

Day-02: HTML links and Forms

Topics to be covered

- Links
- Forms

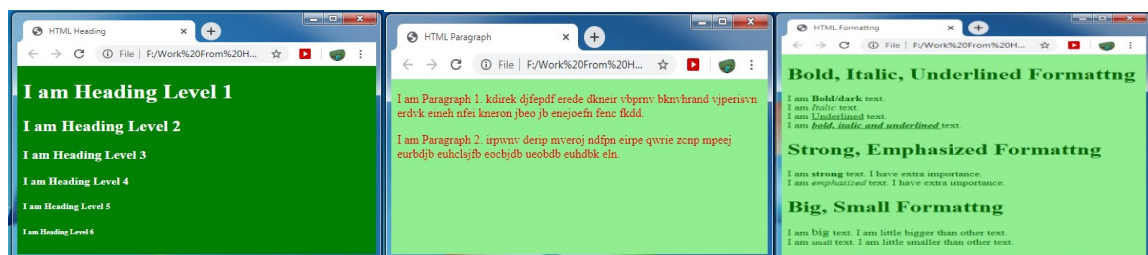
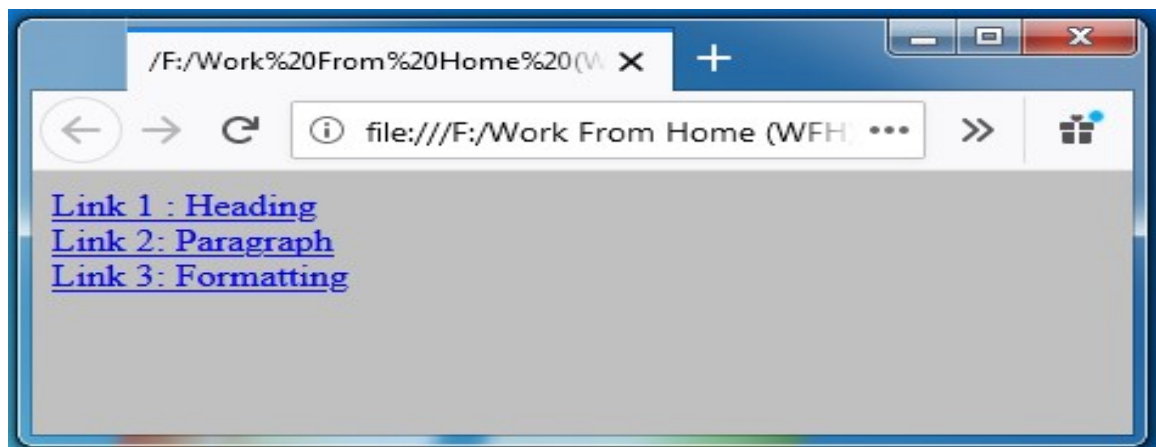
Links

- Hyperlinks are found in almost every web pages that allows to jump into another web document or on specific location of same web page by clicking on it.
- **<a>** tag (Anchor) is used to define hyperlink and hypertext in the html. A link does not have to be text only, but it can be images, videos or any other document.
- When the mouse is moved over hypertext, the mouse arrow turns into little hand shape.
- **Syntax:** ` Type hypertext here..... `
- **Attributes of <a> tag:**
 - **href:** It defines the address or path the file which is being hyperlinked.
 - **target:** This attribute defines where to open the linked document. It can have values - **_blank**, **_self**, **_parent**, **_top**, or name of the frame.
 - _blank:** It opens the linked document in a new window or tab.
 - _self:** It opens the linked document in same window or tab. This is default value.
 - _parent:** It opens the linked document in parent frame.
 - _top:** It opens the linked document in the full body of the window.
 - **filename:** It opens the linked document in that frame whose name is provided.
 - **title:** This attribute specifies the extra information about an element. The extra information will be shown as tooltip when mouse is moved over the element. It can be used with ``, `<a>`, `<h1>`, `<p>` etc elements.

Example- Hyperlinks:

```
<!doctype html>
<html>
<head>
<title> Links in HTML </title>
</head>
<body bgcolor="silver">
<a href="heading.html" target="_blank"> Link 1 : Heading </a><br>
<a href="paragraph.html" target="_blank">Link 2: Paragraph </a><br>
<a href="formatting.html" target="_blank">Link 3: Formatting </a><br>
</body>
</html>
```

Output-



heading.html

paragraph.html

formatting.html

When user will click on **Link 1: Heading**, then the user will jump to **heading.html** web page.

Likewise, **Link 2: Paragraph** will follow the **paragraph.html** web page. **Link 3: Formatting** will follow the **formatting.html** web page.

Images as Hyperlink:

- Images can be used as links using tag enclosed within <a> tag.

Example- Image Hyperlink

```
<!doctype html>
<html>
<head><title> Image as hyperlink </title>
</head>
<body bgcolor="silver">
<a href="dhoni.html" target="_blank">

</a>
</body>
</html>
```

Output:



When user will click on image, the **dhoni.html** web page will be opened in new tab/window. When mouse is moved over the image, the text “**Click to know more**” will be displayed as Tooltip because of **title** attribute used.

Linking within same page:

- HTML bookmarks are used to allow jump over a specific part of web page. Bookmarks are useful when the webpage is very long and have lots of contents.
- To create linking within same page, following two steps needs to be followed:

Step 1: First, **create the bookmark**. Use id attribute to define bookmark for element.

For e.g. <h1 id="ch1"> Chapter 1 </h1>

Step 2: Then, **create hyperlink to jump over the bookmark**. Use # (hash) symbol while defining href value of <a>. Hash (#) refers to the id.

For e.g. Click here to go Chapter 1

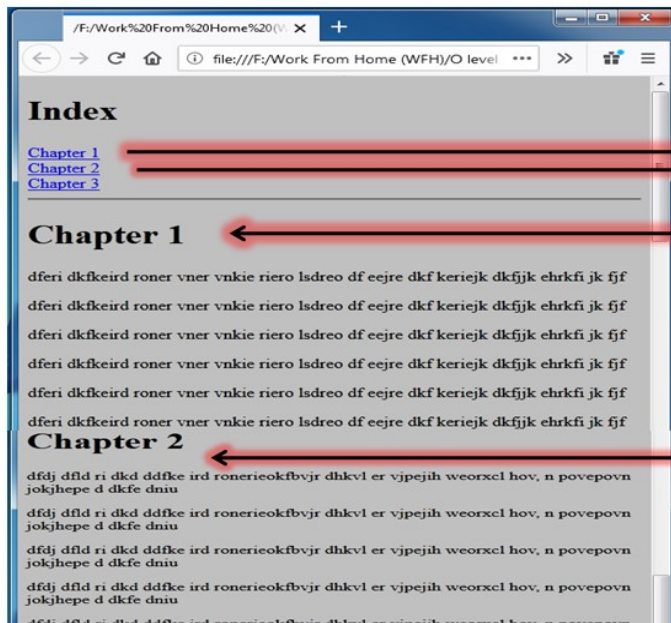
While clicking on hypertext, it will move to that part of the webpage where **id of element is ch1**.

Example – Links within same page:

```
<!doctype html>
<html>
<head><title> Links within same page </title></head>
<body bgcolor="silver">
<h1> Index </h1>
<a href="#ch1"> Chapter 1 </a><br>
<a href="#ch2"> Chapter 2 </a><br>
<a href="#ch3"> Chapter 3 </a><br>
<hr>
<h1 id="ch1"> Chapter 1 </h1>
<p> dferi dkfkeird roner vner vnkie riero lsdreo df eejre dkf keriej dkfjjk ehrkfi jk fjf</p>
<p> dferi dkfkeird roner vner vnkie riero lsdreo df eejre dkf keriej dkfjjk ehrkfi jk fjf</p>
<p> dferi dkfkeird roner vner vnkie riero lsdreo df eejre dkf keriej dkfjjk ehrkfi jk fjf</p>
<p> dferi dkfkeird roner vner vnkie riero lsdreo df eejre dkf keriej dkfjjk ehrkfi jk fjf</p>
<p> dferi dkfkeird roner vner vnkie riero lsdreo df eejre dkf keriej dkfjjk ehrkfi jk fjf</p>
<p> dferi dkfkeird roner vner vnkie riero lsdreo df eejre dkf keriej dkfjjk ehrkfi jk fjf</p>
<p> dferi dkfkeird roner vner vnkie riero lsdreo df eejre dkf keriej dkfjjk ehrkfi jk fjf</p>
<h1 id="ch2"> Chapter 2 </h1>
                                     (code contd..)
```

```
<p> dfdj dfld ri dkd ddfke ird ronerieokfbvj rhkvl er vjpejih weorxcl hov, n povepovn
jokjhepe d dkfe dnu /p><p> dfdj dfld ri dkd ddfke ird ronerieokfbvj rhkvl er vjpejih
weorxcl hov, n povepovn jokjhepe d dkfe dnu /p><p> dfdj dfld ri dkd ddfke ird
ronerieokfbvj rhkvl er vjpejih weorxcl hov, n povepovn jokjhepe d dkfe dnu /p><p> dfdj
dfld ri dkd ddfke ird ronerieokfbvj rhkvl er vjpejih weorxcl hov, n povepovn jokjhepe d
dkfe dnu /p><p> dfdj dfld ri dkd ddfke ird ronerieokfbvj rhkvl er vjpejih weorxcl hov, n
povepovn jokjhepe d dkfe dnu /p><p> dfdj dfld ri dkd ddfke ird ronerieokfbvj rhkvl er
vjpejih weorxcl hov, n povepovn jokjhepe d dkfe dnu /p>
<h1 id="ch3"> Chapter 3 </h1>
<p> mkjt jr nrjt rtrp rtrk kikfdnk ortor yruypg peir awqw vnere pweorvn vnnh ero hsfhdl
dhls hf kdferi dkfkeird roner /p><p> mkjt jr nrjt rtrp rtrk kikfdnk ortor yruypg peir awqw
vnere pweorvn vnnh ero hsfhdl dhls hf kdferi dkfkeird roner /p><p> mkjt jr nrjt rtrp rtrk
kikfdnk ortor yruypg peir awqw vnere pweorvn vnnh ero hsfhdl dhls hf kdferi dkfkeird
roner /p><p> mkjt jr nrjt rtrp rtrk kikfdnk ortor yruypg peir awqw vnere pweorvn vnnh
ero hsfhdl dhls hf kdferi dkfkeird roner /p><p> mkjt jr nrjt rtrp rtrk kikfdnk ortor yruypg
peir awqw vnere pweorvn vnnh ero hsfhdl dhls hf kdferi dkfkeird roner /p>
</body>
</html>
```

Output:



When user will click on Chapter 1 from index, It will move to the chapter1 below.

Likewise, Chapter 2 from index will follow the chapter 2 below.

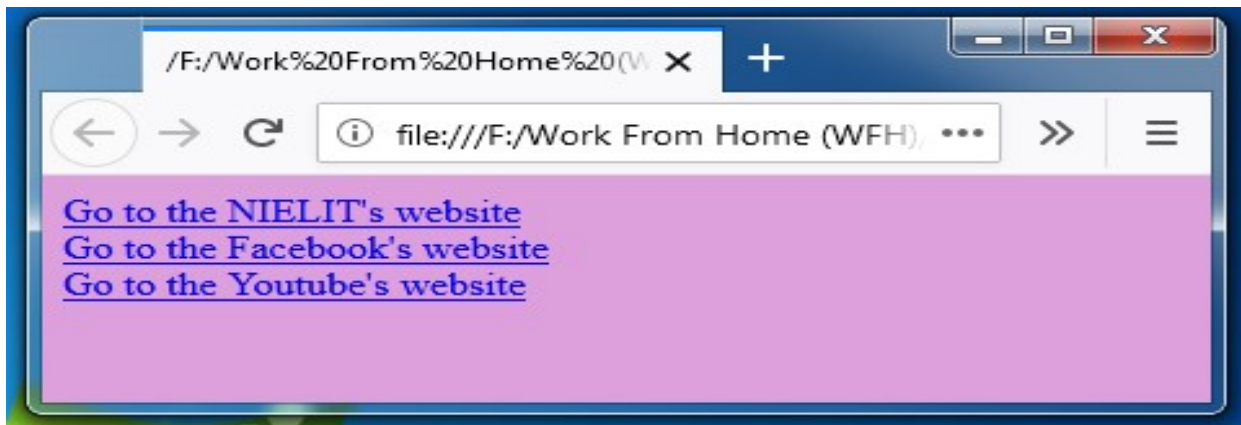
Adding URL as hyperlink:

- URL can also be added as hyperlink.

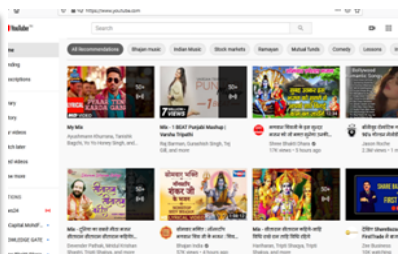
Example – URL as hyperlink:

```
<!doctype html>
<html>
<head><title> URL as hyperlink </title> </head>
<body bgcolor="plum">
<a href="http:\\www.nielit.gov.in" target="_blank"> Go to the NIELIT's website </a><br>
<a href="https:\\www.facebook.com" target="_blank"> Go to the Facebook's website
</a><br>
<a href="https:\\www.youtube.com" target="_blank"> Go to the YouTube's website
</a><br>
</body>
</html>
```

Output:



Link 1



Link 2



Link 3

Multimedia Elements**Audio in HTML:**

The audio files can be embedded in web page using **<audio>** element.

Attribute of <audio> element:

controls :- It is used to specify audio controls like play, pause and volume.

loop :- It specifies that audio will play again every time when it is finished.

muted :- It specifies that the audio output should be muted.

autoplay :- It is used to start/play audio file automatically when the web page is loaded.

These attributes do not have any value.

<source> element:

The **<source>** element is used within **<audio>** element. It defines the audio file to be embedded into web page. We can also specify alternative audio files; browser will use the first recognized format.

Attributes of <source> element:

- **src** – It specifies the path of audio file.
- **type**- It specifies the type of the audio file.

User can specify the text between **<audio>** **</audio>** that will be displayed only when browser does not support **<audio>** element.

Supported HTML Audio Media Types:

File Format	Media Type
mp3	audio/mpeg
ogg	audio/ogg
wav	audio/wav

Example of <audio> element:

```
<html>
<head>
<title> Audio </title>
</head>
<body bgcolor="lightblue" text="gold">
<h1> Example of Audio file in HTML </h1>
    <audio controls autoplay loop>
        <source src="nielit.ogg" type="audio/ogg">
        <source src="nielit.mp3" type="audio/mpeg">

</audio>
</body>
</html>
```

Video in HTML:

The video files can also be embedded in web page. <video> element is used to embed video file.

Attribute of <video> element:

controls :- It is used to specify video controls like play, pause and volume.

height :- It is used to specify the height of the video file in the webpage.

width :- It is used to specify the width of the video file in the webpage.

loop :- It specifies that video will play again every time when it is finished.

muted :- It specifies that the audio output of the video should be muted.

autoplay :- It is used to start/play video file automatically when the web page is loaded.

loop, muted and autoplay attributes does not have any value.

<source> element:

The <source> element is used within <video> element. It defines the video file to be embedded into web page. We can also specify alternative video files; browser will use the first recognized format.

Attributes of <source> element

- src – It specifies the path of video file.
- type- It specifies the type of the video file.

We can specify the text between <video> </video> that will be displayed only when browser does not support <video> element.

Supported HTML Video Media Types:

File Format	Media Type
mp4	video/mp4
webm	video/webm
ogg	video/ogg

Example of <video> element:

```
<html>
<head>
<title> Video </title>
</head>
<body bgcolor="lightblue" text="blue">
<h1> HTML Video Example </h1>
  <video width="520" height="340" controls autoplay loop muted>
    <source src="HTML5Tutorial.mp4" type="video/mp4">
  </video>
</body>
</html>
```

Output:



Iframes:

Iframe is used to display a webpage within a webpage. It is defined by `<iframe>` tag.

Attributes of <iframe>:

src: It specifies the address/ path the webpage to be displayed in iframe.

height: It specifies the height of the iframe.

width: It specifies the width of the iframe.

name: It specifies the name of the iframe.

frameborder: It specifies the border of the iframe. It can have value 0 or 1.

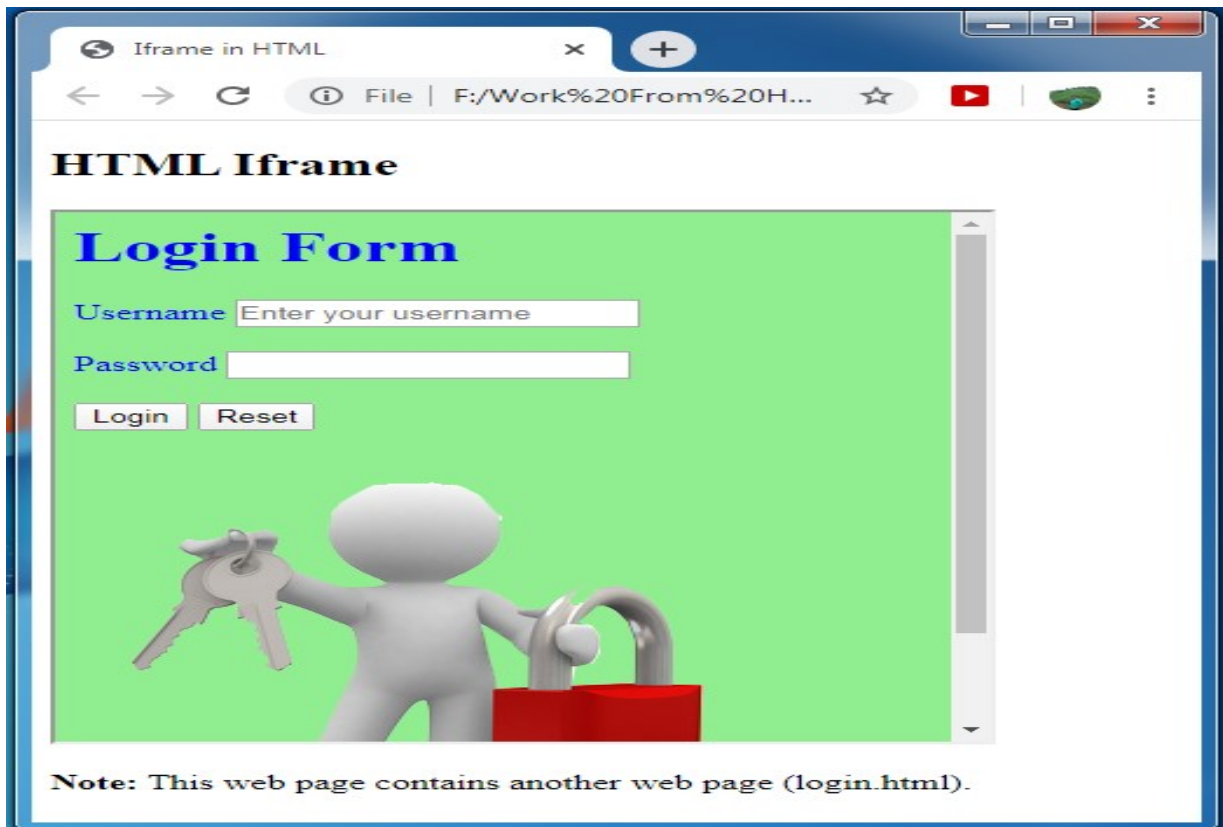
scrolling: It is used to present scrolling in iframe. It can have value yes, no, auto.

marginheight: It adds space between top/bottom of frame's border and frame's contents.

marginwidth: It adds space between left/ right of frame's border and frame's contents.

Example – Iframe:

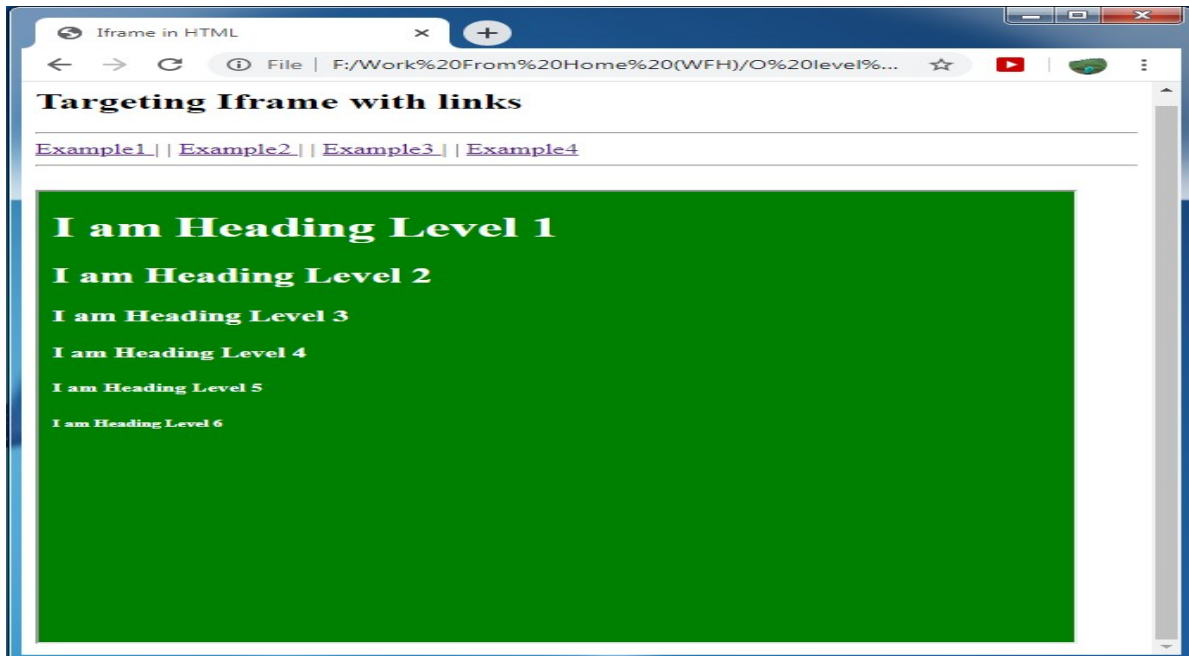
```
<!DOCTYPE html>
<html>
<head> <title> Iframe in HTML </title> </head>
<body>
<h2>HTML Iframe</h2>
<iframe src="login.html" height="400" width="400" >
Browser doesn't support iframe.
</iframe>
<p> <b>Note: </b>This web page contains another web page (login.html). </p>
</body>
</html>
```

Output:

Example – Targeting Iframe with links:

```
<!DOCTYPE html>
<html>
<head> <title> Iframe in HTML </title> </head>
<body>
<h2>Targeting Iframe with links</h2><hr>
<a href="heading.html" target="exifrm"> Example1 </a> | |
<a href="paragraph.html" target="exifrm"> Example2 </a> | |
<a href="images.html" target="exifrm"> Example3 </a> | |
<a href="video.html" target="exifrm"> Example4 </a> <hr><br>
<iframe src="video.html" height="500" width="600" name="exifrm">
Browser doesn't support iframe.
</iframe>
</body>
</html>
```

Output:



```
<!DOCTYPE html>
<html>
<body>
<iframe width="420" height="345"
src="https://www.youtube.com/embed/tgbNymZ7vqY">
</iframe>
</body>
</html>
```

Forms

- A HTML form or web form allows collecting user's input. The users fill their information using forms elements like textboxes, radio buttons, checkboxes etc.
- For example a web form can be used to collect feedback from user for the website.
- Another example of web form is **login form** (as shown in figure). This form contains two **textboxes** asking for 'username' and 'password', and a button labeled as 'login' to send the form's information to server for processing. It also contains a **hyperlink** 'Not registered?' to open new page for creating new account.

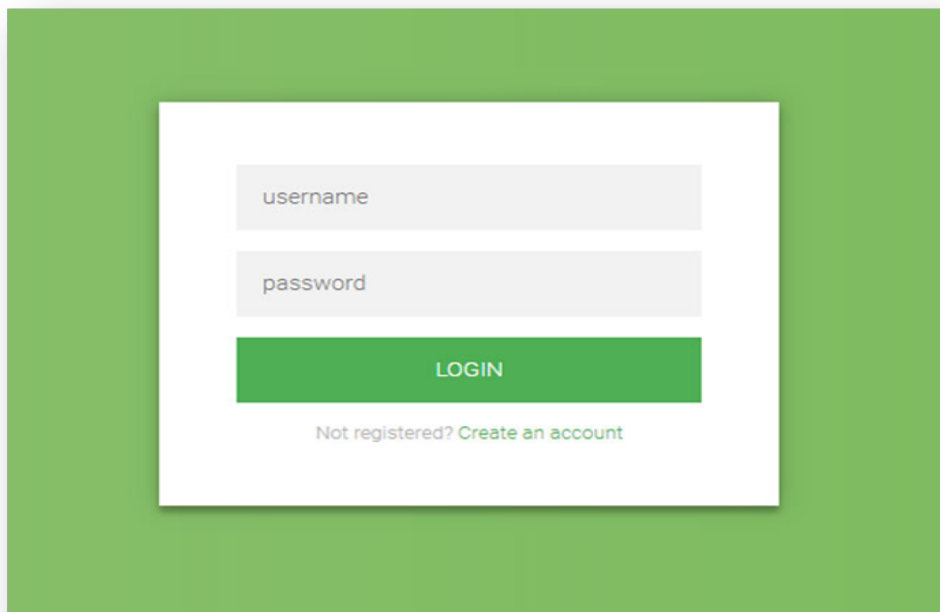


Figure: An example of login form

- The **<form>** element defines a form in HTML:

```
<form>
```

```
..... form elements .....
```

```
</form>
```

Attributes of <form> element

- **action** :- It defines the process to be performed when the form is submitted.

For example:

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

When the form is submitted, this login_validate.php page contains the action to be performed that is to handle the form's data and where the data proceed further.

- **target** :- It specifies where to open result after submitting the form. It can have value:
 - **_self** :- The result will be displayed in same tab. It is default value.
 - **_blank** :- in new tab.
 - **_top** :- in the entire browser window i.e. *"breaks out of all frames"*.
 - **_parent** :- in the parent of the current frame.

For example:

```
<form target="_blank">
```

- **method** :- It specifies the HTTP method to be used when submitting the form data. It can have value:
 - **get** :- It is default value. It is not secure method because **the submitted form's data will be visible in the address field of the browser.**
 - **post** :- We must use post method when form contains sensitive or personal information because **it does not display the submitted form data in the address field of the browser.**

For example:

```
<form method="post">
```

Elements of <form>

The `<form>` element can contain one or more of the following form elements or controls:

- `<label>`
- `<input>`
- `<textarea>`
- `<button>`
- `<select>` and `<option>`
- `<fieldset>` and `<legend>`
- `<optgroup>`

`<label>` element

- This element is used to define label or naming of form elements. It provide a usability improvement for mouse users i.e. if a users clicks on the text within the `<label>` element, it toggles the control associated with it.

Syntax :

```
<label for="element_id">  
    ...  
    form content  
    ...  
</label>
```

- **Attribute of `<label>`**
 - **for** :- this attribute is used to specify id of the element that label is bound to.

`<input>` element

- The `<input>` element is used based on the **type** attribute.

For example:

```
<input type= "text">
```

-- It defines the textbox.

```
<input type= "password">
```

--It defines the textbox for entering password. It masks the character.

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

--It defines the submit button

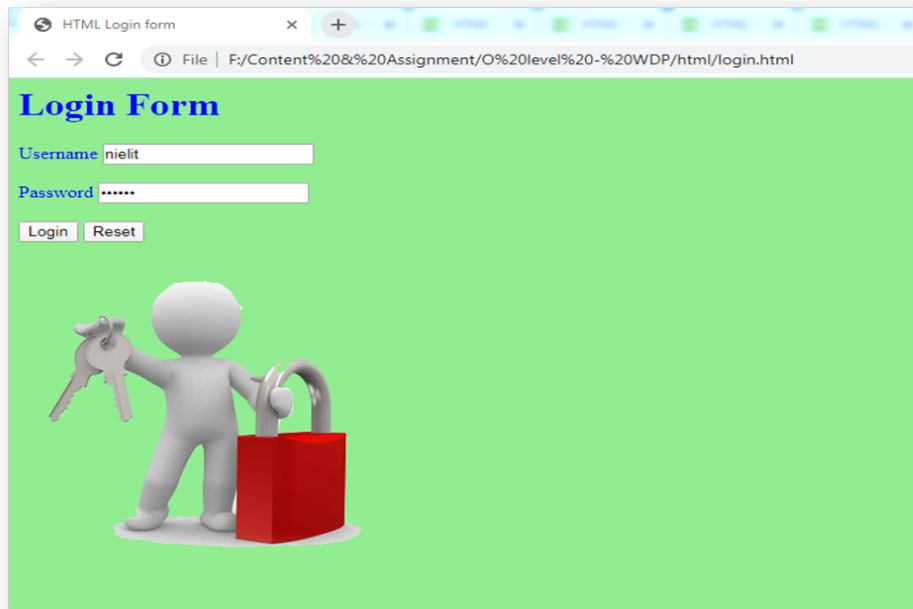
<input type= "reset">

--It defines the reset button

○ **Code: Label, Textbox, Password textbox**

```
<html>
<head>
<title> HTML Login form </title>
</head>
<body bgcolor="lightgreen" text="blue">
<h1> Login Form</h1>
  <form method="post">
    <label for="uid"> Username </label> <input type="text" id="uid"> <br> <br>
    <label for="pwd"> Password </label> <input type="password" id="pwd"> <br>
  <br>
    <input type="submit" value="Login"> <input type="reset">
  </form>
   <br>
</body>
</html>
```

○ **Output: Label, Textbox, Password textbox**



Important point:

A login form is created which has two labels, two textboxes and two buttons.

In username textbox – **id** attribute is set to “**uid**”

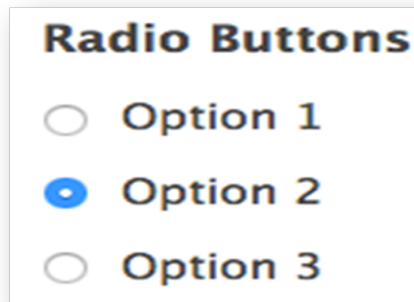
In username label – **for** attribute is set to “**uid**”. Similarly for password textbox and password label.

See its significance by clicking on label text on the output page.

<input> element – For creating radio buttons

- The <input type= “radio”> defines radio buttons. Radio buttons allow a user to select a single option from a group of options.

```
<input type="radio" id= " " name=" ">
```



- **Code: Radio Button**

```
<html>
<head> <title>Radio Buttons </title>    </head>
<body bgcolor="lightgreen" text="blue">
<h1> Radio Buttons</h1>
    <form>
        <label> Select Your Gender</label><br>
        <input type="radio" name="gender" id="male"> <label for="male"> Male </label>
        <input type="radio" name="gender" id="female"> <label for="female"> Female
        </label>
    </form>
</body>
</html>
```

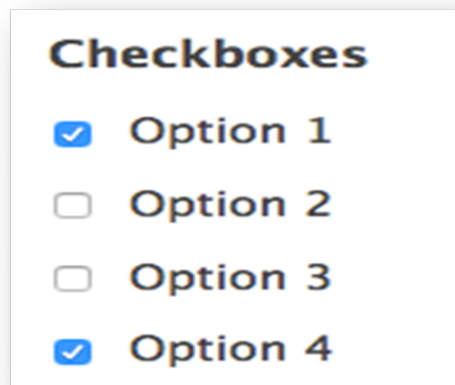
- **Output: Radio Button**



<input> element – For creating check box

- The <input type= "checkbox"> defines check box. Check boxes allow a user to select multiple options from a group of options.

<input type="checkbox" id= " " name= " ">



○ **Code: Checkbox**

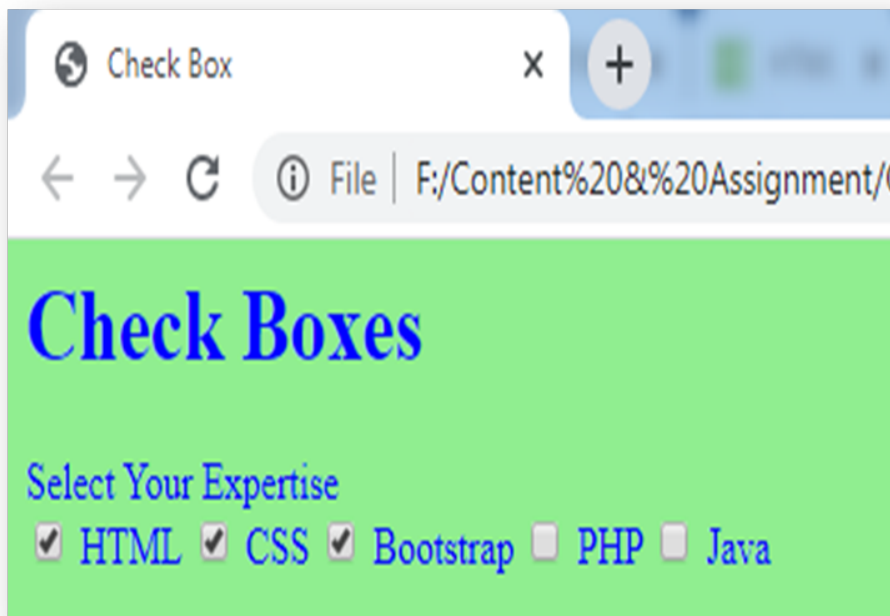
```
<html>
<head> <title> Check Box </title> </head>
<body bgcolor="lightgreen" text="blue">
  <h1> Check Boxes</h1>
```

```

<form>
<label> Select Your Expertise</label> <br>
<input type="checkbox" name="expertise" id="HTML"> <label for="HTML"> HTML
</label>
<input type="checkbox" name="expertise" id="CSS"> <label for="CSS"> CSS </label>
<input type="checkbox" name="expertise" id="Bootstrap"> <label for="Bootstrap">
Bootstrap </label>
<input type="checkbox" name="expertise" id="PHP"> <label for="PHP"> PHP </label>
<input type="checkbox" name="expertise" id="Java"> <label for="Java"> Java </label>
</form></body></html>

```

○ **Output: Checkbox**



Variations of <input> element

There are also some other variation of <input> element that can be used in several ways by defining value of type attribute:

<input type= "button">
 <input type= "number">
 <input type= "email">
 <input type= "image">

<input type= "month">
 <input type= "week">
 <input type= "file">
 <input type= "hidden">

```
<input type= "color">
<input type= "date">
<input type= "datetime-local">
<input type= "time">
```

```
<input type= "search">
<input type= "range">
<input type= "tel">
<input type= "url">
```

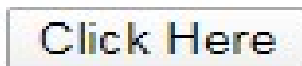
○ Attributes of <input> element

- **value:** It specifies the initial value of element.
- **name:** It specifies the name of the element.
- **height:** It specifies the height of the element.
- **width:** It specifies the width of the element.
- **readonly :** It specifies that <input> field is read only. It does not have value.
- **disabled:** It specifies that <input> field is disabled. It also does not have value.
- **required:** It specifies that input must be filled out before submitting the form.
- **placeholder:** It specifies the hint for input that are to be given.
- **autocomplete:** It can have value "on" or "off". When user starts typing in the input field, it predicts the texts that are typed earlier.
- **checked :** It is used with radio and checkbox. It does not have any value. It is used to select option automatically when web page loads.
- **autofocus:** It specifies that the input field will be focused when web page loads.
- **max:** It specifies the maximum value for an input field.
- **min:** It specifies the minimum value for an input field.
- **size:** It specifies the width (in characters) of an input field.

○ Code: Button

```
<input type="button" value="Click here">
```

○ Output: Button



○ Code: Clickable Image

```
<input type="image" src="home.jpg" alt="Home" height="70px" width="70px">
```


Note: This makes clickable image.

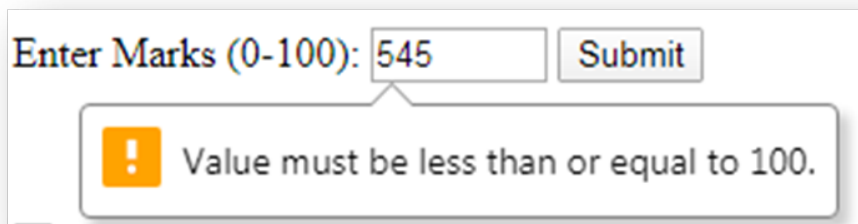
- **Output:**



- **Code: Number Input**

```
<label for="marks">  
Enter Marks (0-100): </label>  
<input type="number" id="marks" min=0 max=100> <input type="submit">
```

- **Output: Number Input**



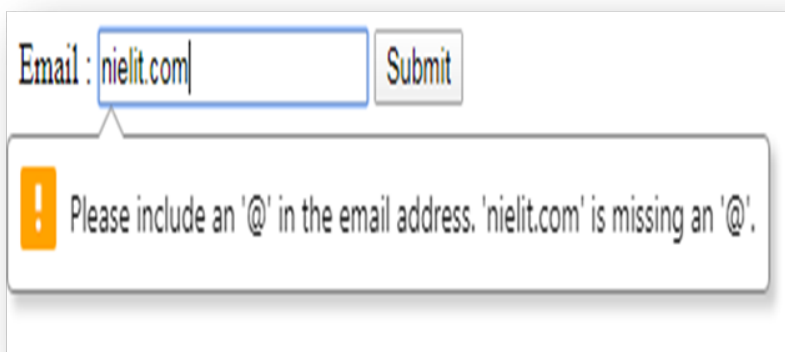
Enter Marks (0-100):

! Value must be less than or equal to 100.

- **Code: Email Input**

```
<label for="email"> Email : </label>  
<input type="email" id="email"> <input type="submit">
```

- **Output: Email Input**



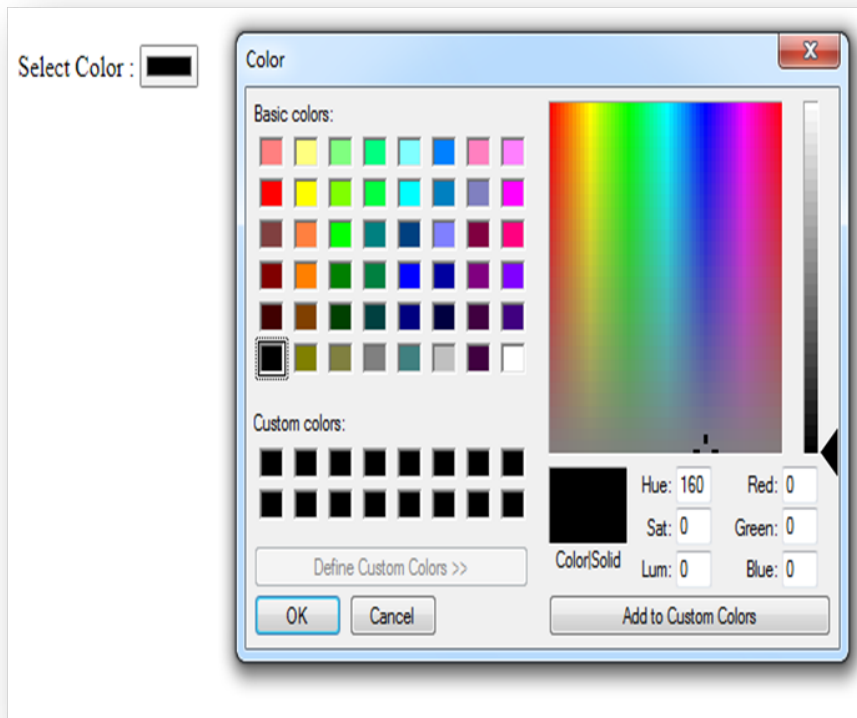
Email :

! Please include an '@' in the email address. 'nielit.com' is missing an '@'.

- **Code: Color Input**

```
<label for="color"> Select Color : </label>
<input type="color" id="color">
```

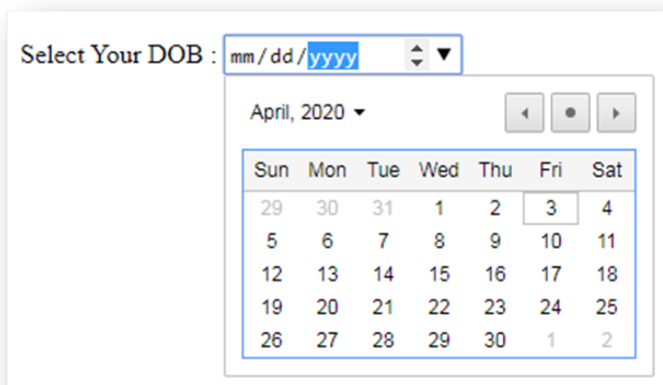
- **Output: Color Input**



- **Code: Date Input**

```
<label for="dob"> Select Your DOB : </label>
<input type="date" id="dob">
```

- **Output: Date Input**



○ **Code: File Input**

```
<label for="docs"> Select file : </label> <input type="file" id="docs">
```

○ **Output: File Input**

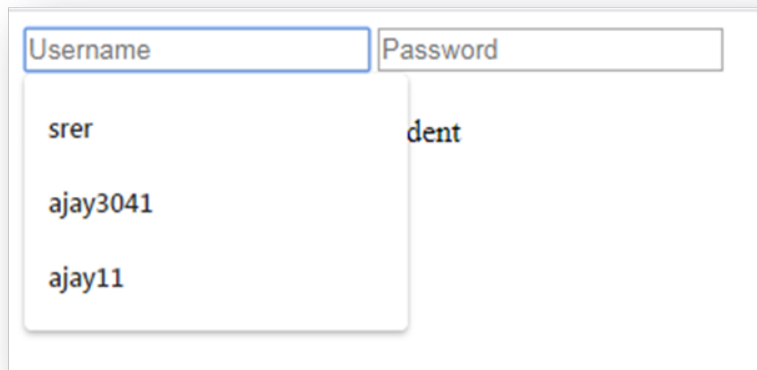
Select file : No file chosen

○ **Code:**

```
<form autocomplete="on">
  <input type="text" placeholder="Username" id="uid">
  <input type="text" placeholder="Password" autocomplete="off"> <br><br>
  <label> Login As:
  <input type="radio" id="fac" name="loginas" disabled><label for="fac"> Faculty
  </label>
  <input type="radio" checked id="stu" name="loginas"> <label for="stu"> Student
  </label>
  <br><br> <input type="Submit" value="login"> </form>
```

○ **Output:**

Login As:
 ☐ Faculty
 ☒ Student

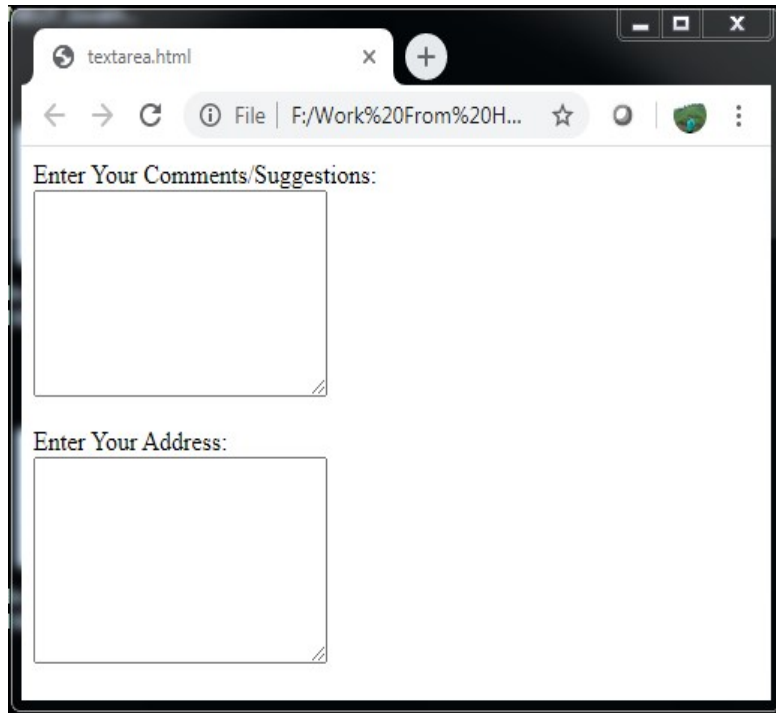


<textarea> element

- Multiline input controls are created using <textarea> tag. It is used whenever large text needs to be entered.
- **Attributes of <textarea> tag:**
 - **rows:** It defines the number of visible lines/rows in textarea.
 - **cols:** It defines the number of visible characters in the columns/width of the textarea.
 - **autofocus, disabled, maxlength, name, placeholder, readonly, required** etc attributes can also be used.
- **Code:**

```
<label for="comment">
Enter Your Comments/Suggestions: </label> <br>
<textarea id="comment" rows=8 cols=25> </textarea>
<br> <br>
<label for="comment">
Enter Your Address: </label> <br>
<textarea id="address" rows=8 cols=25> </textarea>
```

- **Output:**



<button> element

- This tag/element is used to create clickable button. We can place text or images inside `<button> </button>`.
- **Attributes of <button>:**
 - **autofocus, disabled, name, type** (button, submit, reset) , **value** etc. are attributes of `<button>`.

- **Code:**

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

- **Output:**

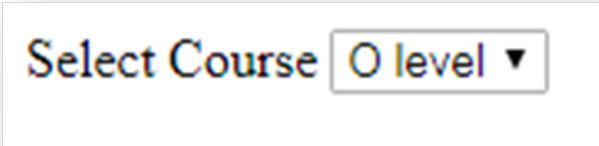


<select> and <option> element

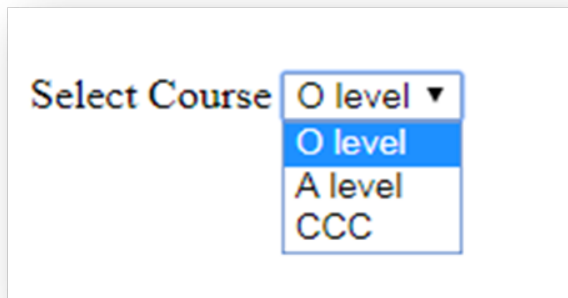
- These elements are used to create drop down box where users have to select options from available pre-defined options.
- **<select>** : It specifies the drop-down box.
- **<option>** : It is used inside <select> ... </select>. It defines the options of drop down box.
- **Attributes of <select>**
 - **size**: It specifies the number of options visible in the dropdown box.
 - **multiple**: It specified that multiple options can be chosen.
 - **autofocus, disabled, name, required** etc are also attribute of <select>.
- **Attributes of <option>**
 - **selected**: It specifies preselected option when page loads.
 - **value, disabled** etc are also attribute of <option>.
- **Code:**

```
<label for="course"> Select Course </label>
<select id="course">
  <option> O level </option>
  <option> A level </option>
  <option> CCC </option>
</select>
```

- **Output:**



When user will click on drop down box, a list of options will drop like:

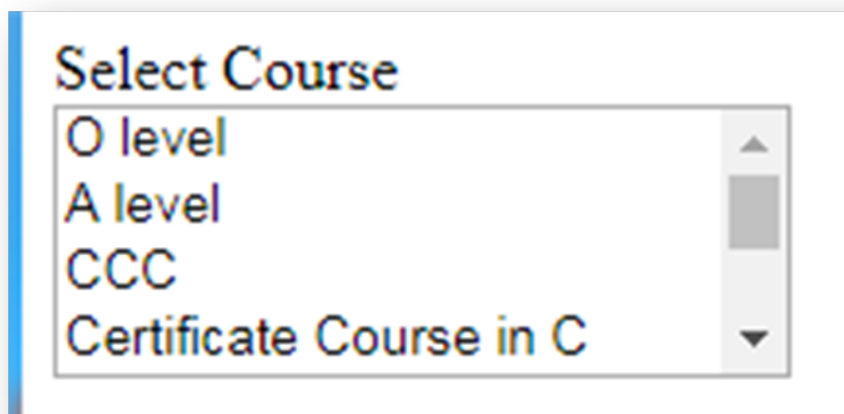


Listbox

- List box can be created using **size** attribute with <select> tag
- **Code:**

```
<label for="course"> Select Course </label>  
<select id="course" size=4 multiple>  
<option> O level </option>  
<option> A level </option>  
<option> CCC </option>  
<option> Certificate Course in C </option>  
<option> Certificate Course in Python </option>  
<option> Certificate Course in Java </option>  
<option> Certificate Course in PHP </option>  
</select>
```

- **Output:**



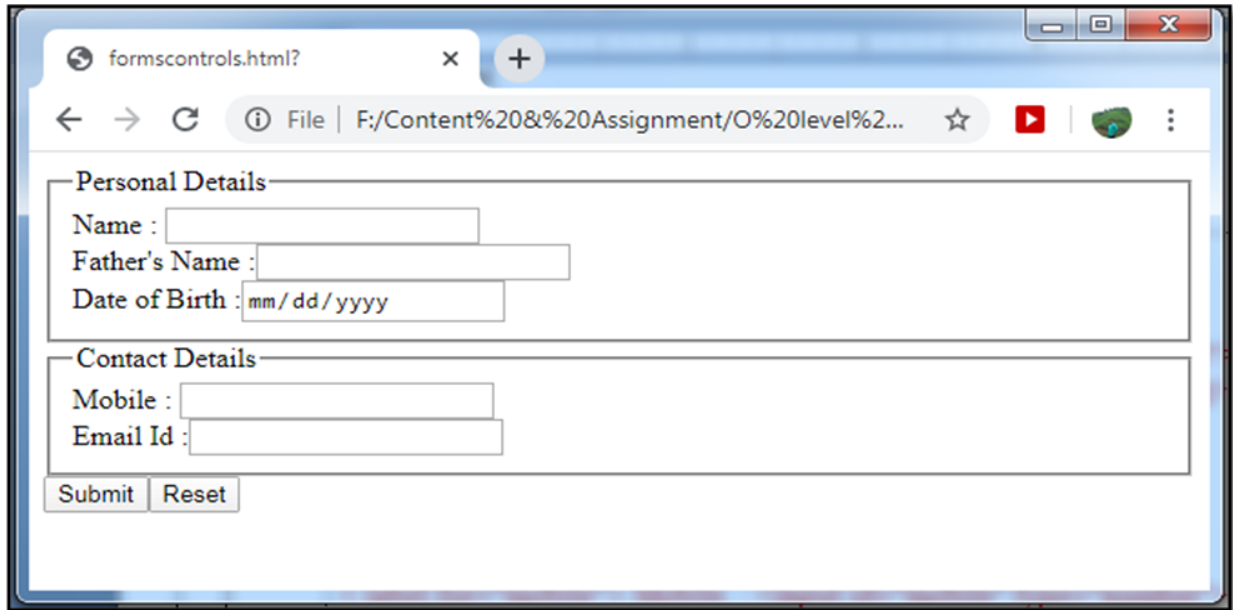
In the code, the value of size is 4, therefore 4 option is displayed, rest of the option can be chosen using scroll button.

<fieldset> and <legend> element

- The <fieldset> element is used to group the related data of form. It makes a box around the related data.
- The <legend> element is used to give caption to the <fieldset>. It is placed within <fieldset> </fieldset> element.
- **Attributes of <fieldset>**
 - **name:** It gives the name for the fieldset.
 - **disabled:** It disables the elements of fieldset.
 - **form:** It specifies which form belongs to fieldset. The id of the form is given as value to this attribute.
- **Code:**

```
<form autocomplete="on">
<fieldset>
<legend> Personal Details </legend>
<label for="name"> Name : <input id="name" type="text"><br>
<label for="fname"> Father's Name :<input id="fname" type="text"><br>
<label for="dob"> Date of Birth :<input id="dob" type="date"><br>
</fieldset>
<fieldset>
<legend> Contact Details </legend>
<label for="mobile"> Mobile : <input id="mobile" type="number"><br>
<label for="emailid"> Email Id :<input id="emailid" type="email"><br>
</fieldset>
<input type="submit">
<input type="reset">
</form>
```

- **Output:**

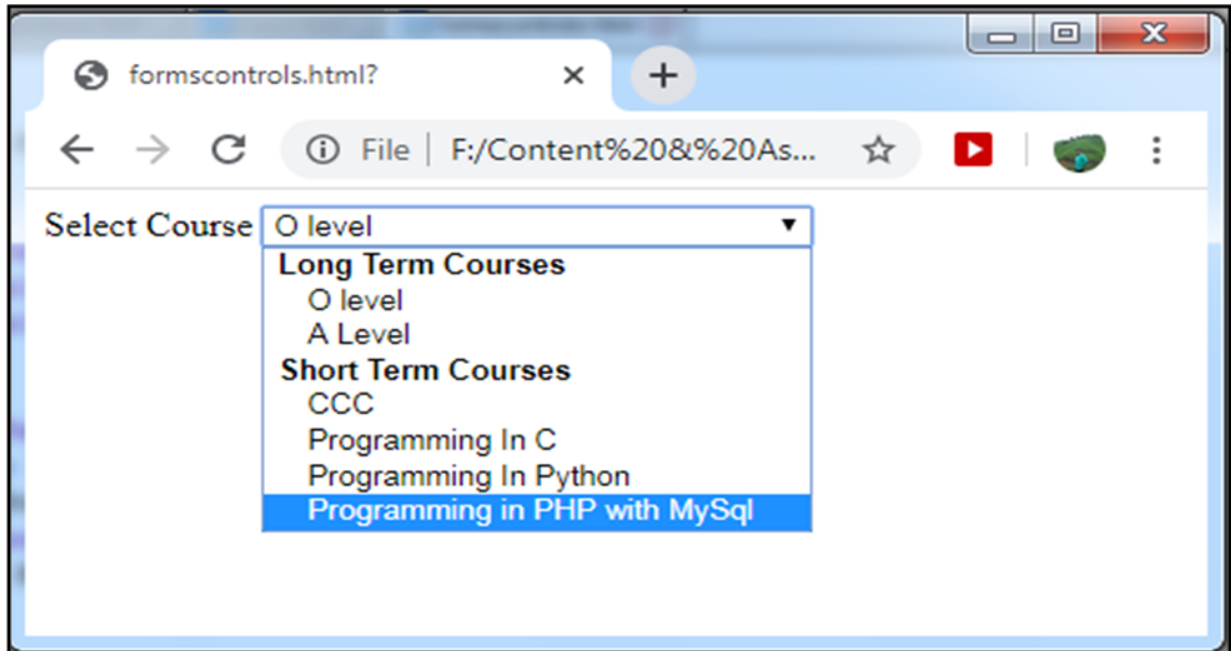


<optgroup> element

- <optgroup> is used to group the related options in the drop-down box.
- **Attributes of <optgroup>**
 - **label:** It gives the label to the option group.
 - **disabled:** It disables the option group.
- **Code:**

```
<form autocomplete="on">
<label for="courses"> Select Course </label>
<select id="courses">
  <optgroup label="Long Term Courses">
    <option value="Olevel"> O level </option>
    <option value="Alevel"> A Level </option>
  </optgroup>
  <optgroup label="Short Term Courses">
    <option value="CCC"> CCC </option>
    <option value="C"> Programming In C </option>
    <option value="Python"> Programming In Python </option>
    <option value="PHP"> Programming in PHP with MySql </option>
  </optgroup>
</select>
</form>
```

○ **Output:**



Note: Options are grouped as “Long Term Courses” and “Short Term Courses”.