Terna Engineering College
Computer Engineering Department

Program: Sem V

Course: Web Technology Laboratory (CSL504)

Faculty: Mrs Reshma Koli

LAB Manual

PART A

(PART A: TO BE REFERRED BY STUDENTS)

Experiment No.03

A.1 Aim:

Design HTML form to accept input information from the user and validate it using JavaScript and HTML 5

A.2 Prerequisite:

1. Knowledge of HTML

2. Knowledge of Client-side scripting.

A.3 Outcome:

After successful completion of this experiment, students will be able to

1. Design a dynamic web page using HTML5 and JavaScript.
2. Apply the concept of client-side validation and design dynamic web pages using JavaScript.

A.4 Theory:

- **Forms**
- HTML forms are used to create (rather primitive) GUIs on Web pages
- Usually, the purpose is to ask the user for information or collect data from the user
- The information is then sent back to the server
- The <form ***arguments***> ... </form>

The form arguments to form tell what to do with the user input

1) name

2) Action

3) **method="get"/"post"**

- A form is an area that can contain form elements

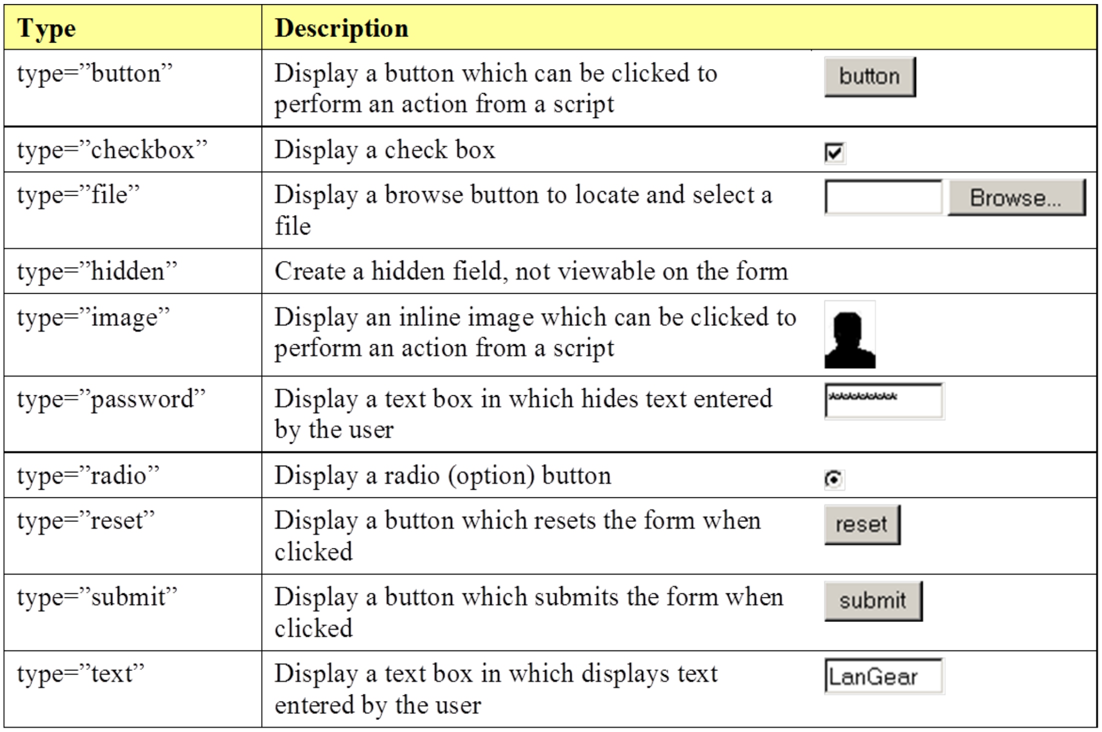
  syntax is:

  <form***arguments***>***...form elements...***</form>

  Example:

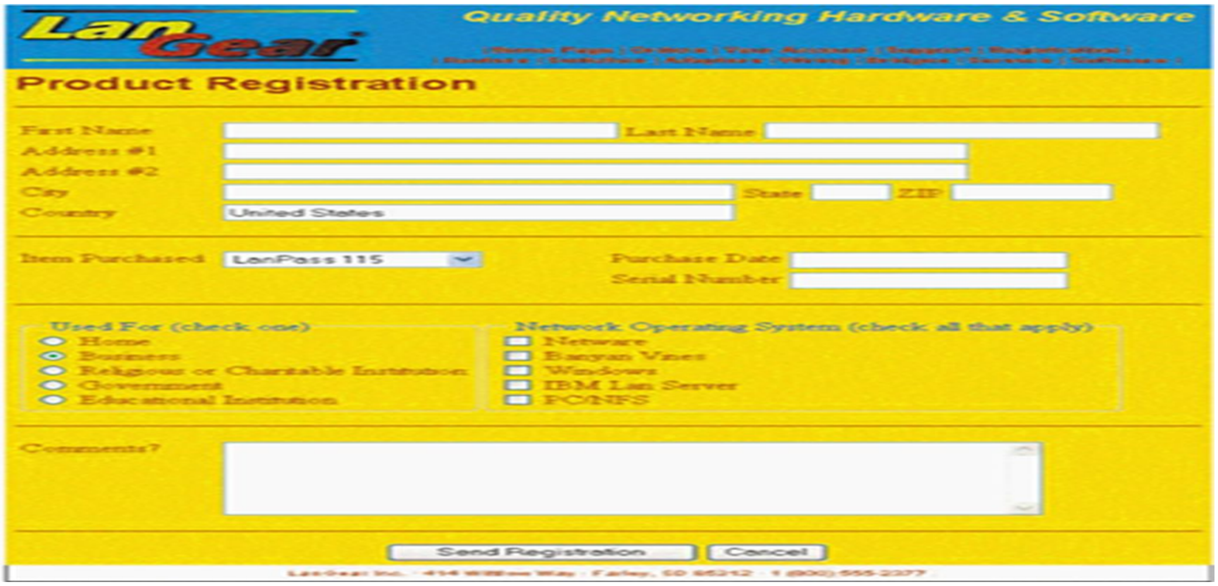
```
<html>
<body>
<form  name="loginform"   action="welcome.html"  method="get">
------------
------------
</form>
</body>
</html>
```

- **HTML Forms Input Types:**



Type	Description	
type="button"	Display a button which can be clicked to perform an action from a script	button
type="checkbox"	Display a check box	☑
type="file"	Display a browse button to locate and select a file	Browse...
type="hidden"	Create a hidden field, not viewable on the form	
type="image"	Display an inline image which can be clicked to perform an action from a script	
type="password"	Display a text box in which hides text entered by the user	********
type="radio"	Display a radio (option) button	◉
type="reset"	Display a button which resets the form when clicked	reset
type="submit"	Display a button which submits the form when clicked	submit
type="text"	Display a text box in which displays text entered by the user	LanGear

- **Examples of HTML Forms:**



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Item Purchased	LanPass 115	Purchase Date	
		Serial Number	

Used For (check one)

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● Business
○ Religious or Charitable Institution
○ Government
○ Educational Institution

Network Operating System (check all that apply)

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□ Banyan Vines
□ Windows
□ IBM Lan Server
□ PC/NFS

Comments?

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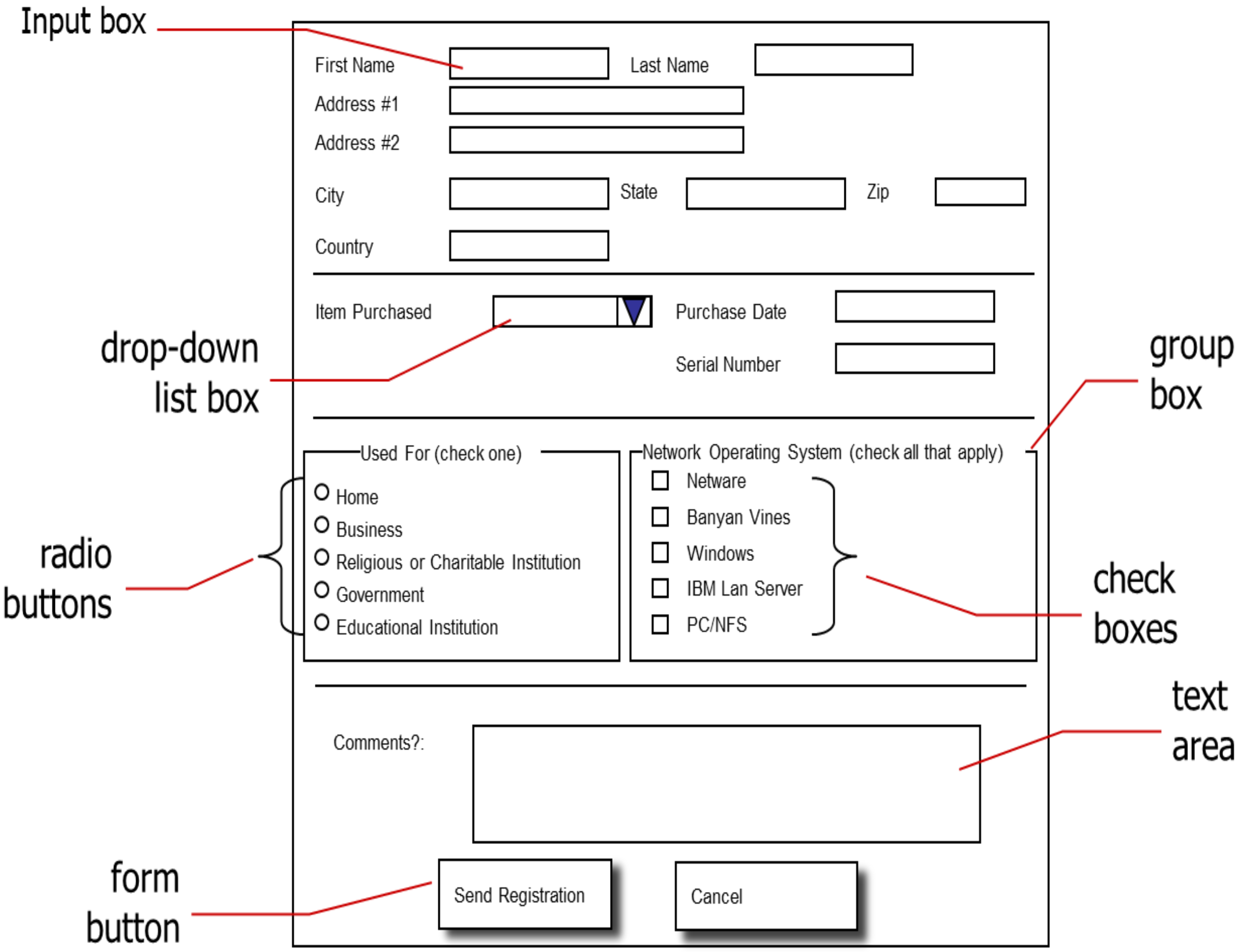
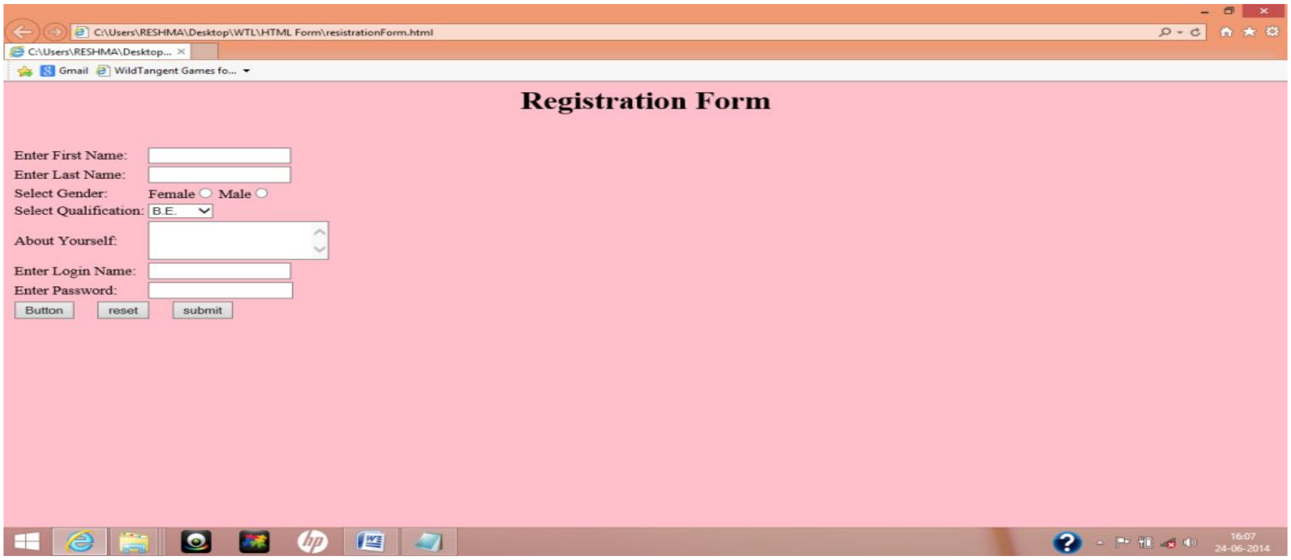


Example of HTML Form:

Output


C:\Users\RESHMA\Desktop\WTL\HTML Form\resistrationForm.html
C:\Users\RESHMA\Desktop...
Gmail
WildTangent Games fo...
16:07
24-06-2014

Registration Form

Enter First Name:
Enter Last Name:
Select Gender: Female ○ Male ○
Select Qualification: B.E.
About Yourself:
Enter Login Name:
Enter Password:

Button reset submit

Source Code:

registrationForm.html

```
<html>
<body  style="background-color:pink; color:black; text-align:center">
<h1 style="text-align:center; color:black">Registration Form</h1><br>
<form  name="registration"  action="welcome.html"  method="get">
<table>
……………………………………………
……………………………………………
……………………………………………
</table>
</form>
</body>
</html>
```

- **JavaScript**

JavaScript is:

- JavaScript is a lightweight, interpreted programming language
- Designed for creating network-centric applications
- Complementary to and integrated with Java
- Complementary to and integrated with HTML
- Open and cross-platform
- Client-side scripting language

Client-side JavaScript means that a web page needs no longer be static HTML, but can include programs that interact with the user, control the browser, and dynamically create HTML content.
The JavaScript code is executed when the user submits the form, and only if all the entries are valid they would be submitted to the Web Server.
JavaScript can be used to trap user-initiated events such as button clicks, link navigation, and other actions that the user explicitly or implicitly initiates.

✔ Advantages of JavaScript:

The merits of using JavaScript are:

- Less server interaction
- Immediate feedback to the visitors
- Increased interactivity
- Richer interfaces

✔ JavaScript Syntax

```
<Script>        JavaScript Code     </script>
```

The script tag takes two important attributes:

- **Language:** This attribute specifies what scripting language you are using. Typically, its value will be *javascript*. Although recent versions of HTML (and XHTML, its successor) have phased out the use of this attribute.
- **Type:** This attribute is what is now recommended to indicate the scripting language in use and its value should be set to *"text/javascript"*.

So your JavaScript segment will look like:

```
<script language="javascript" type="text/javascript">
        JavaScript code
</script>
```

✔ JavaScript Placement in HTML File

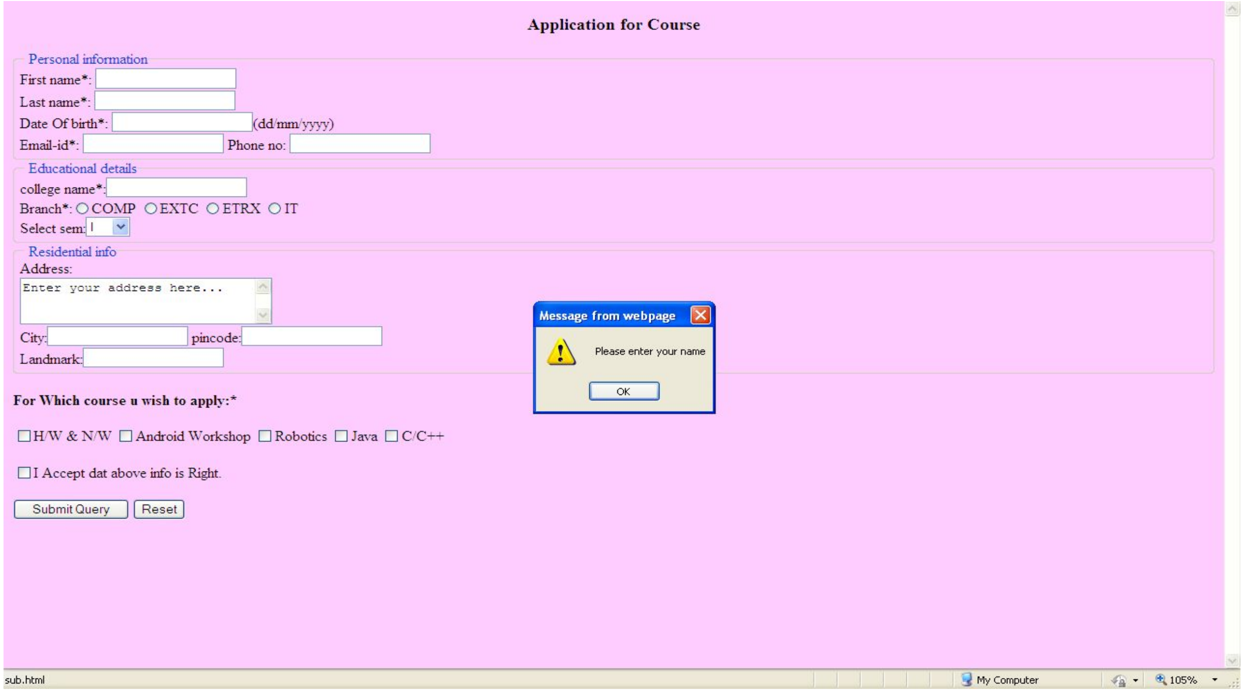
- Script in <head>...</head> section.
- Script in <body>...</body> section.
- Script in and external file and then include in <head>...</head> section.

Example: hello.html

```
<html>
<head>

<script language="javascript">
function sayHello() {
alert("Hello World")
}

</script>
</head>
<body>

<input type="button" onclick="sayHello()" value="Say Hello" />

</body>
</html>
```

Example: Form Validation Using JavaScript

Output:



Application for Course

Personal information

First name*:

Last name*:

Date Of birth*: (dd/mm/yyyy)

Email-id*: Phone no:

Educational details

college name*:

Branch*: ○ COMP ○ EXTC ○ ETRX ○ IT

Select sem: I

Residential info

Address:

Enter your address here...

City: pincode:

Landmark:

For Which course u wish to apply:*

□ H/W & N/W □ Android Workshop □ Robotics □ Java □ C/C++

□ I Accept dat above info is Right.

Message from webpage

Please enter your name

Source Code

Form.html

```
<Html>
</head>
<script language="JavaScript">

function validation( )
 {

if(document.mf.firstname.value=="")
{
alert("Please enter your name")
document.mf.firstname.focus();
return false;
 }
………………………
………………………
……………………….
}
</script>
</head>

<body bgcolor="FFCCFF">

<form name="mf" action="sub.html" method ="post" onsubmit="return validation()">
…………………………………………………………
…………………………………………………………
…………………………………………………………
…………………………………………………………

…………………………………………………………
…………………………………………………………

…………………………………………………………
…………………………………………………………

</form>
</body>
</html>
```

PART B

(PART B: TO BE COMPLETED BY STUDENTS)

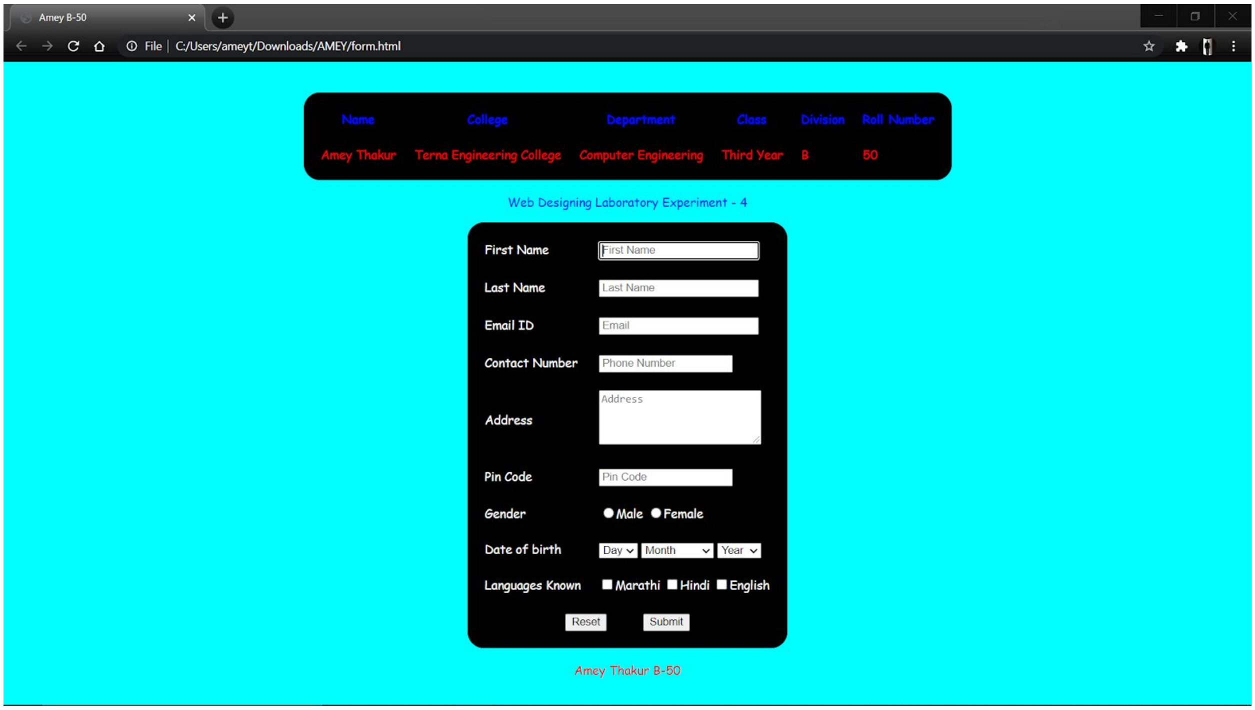
(Students must submit the soft copy as per following segments within two hours of the practical. The soft copy must be uploaded on the Blackboard or emailed to the concerned lab in charge faculties at the end of the practical in case the there is no Blackboard access available)

Roll No. 50	Name: Amey Thakur
Class: TE-Comps B	Batch: B3
Date of Experiment: 07/08/2020	Date of Submission: 07/08/2020
Grade :	

B.1 Web page Snapshot:

(Add all snapshots of output.)

- **FORM**



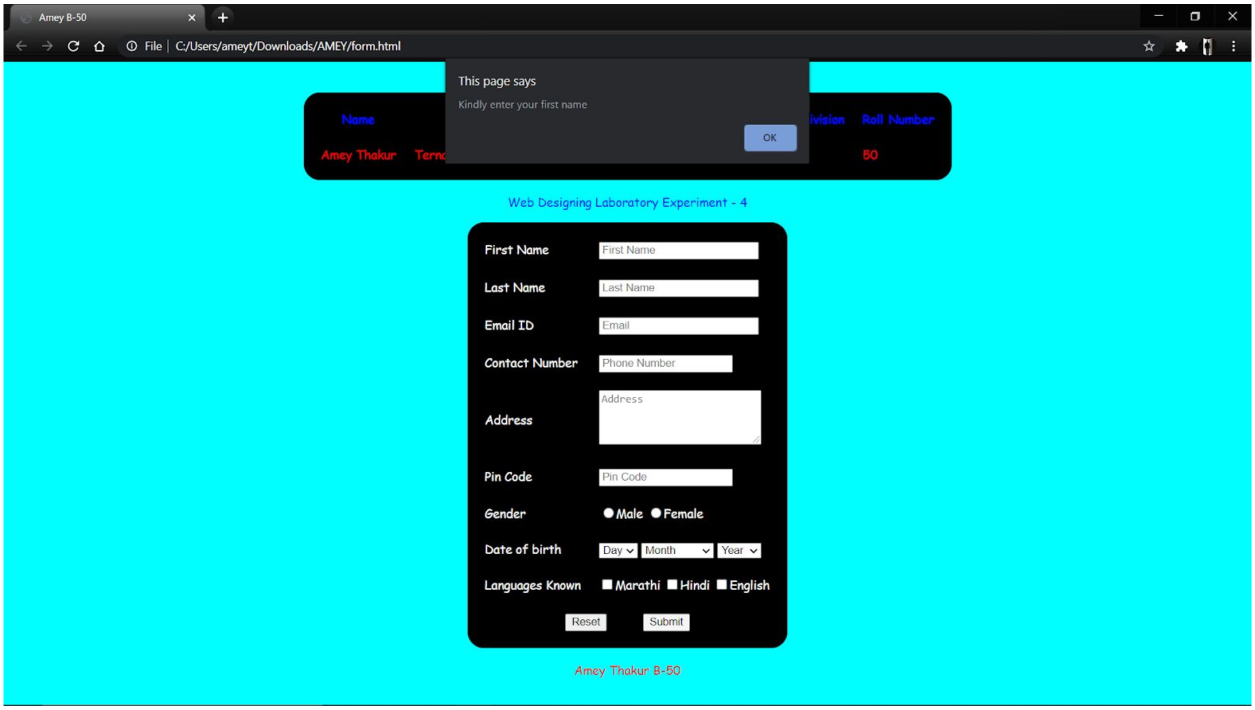
Name	College	Department	Class	Division	Roll Number
Amey Thakur	Terna Engineering College	Computer Engineering	Third Year	B	50

Web Designing Laboratory Experiment - 4

First Name	First Name
Last Name	Last Name
Email ID	Email
Contact Number	Phone Number
Address	Address
Pin Code	Pin Code
Gender	○ Male ○ Female
Date of birth	Day Month Year
Languages Known	□ Marathi □ Hindi □ English

Amey Thakur B-50

- **VALIDATION ERROR**



This page says

Kindly enter your first name

Name	Terna…	…ivision	Roll Number
Amey Thakur	Terna		50

Web Designing Laboratory Experiment - 4

First Name: First Name

Last Name: Last Name

Email ID: Email

Contact Number: Phone Number

Address: Address

Pin Code: Pin Code

Gender: ● Male ● Female

Date of birth: Day Month Year

Languages Known: □ Marathi □ Hindi □ English

Amey Thakur B-50

B.2 Web page source code:

- **form.html**

```
<!DOCTYPE html>

<html lang="en" dir="ltr">

 <head>

  <meta charset="utf-8">

  <meta name="viewport" content="width=device-width">

  <meta name="description" content="form">

  <meta name="keywords" content="regisrtration form">

  <meta name="author" content="Amey Thakur">

  <title>Amey B-50</title>

  <link rel="stylesheet" href="./css/style.css">

  </head>
 <body>  <br>

  <aside id="sidebar">

         <p><table border="0" bgcolor="#000000" align="center" cellspacing= "20">

         <tr style="color:#000dff">

         <th >Name</th>

         <th>College</th>

         <th>Department</th>

         <th>Class</th>

         <th>Division</th>

         <th>Roll Number</th>

         </tr>

         <tr style="color:#ff0000">

         <td>Amey Thakur</td>

         <td>Terna Engineering College</td>

         <td>Computer Engineering</td>

         <td>Third Year</td>

         <td>B</td>

         <td>50</td>

         </tr>

         </table>

        </p>

        </aside>

<center><p style="color:#000dff">Web Designing Laboratory Experiment - 4</p></center>

<form name="RegForm" action="#" onsubmit="return ValidationForm()" method="post"
class="docs">
```

```
<table border="0" bgcolor="#000000" align="center" cellspacing= "20">
<div> <tr> <td>First Name</td>
<td><input type="text" placeholder="First Name" size="25" id="fname" name="fname"></td>
</tr></div>
<div><tr><td>Last Name</td>
 <td><input type="text" placeholder="Last Name" size="25" id="lname" name="lname"</td>
 </tr></div>
<div><tr><td>Email ID</td>
 <td><input type="email" placeholder="Email" size="25" id="email" name="email"></td>
 </tr></div>
<div><tr><td>Contact Number</td>
<td><input type="number" placeholder="Phone Number" size="25" id="phone"
name="phone"></td>
</tr></div>
<div><tr><td>Address</td>
<td><textarea rows="4" cols="25" placeholder="Address" id="address"
name="address"></textarea></td>
</tr></div>
<div><td>Pin Code</td>
 <td><input type="number" placeholder="Pin Code" size="25" id="pin" name="pin"></td>
</tr></div>
<div><tr><td>Gender</td>
<td><input type="radio" id="r1" name="r1">Male
    <input type="radio" id="r1"name="r1">Female
</td></tr></div>
<div><tr>  <td>Date of birth</td>
```

```
  <td><select value="" name="Subject"> <option>Day</option>

<option>1</option><option>2</option><option>3</option><option>4</option><option>5</opt
ion><option>6</option><option>7</option><option>8</option><option>9</option><option>10
</option><option>11</option><option>12</option><option>13</option><option>14</option>
<option>15</option><option>16</option><option>17</option><option>18</option><option>1
9</option><option>20</option><option>21</option><option>22</option><option>23</option
><option>24</option><option>25</option><option>26</option><option>27</option><option>
28</option><option>29</option><option>30</option><option>31</option>  </select>

<select value="" name="Subject">   <option>Month</option>

<option>January</option><option>February</option><option>March</option><option>April</o
ption><option>May</option><option>June</option><option>July</option><option>August</o
ption><option>September</option><option>October</option><option>November</option><o
ption>December</option>    </select>

<select value="" name="Subject">     <option>Year</option>

<option>1990</option><option>1991</option><option>1992</option><option>1993</option>
<option>1994</option><option>1995</option><option>1996</option><option>1997</option>
<option>1998</option><option>1999</option><option>2000</option><option>2001</option>
<option>2002</option><option>2003</option><option>2004</option><option>2005</option>
<option>2006</option><option>2007</option><option>2008</option><option>2009</option>
<option>2010</option><option>2011</option><option>2012</option><option>2013</option>
<option>2014</option><option>2015</option><option>2016</option><option>2017</option>
<option>2018</option><option>2019</option><option>2020</option>    </select>

  </td>  </tr>  </div>

<div><td>Languages Known</td>

    <td><input type="checkbox" id="r1" name="r1">Marathi

          <input type="checkbox" id="r1" name="r1">Hindi

          <input type="checkbox" id="r1" name="r1">English

   </td> </div>

<div> <tr>  <td colspan="2" align="center">

<input type="reset" value="Reset" name="reset" id="button">&nbsp&nbsp&nbsp&nbsp&nbsp

<input type="submit" value="Submit" name="submit" id=""="button"></td> </tr> </div>

</table> </form>
```

```
<script>

function ValidationForm(){

        let username = document.forms["RegForm"]["fname"];

        let name = document.forms["RegForm"]["lmame"];

        let email = document.forms["RegForm"]["email"];

        let phoneNumber = document.forms["RegForm"]["phone"];

        let address = document.forms["RegForm"]["address"];}

        let pin = document.forms["RegForm"]["pin"];}

        let select = document.forms["RegForm"]["Subject"];

        if(username.value == "") {

          alert("Kindly enter your first name");

          username.focus();

          return false;

        }

        if(name.value == "") {

          alert("Kindly enter your last name");

          name.focus();

          return false;

        }

        if(email.value == "") {

          alert("Kindly enter a valid e-mail address");

          email.focus();

          return false;

        }

        if(email.value.indexOf("@", 0) < 0) {
```

```
  alert("Kindly enter a valid e-mail address");
  email.focus();
  return false;
}
if(email.value.indexOf(".", 0) < 0) {
  alert("Kindly enter a valid e-mail address");
  email.focus();
  return false;
}
if(phoneNumber.value == "") {
  alert("Kindly enter your contact number");
  phoneNumber.focus();
  return false;
}
if(address.value == "") {
  alert("Kindly enter your address");
  address.focus();
  return false;
}
if(pin.value == "") {
  alert("Kindly enter your address");
  pin.focus();
  return false;
}
if(select.selectedIndex < 1) {
     alert("Kindly select your date of birth");
     select.focus();
     return false;
    }
    return true;
   }
  </script>
<footer><center><p style="color:#f70000">Amey Thakur B-50</p></center></footer>
 </body>
</html>
```

- **style.css**

```
table{ color: #ffffff;  border-radius: 20px; }
body{ font: 15px/1.5 cursive;
 padding:0;
 margin:0;
 background-color:aqua;
}
button{
 height:38px;
 background:#263dd4;
 border:0;
 padding-left: 20px;
 padding-right:20px;
 color:#000dff;
}
```

B.3 Questions:

Q.1 Differentiate between get and post method.

Ans:

	GET	**POST**
BACK button/Reload	Harmless	Data will be re-submitted (the browser should alert the user that the data are about to be re-submitted)
Bookmarked	Can be bookmarked	Cannot be bookmarked
Cached	Can be cached	Not cached
Encoding type	application/x-www-form-urlencoded	application/x-www-form-urlencoded or multipart/form-data. Use multipart encoding for binary data
History	Parameters remain in the browser history	Parameters are not saved in the browser history
Restrictions on data length	Yes, when sending data, the GET method adds the data to the URL; and the length of a URL is limited (maximum URL length is 2048 characters)	No restrictions
Restrictions on the data type	Only ASCII characters allowed	No restrictions. Binary data is also allowed
Security	GET is less secure compared to POST because data sent is part of the URL Never use GET when sending passwords or other sensitive information!	POST is a little safer than GET because the parameters are not stored in browser history or in web server logs
Visibility	Data is visible to everyone in the URL	Data is not displayed in the URL

Q.2 Explain the Document Object Model.

Ans:

1. The Document Object Model (DOM) is a programming interface for HTML and XML(Extensible markup language) documents. It defines the logical structure of documents and the way a document is accessed and manipulated.
2. It is called a Logical structure because DOM doesn't specify any relationship between objects.
3. DOM is a way to represent the webpage in the structured hierarchical way so that it will become easier for programmers and users to glide through the document. With DOM, we can easily access and manipulate tags, IDs, classes, Attributes or Elements using commands or methods provided by Document objects.

Q.3 Explain various JavaScript functions.

Ans:

1. eval(x) - The eval() function evaluates or executes an argument.

2. parseInt(string, radix) -The parseInt() function parses a string argument and returns an integer of the specified radix (the base in mathematical numeral systems).

3. parseFloat(string) - The parseFloat() function parses an argument (converting it to a string first if needed) and returns a floating point number.

4. isNaN(number) - The Number.isNaN() method determines whether a value is NaN (Not-A-Number). This method returns true if the value is of the type Number, and equates to NaN. Otherwise it returns false.

5. isFinite(number) - The global isFinite() function determines whether the passed value is a finite number. If needed, the parameter is first converted to a number.

6. decodeURI(encodedURI) - The decodeURI() function decodes a Uniform Resource Identifier (URI) previously created by encodeURI() or by a similar routine.

7. decodeURIComponent(encodedURIComponent) - The decodeURIComponent() function decodes a Uniform Resource Identifier (URI) component previously created by encodeURIComponent or by a similar routine.

8. encodeURI(uri) - The encodeURI() function is used to encode a URI. This function encodes special characters, except: , / ? : @ & = + $ # (Use encodeURIComponent() to encode these characters).

9. encodeURIComponent(uriComponent) - The encodeURIComponent() function encodes a URI component. This function encodes special characters. In addition, it encodes the following characters: , / ? : @ & = + $ #

10. escape(string) - The escape() function encodes a string.

11. unescape(string) - The unescape() function decodes an encoded string.

B.4 Conclusion

Hence we studied how to design a dynamic web page using HTML5 and JavaScript and apply the concept of client-side validation and design dynamic web pages using JavaScript