Forms in HTML

HTML forms are used to collect different kinds of input from the user. Through these forms, a user enters the data, which is either processed by the browser itself or the data goes to the servers when it get processed.

A form is an area that can contain form element.
A form is defined with the <form> tag.

Form Attributes:-

When the form is submitted, the pages gets reloaded, and we know that the form gets submitted. But actually, the form input data is not being submitted to the server. To get the form to send the input data to the server, we need to set 2 attributes in the form;

- action attribute
- method attribute

Syntax:

```
<form action="/index.html" method ="post">--</form>
```

action attribute

The action attribute defines the action to be performed when the form is submitted. It tells where the form data is sent when the form is submitted. this contains the address (i.e. URL) of the file where the data is sent. The URL can be provided in an absolute and relative path.

Note: If the action attribute is not mentioned, the action is set to the current page URL.

Example:-

```
<form action= "/index.html">
    <label for= "fname"> Full name:</label>
    <input type= "text" id= "fname" name= "fullname">
     <input type= "submit" value= "submit">
</form>.
```

In the above form, the form data is submitted to the index.html present relative ~~the~~ to the path.

Method attribute

The method attribute defines how the form data is sent. It specifies the HTTP method to be used when submitting the form data.

The form-data can be sent as URL variables or as HTTP post transation (with method="POST").

By default, it is set at GET.

POST METHOD:-

This method appends the data inside the body of the HTTP request. The post is used to send the sensitive data (the submitted form data is not shown in the URL).

syntax:

```
<form action= "/index.html" method="POST">
```

GET METHOD:-

This method appends the data into the URL with ? as a separator in name-value pairs since the data will be visible, so sensitive data (like password) should not be sent. This can be can be used to send query strings.

Syntax of GET:-

```
https://www.domain.com/url?variable=value&variable=value
                          ↑
                     Start of
                     query string.
```

syntax:-

```
<form action = "/index.html" method="GET">.
```

Form action attribute

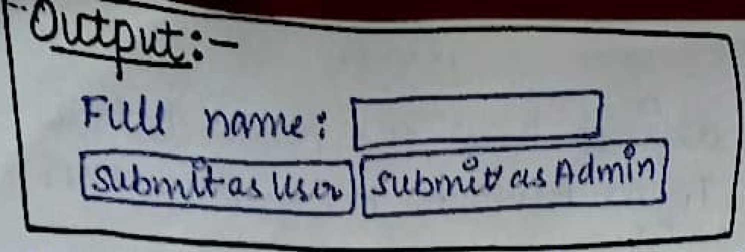
The input form action attribute specifies the URL of the file that will process the input when the form is submitted using that specific button.

Note: This attribute overrides the action attribute of the <form> element.

Example:-

```
<form action="/index.html">
  <label for ="fname"> Full Name: </label>
  <input type="text" id="fname" name="fname">
   <input type= "submit" value ="Submit as user">
   <input type = "submit" formaction="/index2.html" value
      ="Submit as Admin">
  </form>
```

Output:-


Full name: ▭

Submit as User | Submit as Admin

- In the above example, if you submit by clicking the "submit as user" button, the form will be submitted to index.html but submitting by "submit as Admin will submit the form to index2.html.

Input and label in HTML forms

Input tag

The <input> tag specifies an input field where the user can enter data. <input> elements are used within a <form> element to declare input controls that allow user to input data.

Note: It is an inline tag.

type attribute

HTML provides different types of input that you can use for different kinds of entries. By default, the value of type is text, which specifies that we want single line text input.

Note:- type attribute is mandatory

Some more value for the type attribute is:

- submit
- email
- password
- date
- number
- range
- URL
- checkbox
- radio
- hidden
- time

Value attribute

Value is not a compulsory attribute to add to the input element.

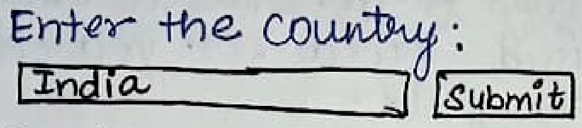
The value attribute is used differently for different input types:

- For "button", "reset", and "submit": It defince the text on the button.
- For "text", "password", and "hidden": It defines the initial value of the input field.
- For "checkbox", "radio", "image" - It defines the value associated with the input.

Example: - To set India as the default country on the input field.

```
    <label for="residence">Enter the country:</label><br>
 <input type="text" id="residence" value="India"/>
  <input type="submit" value="Submit">
```

Browser:



Name attribute

The HTML form data is sent to the browser or server-side in the form of (name: value), where value is the entry you provide respective to that name parameter.

The name attribute is a compulsory attribute for input tag in a form.

without this attribute, this form element won't be submitted or, in other words would not be sent to the server.

The name attribute also uniquely identifies that piece of data. The value of the input is acessed using the name attribute.

label Tag

A label tag describes the kind of input in a form, and it is not compulsory. You can do that without the use of a label tag. But it is better to use the <label> tag to describe the kind of input for the form element.

Note: This is also an inline tag.

Example:

```
<label for="fname">First Name</label><br/>
<input type="text" id="fname" name="first-name"/>.
```

The label is tied to this input element by giving the "id" attribute of the input element the same value as the label's "for" attribute.

Note: The value of id and name can be the same, and most of the time, this will be the case.

Required attribute:

It specifies that an input field must be filled out before submitting the form. Else, it shows a pop up to fill out the required field, or you can say it defines a mandatory field.

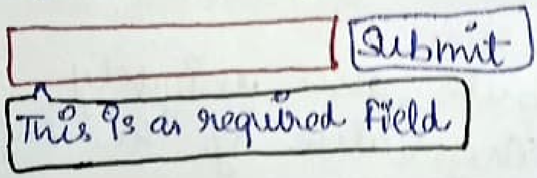
The required attribute is a boolean attribute.

Example:

```
<form>
<input type="text" required>
<input type="submit" value="Submit"/>
</form>.
```

If we click submit without entering any value, this pop-up shows up.

output:



This is an required field

Placeholder attribute:-

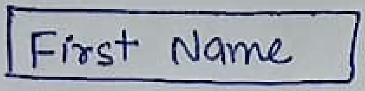
The placeholder attribute is used with the input element. It describes a sample value or a short description of the expected format.

The value of the placeholder attribute specifies a short hint that describes the expected value of an input field.

Example:-

```
<input type="text" name="fname" placeholder="First Name">
```

Browser:



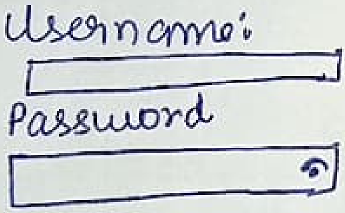
Input Type password

It is used for entering passwords in an input field. It is not shown on the screen, i.e. the character in a password field are masked (shown as asterick or circle).

Example:-

```
<form>
 <label for="username">User name:</label><br>
<input type="text" id="username" name="username">
<br>
<label for="pwd">Password:</label><br>
<input type="password" id="pwd" name="pwd">
</form>.
```

Browser



Input Type Date:

It is used for input type that should contain a date

Example:

```
<form>
 <label for="dob">Enter DOB:</label>
 <input type="date" id="dob" name="dob">
 </form>
```

Browser:

Input Type range:-

It defines a control for entering a number on a slider control. Default range is 0 to 100. However, you can set restrictions on the accepted numbers with the min, max and step attributes.

Example:
```
<form>
  <label for="Val">Value </label>
  <Input type="range"id ="Val" name ="Val" min="0" max="50">
  </form>
```

Browser: Value

Input type Checkbox:-

Checkboxes are used when more than one option may need to be checked, or you can also use them to enable or disable something.

There is also an attribute named checked, that when present, makes the checkbox selected by default when the page loads.

Example:
```
   <form>
   <input type ="checkbox"name= "color1" value="red">Red<br>
  <input type="checkbox" name="color2" value="green"> Green<br>
  <input type = "checkbox" name ="color3" value = "white" checked>
     white <br>.
  </form>
```

Browser: □ Red
□ Green
☑ White

Input type radio

The radio button is just like a checkbox, but the difference is that the value of the name attribute are all the same.

The name attribute are all set to the same value these radio buttons part of the same set, and therefore you can only select one of them at once.

Example:
```
  <form>
  <input type="radio" name="gender" value="male" checked>
    Male <br>
  <input type = "radio" name="gender' value="Female">
    Female <br>
  </form>
```

Browser:

● Male
○ female

Input type hidden

It defines a hidden input field.(Invisible to user)
The hidden field includes some data and submits it along with the form, which is not visible to the user.
A hidden field often stores what database record needs to be updated when the form is submitted.

Example:-
```
<form>
<label for="Name">Name:</label>
<input type="text" id="Nname" name="Nname">
  <br>
<input type="hidden" id="loc" name="loc" value=
    "India">
<input type="submit" value="submit">
</form>.
```

Browser:

Name: [   ]

[Submit]

Select element in HTML Forms

Select tag is used to create a drop-down list of options.
The dropdown list contains many options, and the user can choose one of them.
The select tag also contains a name attribute, like other form elements, that represent the associated data submitted to the server.

Example:
```
<select name="select">
<option value="Value 1">option 1 </option>
<option Value="Value 2">option 2</option>
<option Value="Value 3"> option 3</option>
</select>
```

Browser:

option 1 ∨
option 1
option 2
option 3

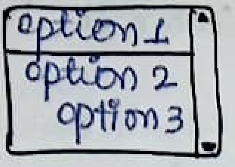
Attributes

Multiple

It allow the user to select more than one values

Example:
```
<select name = "select" multiple>
  <option value ="Value1"> option 1 </option>
  <option value= "Value 2"> option 2 </option>
  <option value = "Valu3"> option3 </option>
  </select>
```

Browser:

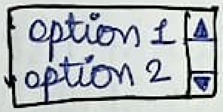


size

It specifies how many options can be shown at once.

Example:
```
<select name = "select" size ="2">
  <option value="Value1"> option 1 </option>
  <option value ="Value2"> option 2 </option>
  <option value = "Values3" >option 3 </option>
  </select>
```

Browser:



only 2 out of 3 options are displayed in the above example and others can be seen using the scrollbar.

Option Element

The tag used to define the possible option is <option> tag. This tag is put inside the <select> tag. For every option in drop down list, separate <option> element is used.

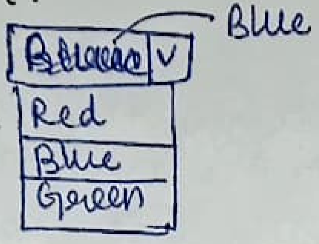
The first <option> element from the options's list is selected by default. To change this predefined option, use the selected attribute with the <option> tag.

Each option element should have a value attribute, which contains the data value that will be submitted to the server when that option is selected.

Example:

```
<select name = "select">
<option value ="red" > Red </option>
<option value ="green">green </option>.
<option value ="blue" > Blue </option>
                    selected=""
```

Browser:



optgroup element

The <optgroup> element is used to group several items together in one group.
This will create separate group of option inside the dropdown.
The label attribute is used in optgroup to give it a group heading.

Metatag in HTML

Meta data defines information about data on your web page.
Meta data will not be displayed on the page but will be machine parsable.
Meta elements are typically used to specify page description, keywords, author of the document, title, image, etc.
Attributes that are used in meta tag:

- name
- Content
- property
- charset
- http-equiv

Meta tags have been one of the essential element of SEO. They are used to provide details about your site to search engines. Search Engine optimization (SEO) is defined as the process of affecting the online visibility of a website or a webpage in a web search engine's result.

Search engines such as google often display the meta description in search results where they can highly affect user visits to website. so, it's very imp. to add meta-tags to your web pages.

Note: There can be any number of meta tags defined within a page inside the head.

Name attribute

The name attribute is used to specify the name for the metadata. The name attribute is used together with the content attribute. This attribute specifies a name for the information/value of the content attribute.

Syntax:-

```
<meta name = "value">
```

Note: If the http-equiv attribute is set, the name attribute should not be set. SEO is used by the search engines like google and bing to search for the website's content relevant to the user search. This increases the quality and quantity of traffic on one's website.

content attribute

The content attribute gives the value associated with the http-equiv or name attribute.

syntax:-

```
<meta name/http-equiv = "value" content = "text" >
```

charset attribute

The charset attribute is used for declaring the character encoding for the page. It is a good practise to use UTF-8 encoding. However, this must take care that the declared character set matches one ~~of~~ on the page and is defined for every page of the website.

syntax:

```
<meta charset = "character_set">
```

http-equiv attribute

It provides an HTTP header for the information/value of the content attribute. The value of this attribute can be used to alter servers and user agents behaviours.

syntax:

```
<meta http-equiv = "content-type | default-style | refresh">.
```