HTML Forms:

- An HTML form is used to collect user input.
- HTML form data   Either sent to a server for processing Or send to JavaScript code for validation before submit to server.
- "name" attribute is used to collect the form values in Servlet program
- Form elements: HTML providing form elements to take any type of input from the user. The elements are:
  1. Labels
  2. Text boxes
  3. Password fields
  4. Check boxes
  5. Radio button
  6. Drop down boxes
  7. Submit buttons…..others
- All form controls must be placed inside the <form> …. </form> tags

  <form action = "login.php">
  // form controls
  </form>

action Attribute of form:

Once we fill the form and click submit, then to which page it will go is decided by action attribute. The value of action attribute can be either local resource or web url.

Eg:

<form action="target.html" >

<form action="https://facebook.com" >

`<form action= "backend.php">`

Different types of form controls

HTML <input>: The most important form element is the input element. The input element is used to select user information. <input> tag is used to create different form controls such as Text fields, Password fields, Radio buttons, Check boxes etc.

Text box:

<input type="text" /> defines a one-line input field that a user can enter text into:

> e.g
> First name:<input type="text" id="name" name="name" value="" placeholder="enter name here">
>
> Type defines type of input control like text fro text box
> Value=initial value
> Placeholder: message in text box
> Name=name of textbox etc
> default width of a text field is 20 characters.

Radio Button control:

Radio buttons are used to select one option from multiple options. example, Gender or Quiz etc…. use one name for all the radio buttons, so that only one radio button can be selected

> <input type="radio" name="sex" value="male" checked/> Male
> <input type="radio" name="sex" value="female" /> Female

Checked→says that this button will be checked by default

Checkbox control:

<input type="checkbox" /> defines a checkbox

We can select more than one option at a time from the given options

> <input type="checkbox" name="vehicle[]" value="Bike" checked/>I have a bike
> <input type="checkbox" name="vehicle[]" value="Car" /> I have a car
>
> Checked→implies this box will be checked by default
> Value→implies the value to be assigned or send if this box is checked

Textarea

Used to created a text area(bigger than text box). Size can be increased or decfreased by dragging.

<textarea name="Address" row="10 cols="10">initial value if to be displayed </textarea>

Drop Down Control(select box):

<select> element is used to create Drop Down list in HTML . **<option>** tag is used to add option values to drop down list. **<optgroup>** is used to subgroup the options.

Country: <select name="Country" >
<optgroup label="Asia">
        <option value="I" selected>India
        <option value="S">SL
</optgroup>
<optgroup label="Europe">
        <option value="E">England
        <option value="C">Canada
</select>

Selected→implies this option is selected by default

Submit Button, reset Button, clickable button,hidden button

<input type="submit" /> defines a submit button. A submit button is used to send form data to a server. The data is sent to the page specified in the form's action attribute. The file defined in the action attribute usually does something with the received input:

<input type="reset" /> defines a reset button that clears form data when clicked.

<input type="button> defines a clickable button

<input type="hidden>defines hidden button which will not be displayed but can be used for some purpose that will be discussed later

<input type="submit" name="submit" value="send"/>
<input type="reset" name="reset" value="clear"/>
<input type="button" name="btn" value="mybutton"/>
<input type="hidden" name="hd" value="Hidden"/>

Email

<input type="email">defines email type text box. Email format will be checked on submission. If not in right format value willnot be submitted.

e.gEmail:<input type="email" name="em" value="" />

value→implies initioal value

Label

To define Label Text for our HTML Elements e.g

<label for="name">Enter Name:</label>

<input id="name" type='text' name='username' placeholder='Name to Contact' >

Other types

<input type="number" > defines number type control that can take only number values. If other values are entered the will show an error on submission.

<input type="color" > defines color picker

<input type="date" > defines date type. Calendar will attached from which date can be chosen

<input type="datetime-local" > defines date and time . Calendar and clock will be attached from which data can be chosen

<input type="time" > defines time. clock will be attached from which date can be chosen

<input type="month"> defines month will attached from which data can be chosen

<input type="week" > defines week. calendar will be attached from which data can be chosen

<input type="range">defines range bar. value attribute can be used to specify the initial default value where the handle will be placed in the range bar. Otherwise handle will be in the middle.

<fieldset> can be used to make the entire form as one field and create a boundary of the form
It should be after the <form> and </fieldset> should be before</form>

<legend> form name **</legend>** → used to give a name to the above field.

<u>Useful attributes</u>
Name: specifies the name of the input. If missing data of the same will not be submitted
Id: specifies id of the input. Usefull when used with label
Value: specifies initial value /value to be send when clicked
Placeholder: used with text box to show initial message in faded color
Required: specifies that data must be entered in this field before submission. Used to create mandatory controls.
Selected: specifies the field/ option will be selected by default
Checked: specifies the field will be checked or selected by default
Max: specifies max value the input control an take . usefull in range,number,email etc
Min: specifies min value the input control an take . usefull in range,number,email
Maxlength: specifies Maximum length of value the input control an take . usefull in password
Autofocus:<.. .autofocus="on" or "off">specifies that cursor will be in this field when page loaded
Autocomplete: will show the previously submitted data of the control while entering new data
Pattern: specifies the pattern for passoword using regular expression
Readonly: specifies value the input control cannot be edited. But can be submitted.
Disabled: specifies value the input control can neither be edited nor be submitted.

Example:
```
<!doctype html>
<html lang="en">
<head>
<title>Form Input</title>
</head>
<body>
<h1>User Contact Form</h1>
<form>
<fieldset>
<legend>my form</legend>
Name: <input  type='text' name='username' placeholder='Name to Contact' value="" required
autofocus autocomplete="on">
<br>
<label for="org">Organisation:</label><input  type='text' id="org" name="org" value="GITA"
readonly=""><br>
<br><b>Gender:</b>
<input type="radio" name="gender" value="M"> male
<input type="radio" name="gender" value="F"> Female
<input type="radio" name="gender" value="O" disabled=""><em> Third Gender</em><br>
<input type="checkbox" name="hobby[]" value="g" checked> game
<input type="checkbox" name="hobby[]" value="S"> singing
<br><h3>Address :</h3>
<textarea name="address" rows="10" cols="20"> write address</textarea>
<br><select name="Country" >
<optgroup label="Asia">
<option value="I" selected>India
<option value="S">SL
```

```
</optgroup>
<option value="E">England
</select><br>
Age: <input type="number" name="age" min="10" max="20"><br>
Range: <input type="range" name="rg" min="10" max="20"><br>
Email:<input type="email" name="em" maxlength="5" value="" pattern=".{5,10}"/><br>
<!password pattern is minimum 5 characters and maximum 10 characters>
<!Pattern for only digits:[0-9]{5,10} Pattern for only word characters:\w{5,10}>
color: <input type="color" name="cl"/><br>
hidden: <input type="hidden" name="hd"/><br>
date:<input type="date" name="dt"/><br>
datetime-local:<input type="datetime-local" name="dt"><br>
time: <input type="time" name="tm"/><br>
<input type="month" name="mn"/><br>
<input type="week" name="wk"/><br>
<input type="button" name="btn" value="Click"/><br>
<input type="reset" name="reset" value="clear"/><br>
<input type="submit" name="submit" value="send"/>
</fieldset>
</form>
</body>
</html>
```

<u>HTML frames</u>

HTML frames allows us to split the HTML page window (i.e., the screen that the user sees) into two or more sections. Each section of the page contains its own HTML document. The original HTML page, which splits itself into one or more frames, is also an HTML page

The frameset element <frameset>….</frameset> states HOW MANY columns or rows there will be in the frameset, and HOW MUCH percentage/pixels of space will occupy each of them.

The <frame> tag defines one particular window (frame) within a frameset   i.e what should be loaded in the frame.
e.g

```
<html>
<head>
<title>Frames Example!</title>
</head>
<frameset cols = "50%, 50%">
<frame src = "page1.html">
<frame src = "page2.html">
</frameset>
</html>
```
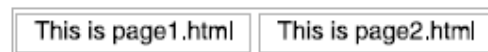
<frameset cols=”50%,50%”> indicates to the browser that is loading this HTML page that the HTML page is not like a traditional HTML page. Instead, it is a set of frames. There are two frames, each of which occupies 50% of the screen space(column wise). Similarly row wise can be specified by rows="50%, 50%"

The frameset column size can also be set in pixels (cols="200,500"), and one of the columns can be set to use the remaining space, with an asterisk (cols="25%,*").
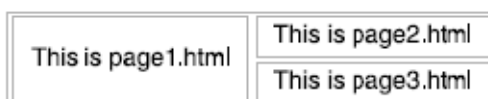
<frame src=”page1.html”> i.e frame tag tells the browser that in the first 50% reserved area, the contents of the HTML page titled page1.html should be loaded.
Similarly <frame src=”page2.html”> tells the browser that in the second 50% reserved area, the contents of the HTML page titled page2.html should be loaded

This is page1.html	This is page2.html

We can also create frames within frames

```
<html>
<head>
<title>Another Frames Example!</title>
</head>
<frameset cols="65%, 35%">
   <frame src="page1.htm">
   <frameset rows="50%, 50%">
<frame src = "page2.htm">
<frame src = "page3.htm">
   </frameset>
</frameset>
</html>
```

This is page1.html	This is page2.html
	This is page3.html

If a frame has visible borders, the user can resize it by dragging the border. To prevent a user from doing this, you can add noresize="noresize" to the <frame> tag.
Add the <noframes> tag for browsers that do not support frames.
You cannot use the <body></body> tags together with the <frameset></frameset> tags! However, if you add a <noframes> tag containing some text for browsers that do not support frames, you will have to enclose the text in <body></body> tags! See how it is done in the first example below.
Examples 1:

```
<html>
<head>
<title>Frames Document2</title>
```

```
</head>
<frameset cols="40%,60%">
<frame src=" a.html">
<frameset rows="20%,20%,20%">
<frame src="x.html">
<frame src="y.html">
<frame src="z.html">
</frameset>
</html>
```

Examples 2:

```
<html>
<head>
<title>Frames Document3</title>
<head>
<frameset rows="30%,30%,30%">
<frame src="x.html">
<frame src="y.html">
<frame src="z.html">
</frameset>
</html>
```

Examples 3:

```
<html>
<head>
<title>Frames Document4</title>
</head>
<frameset rows="50%,50%">
<frameset cols="25%,25%">
<frame src="y.html">
<frame src="z.html">
</frameset>
<frame src="x.html">
</frameset>
</html>
```

Linking frames I,e link to a frame
Myf.html
```
<html>
<head>
<title>Frames Document2</title>
</head>
<frameset cols="20%,80%">
<frame src=" a.html" name="index">
<frame src="b.html" name="content">
</frameset>
</html>
```
a.html
```
<html>
<head>
<title>indexpage</title>
</head>
<body>
<a href=http://www.gita.edu.in"  target="content">:My college</a>
<a href=http://www.abc.com"  target="content">:My office</a>
</body>
```

```
        </html>
```

b.html

```
        <html>
        <head>
        <title>indexpage</title>
        </head>
        <body>
        Content displayed here
        </body>
        </html>
```

The disadvantages of using frames are:
Frames are not expected to be supported in future versions of HTML
Frames are difficult to use. (Printing the entire page is difficult).
The web developer must keep track of more HTML documents