>Heading 3</h3>
    <h4>Heading 4</h4>
    <h5>Heading 5</h5>
    <h6>Heading 6</h6>
  </section>
  <section>
    <p>
      <b>Bold Text</b>
    </p>
    <p>
      <i>Italic Text</i>
    </p>
    <p>
      Hello, <strong>This text is important.</strong>
    </p>
    <p>
      <em>This text is emphasised text.</em>
    </p>
    <p>
      <mark>
        This is highlited text
      </mark>
    </p>
    <p>
      <s>
        This is striked out text
      </s>
    </p>
    <p>
      <code>
        console.log("Hello World, This is a source code!");
      </code>
    </p>
    <p>
      <cite>This eBook is created by @richwebdeveloper</cite>
    </p>
    <p>
      The time is: <time>14-4-2022 17:20</time>
    </p>
    <p>
      My Address:
      <address>
        Earth
      </address>
    </p>
    <p>
      <sub>
        This is subscript text
      </sub>
    </p>
    <p>
      <sup>
        This is superscript text
      </sup>
    </p>
    <p>
      <blockquote>
        This is a blockquote text
      </blockquote>
    </p>
    <p>
      <pre>
        This is a preformatted      text.
      </pre>
    </p>
  </section>
</body>

</html>
```

# Output



## HTML Tables Tags

Tag	Description
<b>&lt;table&gt;</b>	Define a table
<b>&lt;thead&gt;</b>	Used to group table header content
<b>&lt;tbody&gt;</b>	Container for table content
<b>&lt;th&gt;</b>	To insert header cell within row
<b>&lt;tr&gt;</b>	To Insert a row within table
<b>&lt;td&gt;</b>	To insert a table cell within row

# Table Example

```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Table</title>
</head>

<body>
  <section>
    <table border="1">
      <thead>
        <tr>
          <th>Name</th>
          <th>Age</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>John</td>
          <td>25</td>
        </tr>
        <tr>
          <td>Jane</td>
          <td>24</td>
        </tr>
        <tr>
          <td>Jack</td>
          <td>23</td>
        </tr>
      </tbody>
    </table>
  </section>
</body>
</html>
```

## Output:

---

Name	Age
John	25
Jane	24
Jack	23

# HTML Images

Images make websites beautiful and easy to process information. To add images to HTML pages **<img> tag is used**, img tag has the following important attributes that are needed to format an image.

Image Attributes	Description
<b>src</b>	Used to specify the path of image file
<b>alt</b>	Used to show an alternative name to the image if the image is not loaded and helpful for Search Engine Optimization.
<b>height</b>	Used to specify the height of the image
<b>width</b>	Used to specify the width of the image

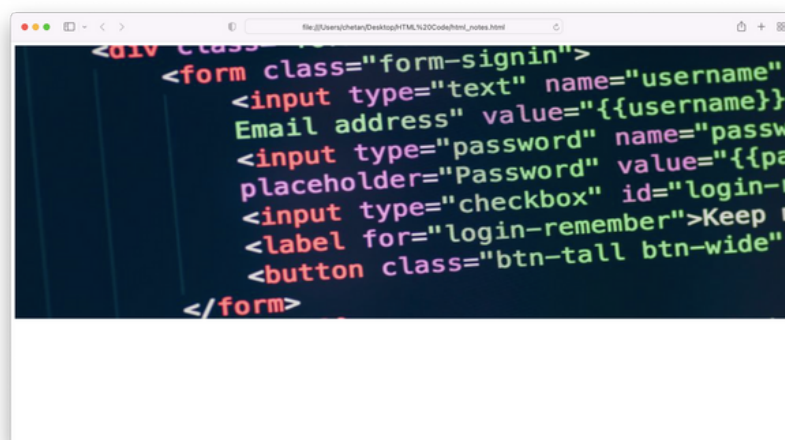
```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Images</title>
</head>

<body>
  <section>
    
  </section>
</body>

</html>
```

## Output:





# HTML Links

HTML links are a powerful way to allow seamless navigation of pages on your website. When a user clicks on the link, the browser automatically follows it and loads the link URL.

To insert the links in the webpage we have to **use the <a> tag**. Following are the important attributes that are required to insert the links.

Anchor tag attr	Description
<b>href</b>	Used to specify the link
<b>target</b>	Used to specify where link should be open, Value = <code>_blank</code> , <code>_parent</code> , <code>_self</code> , <code>_top</code>
<b>download</b>	Used to specify the target file if you want to add download file feature

```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Images</title>
</head>

<body>
  <section>
    <a href="https://google.com">
      Go to google.com
    </a>
  </section>
</body>

</html>
```

# HTML Lists

Using HTML it's possible to display information in a list. This makes it easier to understand the data. HTML provides 3 ways to specify the information.

List Type	Description
<b>&lt;ol&gt;</b>	To insert ordered list in the web page
<b>&lt;ul&gt;</b>	To insert unordered list in the web page
<b>&lt;dl&gt;</b>	To insert description list in the web page, It is arranged in key value pair

```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Lists</title>
</head>

<body>
  <section>
    <h3>Ordered List</h3>
    <ol>
      <li>One</li>
      <li>Two</li>
      <li>Three</li>
    </ol>
  </section>
  <section>
    <h3>Unordered List</h3>
    <ul>
      <li>One</li>
      <li>Two</li>
      <li>Three</li>
    </ul>
  </section>
  <section>
    <h3>Description List</h3>
    <dl>
      <dt>One</dt>
      <dd>One Description</dd>
      <dt>Two</dt>
      <dd>Two Description</dd>
      <dt>Three</dt>
      <dd>Three Description</dd>
    </dl>
  </section>
</body>
</html>
```

In above example <li> is used to insert a list item, <dt> means data term(key) and <dd> data description(value).

# HTML Lists Output



# HTML Forms

Suppose your client or boss told you to design a webpage that takes input from the user. In that scenario, you will need to add a form to the webpage.

To add the form to the webpage we have to use the `<form>` element. Following are the attributes used for the form tag.

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Attributes	Description
<b>name</b>	This attribute defines name of the form, it should be unique
<b>action</b>	Path to backend script, which process the data
<b>method</b>	Used to set HTTP method to submit data to the backend, There are 2 types of HTTP methods: GET and POST
<b>enctype</b>	Used to define how browser should encode the data before sending it to the server, Values for this attributes are: <ul style="list-style-type: none"><li>• <b>application/x-www-form-urlencoded</b>: The default value.</li><li>• <b>multipart/form-data</b>: If form contains input type file then this tag is used</li><li>• <b>text/plain</b>: Introduced in HTML5 for debugging.</li></ul>

## Form Field Types

- Text Fields
- Buttons
- Checkbox
- Radiobox
- Select options control
- File select
- Hidden inputs
- Labels

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# Text Fields

Type	Description
<b>text</b>	Used to accept single line text data
<b>password</b>	Used to accept password

## Text Fields Attributes

Attribute	Description
<b>type</b>	Type of the text field: text or password
<b>name</b>	Name of the text field, It should be unique
<b>id</b>	Id of the text field, It should be unique
<b>size</b>	Width of the text fields in terms of characters

## Multi-Line Text Field

Element	Description
<b>&lt;textarea&gt;</b>	Used to define multiple line text field to accept the data like user address and description of the product

## Multi-Line Text Field Attributes

Attribute	Description
<b>name</b>	Used to set name of the field
<b>id</b>	Used to set the id of the field
<b>rows</b>	Used to set number of rows for text area input
<b>cols</b>	Used to set number of columns for text area input

# Form Text Field Example

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```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Forms</title>
</head>

<body>
  <section>
    <form name="user_form" method="post" action="/my_action">
      Name: <input type="text" name="name" id="name" value=""><br>
      Password: <input type="password" name="password" id="password" value=""><br>
      address: <textarea name="address" id="address" cols="30" rows="10"></textarea><br>
      <input type="submit" value="Submit">
    </form>
  </section>
</body>

</html>
```

## Output:



The screenshot shows a web browser window with the address bar displaying the file path: file:///Users/chetan/Desktop/HTML%20Code/html\_notes.html. The rendered form is displayed on the left side of the browser window. It includes labels for 'Name:', 'Password:', and 'address:'. The 'Name:' and 'Password:' fields are single-line text inputs. The 'address:' field is a multi-line text area. Below the text area is a 'Submit' button.

# Buttons

If you want to add buttons in the form like Submit, Save, Update and Cancel, You will need to use <button> tag to add the button in the form.

## Button Attributes

Attribute	Description
<b>type</b>	Type of the button, Value for this attribute will be button
<b>name</b>	To define the name of the button
<b>id</b>	To define the id of the button
<b>onClick</b>	Javascript function to be called when user clicks on the button

## Checkbox

If you want to add feature of the selecting the multiple options like your favourite subjects, your favourite food, place would you like to travel then checkbox field is used in the form. For grouping checkbox there should be same name for all checkbox.

## Checkbox Attributes

Attribute	Description
<b>type</b>	Used to set type of the input, its value will be checkbox
<b>name</b>	To define the name of the checkbox
<b>id</b>	To define the id of the checkbox
<b>onChange</b>	Javascript function to be called when user checks or uncheck the checkbox
<b>value</b>	To set the value of the checkbox, Like if you are adding field to choose your favourite food the value will be food name
<b>checked</b>	To set if checkbox is checked or not, If you add this attribute in the element checkbox will be selected by default

# Radio Button

If you want to give the option to select only one field from the multiple options available to the user then the radio button is used.

For example, there will be multiple genders but we allow users to select only one gender. For grouping radio buttons there should be same name for all checkbox.

## Radio Button Attributes

Attribute	Description
<b>type</b>	Used to set type of the input, its value will be radio
<b>name</b>	To define the name of the radio button
<b>id</b>	To define the id of the radio button
<b>onChange</b>	Javascript function to be called when user checks or uncheck the radio button
<b>value</b>	To set the value of the radio button
<b>checked</b>	To set if the radio button is checked or not, If you add this attribute in the element radio button will be selected by default

## Select Option Control

If you have a long list of options and you have to allow select only one option then there you will use select input type instead of showing a lot of radio buttons.

For example, suppose you want to add a list of the cities to select user city, then you will choose select form control instead of radio buttons.



# File Input

If you want to add file upload feature then file input is used, For example suppose you have to add the feature of setting profile pic of the user then you will have to use file input type.

While adding file input control, never forget to set **enctype = "multipart/form-data"** attribute in the form element.

## Hidden Inputs

If you want to add/set the value in the form that can be used later or can be sent to the server without showing it to the user at that time hidden fields are used.

For example, You will need a user id for front-end operation but you don't have to show the user id to the user then you will have to use a hidden input field.

## Form Labels

In the above form example, we set the input field name in plain text format, like name, and password, But there is a better option to set a label for the input field in the form.

We can use <label> to set a label for the input field, So when users click on the label the form field automatically gets selected. and we can format that label text. For this feature we will have to set "for" attribute in the label and it should match with input field id.

# Form Fields Example

```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Forms</title>
</head>

<body>
  <section>
    <form name="user_form" method="post" action="/my_action">
      <label for="name">Name:</label> <input type="text" name="name" id="name" value=""><br>
      <label for="password">Password:</label> <input type="password" name="password" id="password"
value=""><br>
      <label for="address">address:</label> <textarea name="address" id="address" cols="30"
rows="10"></textarea><br>
      <label for="checkbox">Checkbox:</label> <input type="checkbox" name="checkbox" id="checkbox"
value="checkbox_1"><br>
      <label for="checkbox_2"> Checkbox 2:</label> <input type="checkbox" name="checkbox"
id="checkbox_2"
value="checkbox_2"><br>
      <label for="radio">Radio:</label> <input type="radio" name="radio" id="radio" value="radio"><br>
      <label for="radio_2">Radio:</label> <input type="radio" name="radio" id="radio_2"
value="radio_2"><br>
      <label for="select">Select:</label> <select name="select" id="select">
        <option value="option_1">Option 1</option>
        <option value="option_2">Option 2</option>
        <option value="option_3">Option 3</option>
      </select><br>
      <label for="file">File:</label> <input type="file" name="file" id="file" value=""><br>
      <label for="hidden">Hidden:</label> <input type="hidden" name="hidden" id="hidden" value="12">
<br>
      <input type="submit" value="Submit">
    </form>
  </section>
</body>
</html>
```

The screenshot shows a web browser window with the URL `file:///Users/chetan/Desktop/HTML%20Code/html_notes.html`. The rendered form contains the following elements:

- Name:** A text input field.
- Password:** A password input field.
- address:** A text area with 30 columns and 10 rows.
- Checkbox:** A checkbox labeled "Checkbox:".
- Checkbox 2:** A checkbox labeled "Checkbox 2:".
- Radio:** A radio button labeled "Radio:".
- Radio:** A radio button labeled "Radio:".
- Select:** A dropdown menu labeled "Select:" with three options: "Option 1", "Option 2", and "Option 3".
- File:** A file input field labeled "File:" with the text "Choose File" and "no file selected".
- Hidden:** A hidden input field labeled "Hidden:" with the value "12".
- Submit:** A submit button labeled "Submit".

# HTML5 New Input Elements

In the updated version of HTML5, they introduced new tags that are very useful for web developers and make web developers work easy. Below are the new input type attributes:

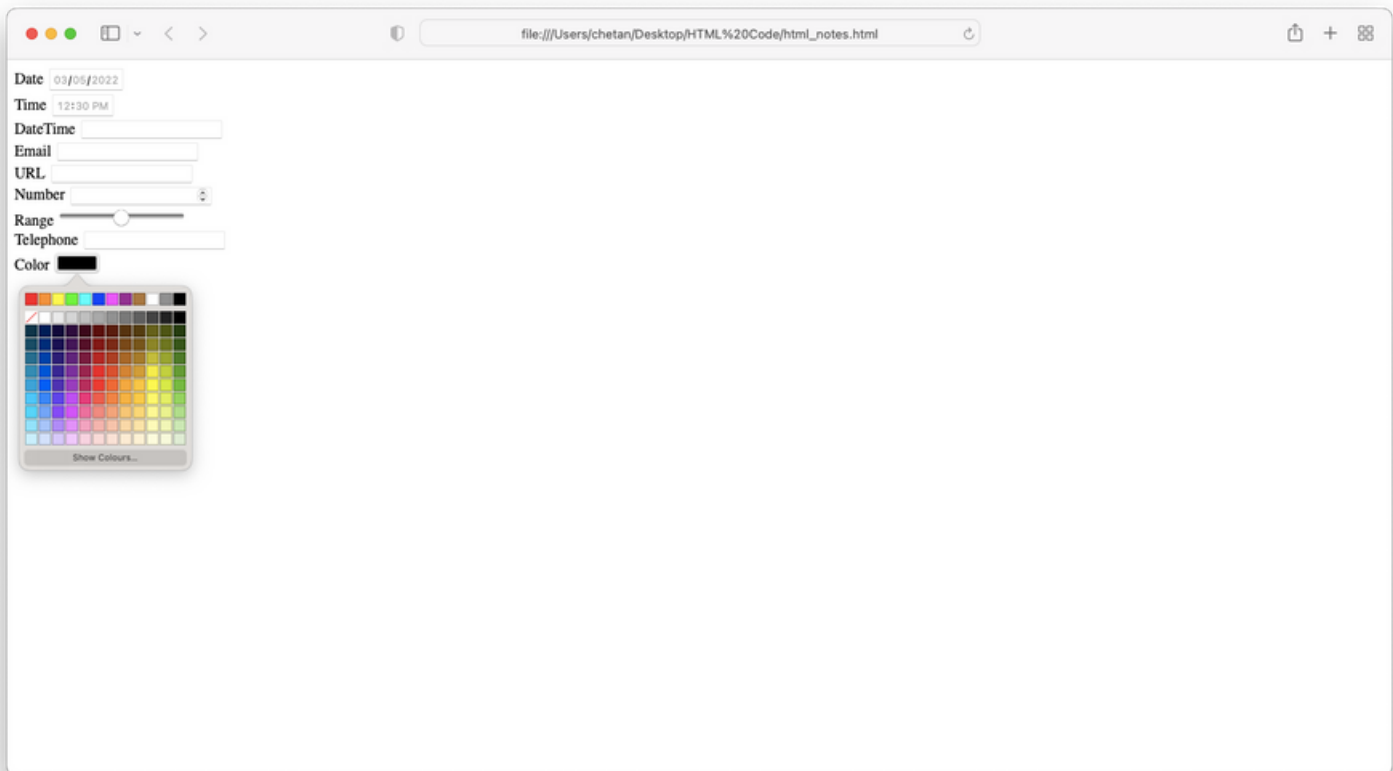
Input Attribute	Description
<b>date</b>	To allow user to select date from drop-down calendar
<b>DateTime</b>	To allow user to select date and time at same time
<b>time</b>	To allow user to select the time
<b>email</b>	Used to add email field
<b>tel</b>	Used to add phone number field
<b>color</b>	Used to add color picker to select color
<b>number</b>	Used to add number field that accepts integer and number
<b>range</b>	Used to add range slider
<b>url</b>	Used to add URL field

```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Forms</title>
</head>

<body>
  <section>
    <form name="user_form" method="post" action="/my_action">
      <label for="date">Date</label> <input type="date" name="date" id="date" value=""><br>
      <label for="time">Time</label> <input type="time" name="time" id="time" value=""><br>
      <label for="DateTime">DateTime</label> <input type="datetime" name="DateTime"
      id="DateTime" value=""><br>
      <label for="email">Email</label> <input type="email" name="email" id="email" value="">
      <br>
      <label for="url">URL</label> <input type="url" name="url" id="url" value=""><br>
      <label for="number">Number</label> <input type="number" name="number" id="number"
      value=""><br>
      <label for="range">Range</label> <input type="range" name="range" id="range" value="">
      <br>
      <label for="tel">Telephone</label> <input type="tel" name="tel" id="tel" value=""><br>
      <label for="color">Color</label> <input type="color" name="color" id="color" value="">
      <br>
    </form>
  </section>
</body>
</html>
```

# Output



## Comment in HTML

To comment the code in html the following syntax is used.

```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Forms</title>
</head>

<body>
  <section>
    <!-- This is HTML Comment-->
    <h1>Hello World</h1>
  </section>
</body>

</html>
```

# HTML Layout

In the above examples, we created HTML pages without structuring pages well. To make a good website experience for the user HTML provides elements to design an HTML layout to make a website look awesome.

In the very first we have seen the structure of the HTML webpage, Here we will go through all tags with example

Tag	Description
<b>&lt;div&gt;</b>	This is most used tag for designing HTML pages, This is container for HTML elements. Using <a href="#">DIV</a> we can divide the HTML pages into different blocks and add style to each div. INSTAGRAM - @atulkumary CODING BUGS NOTES GALLERY
<b>&lt;section&gt;</b>	This tag allows us to divide page in sections
<b>&lt;p&gt;</b>	This tag allows us to define paragraph
<b>&lt;header&gt;</b>	This tag allows us to add header in the webpage
<b>&lt;footer&gt;</b>	This tag allows us to add footer in the webpage
<b>&lt;aside&gt;</b>	The HTML aside tag identifies content that is not essential to the page and should be displayed in a separate box or beside the main content.
<b>&lt;hr&gt;</b>	This tag is used to add horizontal line between two elements
<b>&lt;br&gt;</b>	This tag is used to add line break

# HTML Layout Example

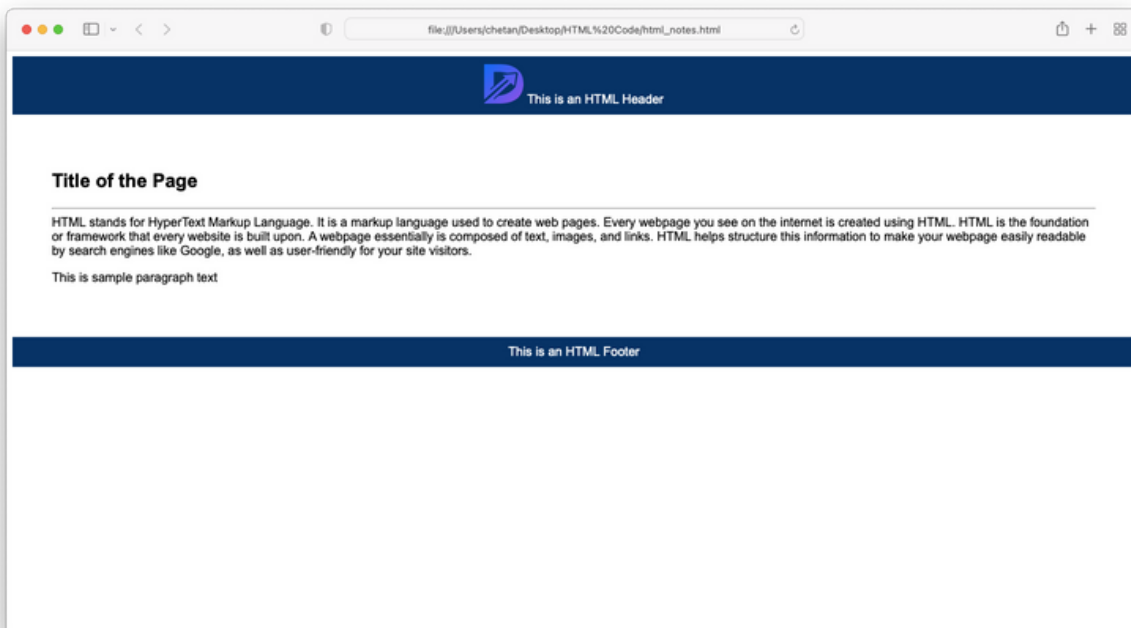
```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Forms</title>
  <style>
    .header, .footer{
      background-color: #003366;
      color: white;
      text-align: center;
      padding: 10px;
    }
    .section {
      padding: 50px;
    }

    html{
      font-family: Arial, Helvetica, sans-serif;
    }
  </style>
</head>

<body>
  <!--HTML Layout -->
  <header class="header">
    
    This is an HTML Header
  </header>
  <body>
    <section class="section">
      <div><h1>Title of the Page</h1></div>
      <hr>
      <div>HTML stands for HyperText Markup Language. It is a markup language used to create
web pages. Every webpage you see on the internet is created using HTML. HTML is the foundation or
framework that every website is built upon. A webpage essentially is composed of text, images, and
links. HTML helps structure this information to make your webpage easily readable by search engines
like Google, as well as user-friendly for your site visitors.</div>
      <p>
        This is sample paragraph text
      </p>
    </section>
  </body>
  <footer class="footer">
    This is an HTML Footer
  </footer>
</body>

</html>
```



# Video in HTML Page

If you want to add video in HTML page, we can do this using <video> tag, Let's see an example of adding video in the webpage.

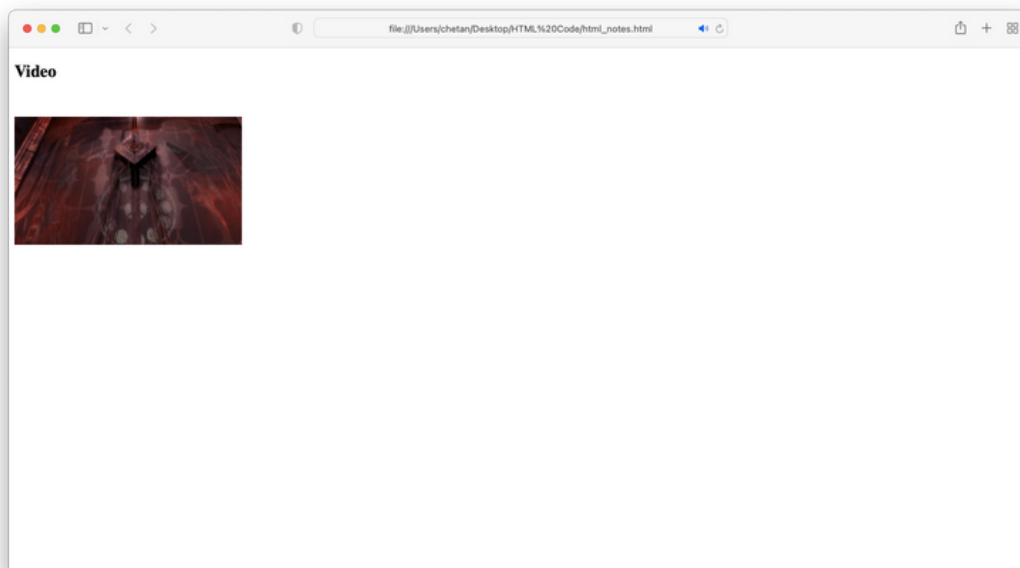
```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Video</title>
</head>

<body>
  <body>
    <section class="section">
      <div>
        <h1>Video</h1>
      </div>

      <video width="320" height="240" controls>
        <source src="http://commondatastorage.googleapis.com/gtv-videos-
        bucket/sample/ElephantsDream.mp4"
          type="video/mp4">
      </video>

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



The control attributes add video controls like play, pause, and volume. width and height are used to define video width and height. source allows us to specify video files we can add alternative files using this tag.

To add the autoplay feature, add the "autoplay" attribute in the audio tag.

# Audio in HTML Page

If you want to add audio in HTML page, we can do this using `<audio>` tag, Let's see an example of adding audio in the webpage.

```
<!DOCTYPE html>
<html>

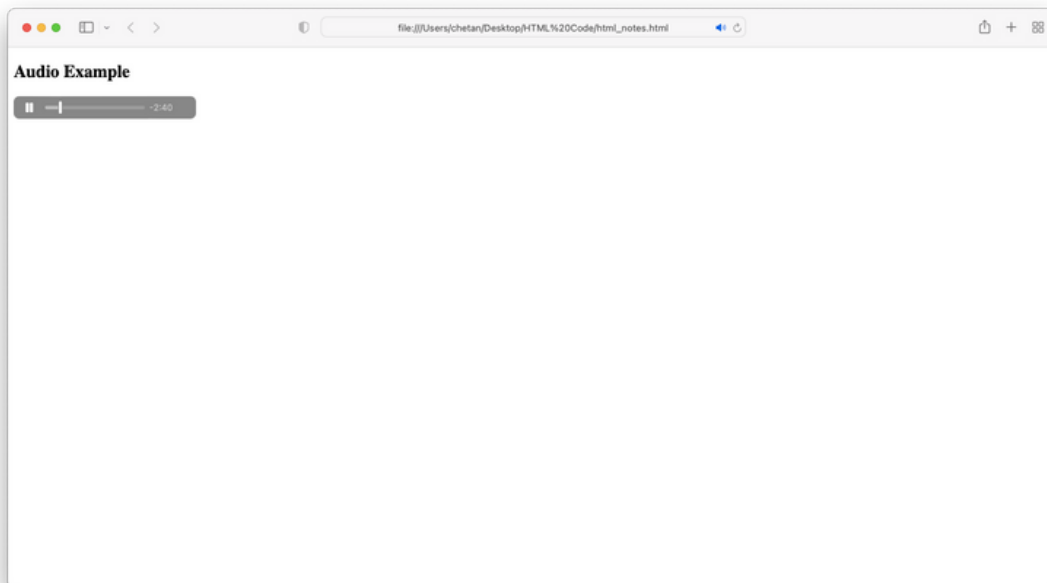
<head>
  <title>HTML Audio</title>
</head>

<body>
  <body>
    <section class="section">

      <div>
        <h1>Audio Example</h1>
      </div>

      <audio width="320" height="240" controls>
        <source src="https://dl.espressif.com/dl/audio/ff-16b-2c-44100hz.mp3"
          type="audio/mp3">
      </audio>

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



The control attributes add audio controls like play, pause, and volume. source allows us to specify audio files we can add alternative files using this tag.

To add the autoplay feature, add the "autoplay" attribute in the audio tag.



# Adding CSS to HTML

The Cascading Style Sheets (CSS) is a code that is used to format the layout of your website or web page. It can be used in conjunction with HTML to style your website.

CSS helps you make changes to the appearance of elements within a web page such as the text, fonts, colors, images, and spacing. You can also create and add custom fonts.

There are 3 ways given below to add CSS to the HTML page:

Way	Description
External	To add external CSS file using <link> tag
Internal	To add CSS in HTML page in the head section using <style> tag
Inline	To add css inside HTML tag using style attribute

```
<!DOCTYPE html>
<html>

<head>
  <title>HTML Audio</title>
  <!-- External CSS file-->
  <link rel="stylesheet" type="text/css" href="../css/styles.css">

  <!-- Internal CSS-->
  <style>
    .section {
      background-color: aqua;
    }
  </style>
</head>

<body>
  <body>
    <section class="section">
      <div>
        <!-- Inline style-->
        <h1 style="font-size: 20px;">Adding CSS</h1>
      </div>
    </section>
  </body>
</html>
```

# Adding JavaScript to HTML

JavaScript is a language that is widely used for creating interactive web pages. You can add attractive and dynamic elements such as menus, popup windows, photo galleries, and delivery charges to your site using JavaScript programming.

JavaScript is executed in the user's web browser so developers use JavaScript as much possible as they can to make the user experience better.

```
<!DOCTYPE html>
<html>

<head>
  <title>JavaScript Example</title>
</head>

<body>
  <body>
    <script>
      alert("Hello World!");
    </script>
  </body>
</html>
```

