

HTML

1.1 Basics of HTML

1.1.1 What is HTML and Use of HTML

HTML(HyperText Markup Language) is a widely used markup language used to create webpages. It enables us to create the basic structure of a page.

About different web browser

1.1.2 HTML Version

The latest version of HTML is HTML5

- Added new Tags like <audio>, <video>, <header>, <footer>, <canvas>, <article>, etc in an update to HTML4.

1.1.3 Structure of HTML

There are two types of tags in HTML

1. Empty Tags:
 - These tags do not require closing tags
 - Example: ,
2. Paired Tags:
 - These tags have both opening and closing tags
 - Example: <a>...

Basic HTML Structure

```
<!DOCTYPE html>
<head>
<title>HTML Structure</title>
</head>
<body>
<h1>This is GUI Training</h1>

</body>
</html>
```

1.2 Basic Controls

1.2.1 form(method type , action...)

- HTML form is used to create a form in a web page for user input.
- **method attribute:**
 - Specifies the HTTP method for submitting form data, commonly used as GET or POST.
 - **GET:** This method appends the form data to the URL, creating a query string.
 - Eg: google.com/home?id=1
 - **POST:** This method sends the form data in the request body and is used for submitting data to the server to be processed
 - Sensitive data should be sent using the POST method
 - Eg: Submitting a Login Form
- **action attribute:**
 - The action attribute defines the URL/server-side script where form data will be sent after submission.
 - Eg:

```
<form method="POST" action="/validateuser">
.....
</form>
```

1.2.2 Input

- The input tag is used to create various form controls needed for user input.
- Input tag can take various types of input and the default style of input can be changed using the "type" attribute.
- Eg:

```
<input type="text" name="name" placeholder="Enter your name">
<input type="email" name="email" placeholder="Enter your email">
<input type="password" name="password" placeholder="Enter your password">
```

1.2.3 text area

- Textarea tag is used to take multiline input from the user.
- Eg:
`<textarea name="desc" rows="3" cols="50" placeholder="Enter the description"></textarea>`

1.2.4 selectbox

- Select Box is used to create a dropdown list. The list is used inside the HTML form to take user choice as input.
- Eg:
`<select name="city">
 <option value="pbr">Porbandar</option>
 <option value="raj">Rajkot</option>
 <option value="ahm">Ahmedabad</option>
</select>`

1.2.5 checkbox

- A checkbox is an input type of input tag used to create checkboxes that enable users to select one or more choices.
- Eg:
`<input type="checkbox" name="tech" value="asp"> ASP .NET
<input type="checkbox" name="tech" value="node"> NodeJS
<input type="checkbox" name="tech" value="django"> Django`

1.2.6 radio button

- A radio button is an input type input tag used to create exclusive options where users can select only one from many.
- Eg:
`<input type="radio" name="gender" value="male"> Male
<input type="radio" name="gender" value="female"> Female`

1.2.7 button

- A button tag is used to create a clickable button inside a webpage.
- It can be used to submit a form or perform an event using JavaScript.
- It can be a simple text button or an image button.

- Eg:

Image button:

```
<button type="button">  
      
</button>
```

Submit Button

```
<button type="submit"> Login</button>
```

1.2.8 submit input

- Submit input is a type of button that can be used to submit a form using the INPUT tag by changing the input type to submit.

- Eg:

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

1.2.9 File Control with its attribute

- File control is used to create a file upload functionality, which allows users to select and upload files
- The file is an input type of INPUT tag which can be used by changing the input type to file.
- Accept Attribute: accept attribute defines which type of file will be accepted with that control.
- Multiple: Multiple attributes allows users to select multiple files.

- Eg:

```
<input type="file" id="avatar" name="avatar" accept=".jpg, .png">
```

1.3 Control Attributes

1.3.1 name

- The 'name' is an attribute used to name an element. It can help the server identify and label the data.
- Eg: `<input type="email" name="userEmail">`
`<input type="password" name="userPassword">`
-

1.3.2 id

- The 'id' is an attribute used to uniquely identify an element.
- Id can be used to apply css to a single element
- Eg:
`<h1 id="title-style">GUI basic Training - Raj Mandaviya</h1>`
It can be accessed in css like

```
#title-style{  
Background: black;  
Color: red;  
}
```

1.3.3 value

- 'Value' is an attribute used to define the initial value of elements like button, input, select, etc.
- Eg:
`<button type="submit" value="login" ></button>`
`<input type="email" value="raj@gmail.com" name="email">`
`<select name="city">`
`<option value="pbr">Porbandar</option>`
`<option value="raj">Rajkot</option>`
`<option value="ahm">Ahmedabad</option>`
`</select>`

1.3.4 class

- The 'Class' attribute is used to assign groups to some elements. Using this group same CSS can be applied to multiple elements.

- Eg:

```
<h1 class="red-text">Welcome</h1>
<h2 class="red-text">I am Raj</h2>
<h3 class="red-text">This is GUI training</h3>
```

CSS:

```
.red-text{
color: red;
}
```

1.4 Basic Tag with its attribute

1.4.1 image tag, a tag

IMG tag

- IMG tag is used to embed images on a webpage.
- Attributes
 - Src: Src attribute is used to define the path or URL of an image to be displayed.
 - Alt: The alt attribute is used to define what text should be displayed if the image is not able to load.
 - Width: Defines the width of the image.
 - Height: Defines the height of the image.
- Eg:

```

```

a tag

- The 'a'(anchor) tag is used to create a hyperlink in a webpage to help users navigate through different web pages.
- Attributes
 - Href: path or URL where the browser will navigate to.

- Eg:

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

1.4.2 What is meta tag , use of meta tag

- Meta tag is used to provide metadata of a webpage. It helps search engines understand the webpage's information correctly.
- It is written inside the 'head' tag.
- Eg:
To define the character encoding

```
<meta charset="UTF-8">
```

The meta tag is also important for responsive web design. It can set the viewport width to device-width

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

It can also set descriptions that are shown as search results.

```
<meta name="description" content="This is a description of the web page">
```

1.4.3 What is a responsive website, and how a user can do it?

- A responsive website is a type of website that is developed to adjust according to the device it is being viewed on.
- It is very helpful when the users are viewing the website on mobile phones or tablets.
- Responsiveness can be achieved using many ways, some of the famous ways are

- **Media queries**

Media queries are a CSS feature used to apply different styles based on the characteristics of the user's device or viewport.

Eg:

```
@media (max-width: 1450px) {  
    #navsearchbar{  
        width: 480px;
```

- **a CSS framework like Bootstrap, TailwindCSS, etc.**
- **Mobile First Approach:**

In this approach, the website is created with a focus on mobile devices. This will ensure that the content of the website is properly set.

