**1.1 Basics of HTML**

**1.1.1 What is HTML, Use of HTML, About Different Web Browsers**

HTML (Hyper Text Markup Language) is the standard language for creating web pages. It defines the structure of a webpage using elements and tags.

* **Use of HTML**: HTML is used to create web pages and web applications. It structures content like headings, paragraphs, links, images, and more.
* **Different Web Browsers**: Web browsers like Google Chrome, Firefox, Safari, and Edge interpret HTML to display content on the web. These browsers render the HTML code to show webpages correctly.

**1.1.2 HTML Version**

HTML has evolved over the years, starting from HTML 1.0 to the latest version, HTML5.

* **HTML5**: It introduces new elements like <video>, <audio>, <article>, and new form controls.
* It also improves support for multimedia web designs.

**1.1.3 Structure of HTML**

An HTML document is structured with various elements enclosed in tags.

**Basic Structure of an HTML document**:

<!DOCTYPE html>

<html>

<head>

<title>Page Title</title>

</head>

<body>

<h1>This is a Heading</h1>

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

</body>

</html>

* <!DOCTYPE html>: Declares the document type as HTML5.
* <html>: The root element that contains all other HTML elements.
* <head>: Contains meta-information about the webpage like title, character set, etc.
* <body>: Contains the visible content of the webpage like text, images, links, etc.

**1.2 Basic Controls**

**1.2.1 Form (Method Type, Action)**

Form is a container for input elements where users can enter data. The 'method' attribute defines how to send the data, and the 'action' specifies where to send it.

- method="get": Sends data in the URL.

- method="post": Sends data more securely in the body of the request.

Example:

<form action="/submit" method="post">

<!-- Form inputs here -->

</form>

**1.2.2 Input**

Input elements allow users to enter data. You can specify the type of input, such as text, email, number, etc.

Example:

<input type="text" placeholder="Enter your name">

**1.2.3 Text Area**

Text areas are used for larger text inputs, like comments or messages. You can specify the number of rows and columns.

Example:

<textarea rows="4" cols="50" placeholder="Enter your message"></textarea>

**1.2.4 Select Box**

A select box allows users to choose an option from a dropdown list. You can define multiple options inside the select tag.

Example:

<select>

<option value="apple">Apple</option>

<option value="banana">Banana</option>

<option value="cherry">Cherry</option>

</select>

**1.2.5 Checkbox**

Checkboxes allow users to select one or more options from a list. Each checkbox can be checked or unchecked.

Example:

<input type="checkbox" id="subscribe" name="subscribe" value="newsletter">

<label for="subscribe">Subscribe to newsletter</label>

**1.2.6 Radio Button**

Radio buttons allow users to select only one option from a group of choices.

Example:

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

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

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

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

**1.2.7 Button**

The button element creates a clickable button. You can define its type to be either "button", "submit", or "reset".

Example:

<button type="button">Click Me!</button>

**1.2.8 Submit Input**

A submit input is a button that submits the form data to the server when clicked.

Example:

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

**1.2.9 File Control**

The file control allows users to choose a file from their device to upload. You can use the 'accept' attribute to specify the types of files that can be uploaded.

Example:

<input type="file" accept=".jpg,.png">

**1.3 Control's Attributes**

**1.3.1 Name**

* The name attribute is used to identify form control elements when submitting form data. It allows the server to associate input data with its field name.

**Example:**

<input type="text" name="username">

**1.3.2 ID**

* The id attribute uniquely identifies an HTML element. It can be used to style an element or manipulate it with JavaScript.

**Example:**

<input type="text" id="user-id">

**1.3.3 Value**

* The value attribute specifies the initial value of an input field. For buttons, it defines the text shown on the button.

**Example:**

<input type="text" value="Default Value">

**1.3.4 Class**

* The class attribute is used to group HTML elements for styling purposes. It allows multiple elements to share the same styling.

**Example:**

<input type="text" class="form-control">

**1.4 Basic Tags with Attributes**

**1.4.1 img tag, a tag**

* **<img> tag**: Used to display images on a webpage. The src attribute specifies the image file, and alt provides alternative text if the image cannot be displayed.

**Example:**

<img src="image.jpg" alt="Description of image">

* **<a> tag**: Defines a hyperlink to link to another webpage. The href attribute specifies the destination URL.

**Example:**

<a href="https://www.example.com">Visit Example</a>

**1.4.2 What is Meta Tag, Use of Meta Tag**

* **Meta Tag**: The <meta> tag provides metadata about an HTML document. It can specify character set, keywords, description, author, and viewport settings for responsive design.

**Example:**

<meta charset="UTF-8">

<meta name="description" content="Free Web Tutorials">

<meta name="author" content="John Doe">

**1.4.3 What is a Responsive Website, How Can Users Create It?**

* **Responsive Website**: A responsive website adjusts its layout and content to fit different screen sizes and devices (like mobile, tablet, and desktop). It ensures a good user experience across all devices.
* **How to Create It**: To make a website responsive, developers can use CSS media queries, the <meta> viewport tag, and flexible grid layouts.

Example of a viewport meta tag:

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