A Laboratory Manual for

Web Development
(3151606)

B.E. Semester 5
(Information Technology)

Directorate of Technical Education,Gandhinagar,Gujarat

L.D. COLLEGE OF ENGINEERING, AHMEDABAD

Certificate

This is to certify that Mr./Ms. **Gandhi Prem Hemantbhai** Enrollment No. **210280116053** of B.E. Semester **5** Information Technology of this Institute (GTU Code: 028)has satisfactorily completed the Practical / Tutorial work for the subject **Web Development(3151606)** for the academic year 2023-24.

Place: _____

Date: _____

Name and Sign of Faculty member

Head of the Department
Dr. H.M.Diwanji

Preface

Main motto of any laboratory/practical/field work is for enhancing required skills as well as creating ability amongst students to solve real time problem by developing relevant competencies in psychomotor domain. By keeping in view, GTU has designed competency focused outcome-based curriculum for engineering degree programs where sufficient weightage is given to practical work. It shows importance of enhancement of skills amongst the students, and it pays attention to utilize every second of time allotted for practical amongst students, instructors and faculty members to achieve relevant outcomes by performing the experiments rather than having merely study type experiments. It is must for effective implementation of competency focused outcome-based curriculum that every practical is keenly designed to serve as a tool to develop and enhance relevant competency required by the various industry among every student. These psychomotor skills are very difficult to develop through traditional chalk and board content delivery method in the classroom. Accordingly, this lab manual is designed to focus on the industry defined relevant outcomes, rather than old practice of conducting practical to prove concept and theory.

By using this lab manual students can go through the relevant theory and procedure in advance before the actual performance which creates an interest and students can have basic idea prior to performance. This in turn enhances pre-determined outcomes amongst students. Each experiment in this manual begins with competency, industry relevant skills, course outcomes as well as practical outcomes (objectives). The students will also achieve safety and necessary precautions to be taken while performing practical.

This manual also provides guidelines to faculty members to facilitate studentcentric lab activities through each experiment by arranging and managing necessary resources in order that the students follow the procedures with required safety and necessary precautions to achieve the outcomes. It also gives an idea that how students will be assessed by providing rubrics.

In the era of digitization, the demand of Internet based applications is increasing day by day. Web Development is one of the required skills for IT Engineer. This focuses on front-end and back-end design. After learning Web Development students can advance their career in the field of web development.

Utmost care has been taken while preparing this lab manual however always there is chances of improvement. Therefore, we welcome constructive suggestions for improvement and removal of errors if any.

Practical – Course Outcome matrix

	Course Outcomes (COs): CO-1: Understand the concepts of WWW, HTTP protocol and client-server architecture. CO-2: Learn and apply various HTML tags to build the user-friendly web pages. CO-3: Explore the new features of CSS to define and apply CSS rules in the web pages for rich User Interface. CO-4: Create interactive web pages to improve the user experience using client-side scripting with JavaScript. CO-5: Design and develop fully functional dynamic web applications using the concepts of PHP, MySQL, CO-6: Learn and apply advanced asynchronous web communication mechanisms like REST API, AJAX and jQuery for building highly interactive webpages.

Sr. No.	Objective(s) of Experiment	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6
1.	Draw and explain architecture of the web browser. List and explain various HTML request and response headers.	√					
2.	Create your resume using HTML (Suggested sections of resume are Personal Information, Educational Information, Professional Skills, Experience, Achievements, Hobbies), Experiment with text, colors, link and lists.		√				
3.	Create your class time table using table tag, experiment with row span, colspan, cellspacing and cellpadding attributes.		√				
4.	Design static web pages for your college containing a description of the courses, departments, faculties, library etc. Provide links for navigation among pages.		√				
5.	Create User Registration Form in HTML (Suggested to use fields like Name, Date of Birth, Gender, Email Id, Mobile No., Address, State , Education , Image Upload etc.) using textbox, text area, checkbox, radio button, select box, button, file upload etc.		√				
6	Create two web pages, one contains audios and other page contains videos (using HTML5 audio and video tags). Also provide link for navigation between pages.		√				
7.	Create a web page using frame. Divide the page into two parts with Navigation links on left hand side of page (width=20%) and content page on right hand		√				

	side of page (width = 80%). On clicking the navigation Links corresponding content must be shown on the right-hand side.						
8.	Design a web page of your home town with an attractive background color, text color, an Image, font etc. (use internal CSS).			√			
9.	Use Inline CSS to format your resume that you created in practical no 02.			√			
10.	Use External, Internal, Inline CSS to format Information Technology Department Web Pages that you created in Practical No.04			√			
11.	Develop a java script to display today's date.				√		
12.	Develop simple calculator for addition, subtraction, multiplication and division operation using java script.				√		
13.	Write a java script code to combine and display the information in textbox when the button is clicked use registration page that you created in Practical No.5.				√		
14.	Use JavaScript to Implement validation in Practical No.5.				√		
15.	Write a PHP program to check if number is prime or not.					√	
16.	Use Registration Form from practical number 5 to store user registration details in MySql database. On submission next page displays all registration data in in html table using php. Also provide feature to update and delete the registration data.					√	
17.	Write a PHP script for user authentication using PHP-MYSQL. Use session for storing username.					√	
18.	Using AJAX Create visual search feature to search using name for practical number 16 which list name, mobile number and email id of matching users.						√
19.	Create a REST API using php.						√
20.	Create an Image slider using jQuery.						√
21	Cookie Example						√

Industry Relevant Skills

The following industry relevant competency are expected to be developed in the student by undertaking the practical work of this laboratory.

1. HTML/CSS Skills : HTML is used extensively by web developers to build web pages. CSS is used to implement different fonts, colors and layouts in the design of a website.
2. Javascript Skills : Java Script is used for creating interactive web pages to improve the user experience.
3. PHP/MySql Skills : PHP/MySql is used extensively by web developers to create fully functional dynamic web applications.
4. REST API,AJAX,JQuery Skills : RESTAPI,AJAX,JQuery are advanced asynchronous web communication mechanisms and used by web developers for building highly interactive webpages.

Guidelines for Faculty members

1. Teacher should provide the guideline with demonstration of practical to the students with all features.
2. Teacher shall explain basic concepts/theory related to the experiment to the students before starting of each practical
3. Involve all the students in performance of each experiment.
4. Teacher is expected to share the skills and competencies to be developed in the students and ensure that the respective skills and competencies are developed in the students after the completion of the experimentation.
5. Teachers should give opportunity to students for hands-on experience after the demonstration.
6. Teacher may provide additional knowledge and skills to the students even though not covered in the manual but are expected from the students by concerned industry.
7. Give practical assignment and assess the performance of students based on task assigned to check whether it is as per the instructions or not.
8. Teacher is expected to refer complete curriculum of the course and follow the guidelines for implementation.

Instructions for Students

1. **Students have to write answers / solutions of QUIZ in separate file page. The quiz of corresponding practical must be attached just behind each practical.**
2. Students are expected to carefully listen to all the theory classes delivered by the faculty members and understand the COs, content of the course, teaching and examination scheme, skill set to be developed etc.
3. Students shall organize the work in the group and make record of all observations.
4. Students shall develop maintenance skill as expected by industries.
5. Student shall attempt to develop related hand-on skills and build confidence.
6. Student shall develop the habits of evolving more ideas, innovations, skills etc. apart from those included in scope of manual.

7. Student shall refer technical magazines and data books.
8. Student should develop a habit of submitting the experimentation work as per the schedule and s/he should be well preparedfor the same.

Sample Rubrics for Practical Evaluation

Understanding of Problem (3 marks)	Implementation of Problem (4 marks)	Presentation and report writing (3 marks)	Total (10 marks)

Understanding of Problem	Excellent understanding of problem and relevance with the theory clearly understood.	**03**	Moderate level understanding of problem and relevance with the theory clearly understood.	**02**	Problem not understood and can't establish the relation with the theory.	**01**
Implementation of Problem	Efficient implementation with proper naming convention and understanding	**04**	Moderate level of implementation. Poor naming convention.	**03**	Partial implementation with poor understanding.	**01 to 02**
Presentation and report writing	Unique documentation (not copied from other sources) of given problem with proper formatting and language.	**03**	Ordinary documentation of given problem with proper formatting and language	**02**	Weak documentation of given problem without proper formatting and language	**01 to 02**

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(Progressive Assessment Sheet)

Sr. No.	Objective(s) of Experiment	Page No.	Date of performance	Date of submission	Assessment Marks	Sign. of Teacher with date	Remarks
1	Draw and explain architecture of the web browser. List and explain various HTML request and response headers.						
2	Create your resume using HTML (Suggested sections of resume are Personal Information, Educational Information, Professional Skills, Experience, Achievements, Hobbies), Experiment with text, colors, link and lists.						
3	Create your class time table using table tag, experiment with rowspan, colspan, cellspacing and cellpadding attributes.						
4	Design static web pages for your college containing a description of the courses, departments, faculties, library etc. Provide links for navigation among pages.						
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6	Create two web pages, one contains audios and other page contains videos (using HTML5 audio and video tags). Also provide link for navigation between pages.						
7	Create a web page using frame. Divide the page into two parts with Navigation links on left hand side of page (width=20%) and content page on right hand side of page (width = 80%). On clicking the navigation Links corresponding content must be shown on the right-hand side.						
8	Design a web page of your home town with an attractive background color, text color, an Image, font etc. (use internal CSS).						

9	Use Inline CSS to format your resume that you created in practical no 02.						
10	Use External, Internal, Inline CSS to format Information Technology Department Web Pages that you created in Practical No.04						
11	Develop a java script to display today's date.						
12	Develop simple calculator for addition, subtraction, multiplication and division operation using java script.						
13	Write a java script code to combine and display the information in textbox when the button is clicked use registration page that you created in Practical No.5.						
14	Use JavaScript to Implement validation in Practical No.5.						
15	Write a PHP program to check if number is prime or not.						
16	Use Registration Form from practical number 5 to store user registration details in MySql database. On submission next page displays all registration data in in html table using php. Also provide feature to update and delete the registration data.						
17	Write a PHP script for user authentication using PHP-MYSQL. Use session for storing username.						
18	Using AJAX Create visual search feature to search using name for practical number 16 which list name, mobile number and email id of matching users.						
19	Create a REST API using php.						
20	Create an Image slider using jQuery.						
21	Create HTML form with one textbox and button. Keep button label as SAVE. User will enter color name in textbox and click on save button. On save, the value of textbox color name should be saved in COOKIE. Whenever user opens page again, the background color should be same as saved in cookie.						

Total			

Experiment No: 1

Draw and explain architecture of the web browser. List and explain various HTML request and response headers.

Date:

Competency and Practical Skills:

Relevant CO:1

Objectives:

1. To understand architecture of the web browser.
2. To understand HTML request and response headers.

Theory:

WHAT'S THE BROWSER?

The browser main functionality is to present the web resource you choose, by requesting it from the server and displaying it on the browser window. The resource format is usually HTML but also PDF, image and more.

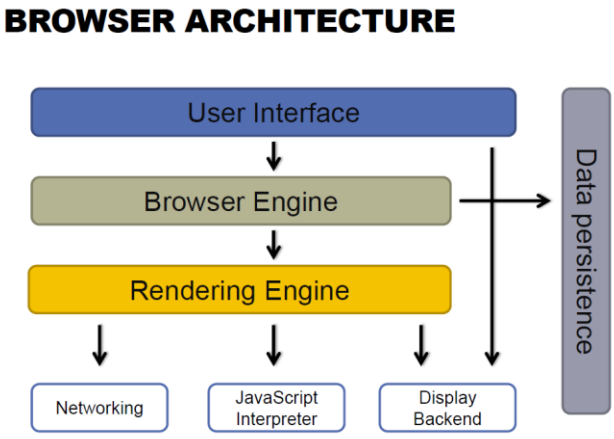


Figure 1 Browser Architecture

USER INTERFACE

The space where interaction between users and the browser. Most of the browsers have common inputs for user interface:

- Address bar.
- Next and back buttons.
- Buttons for home, refresh and stop
- Bookmark web pages

BROWSER ENGINE

Browser Engine provides methods to begin the loading of URL and other high-level browsing actions.

- Reload, Back, Forward actions
- Error messages
- Loading progress

RENDERING ENGINE

Rendering Engine interprets (render) the HTML, XML, JavaScript and generates the layout that is displayed in the User Interface. Key component of this phase is HTML, CSS parse.

NETWORKING

Access and transfer data on the internet (calls HTTP, HTTPS, FTP). The Networking components handles all aspects of internet communication or security.

JAVASCRIPT INTERPRETER

Component parse & executes the JavaScript that is embedded in the website. Results of the execution a passed to the Rendering Engines for display.

DISPLAY BACKEND

Display common UI components. Drawing basic widgets like combo boxes, windows.

DATA PERSISTENCE

Storing the data on the client side.
- Cookies.
- Cache.

Basic Flow of HTML processing

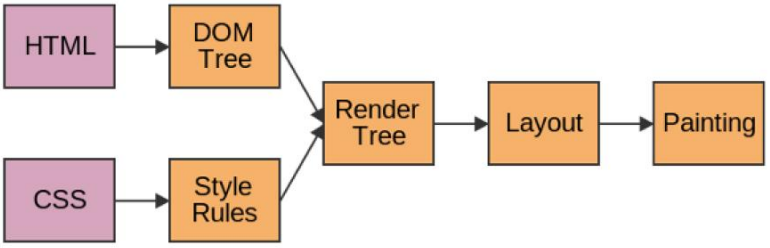
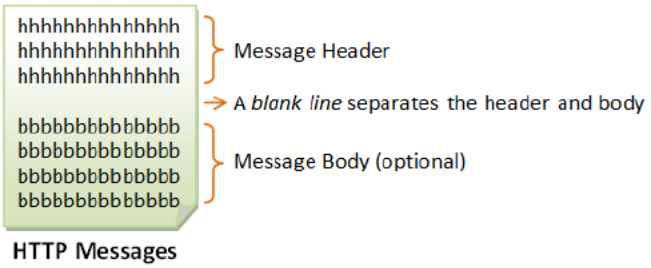


Figure 2 Basis Flow of HTML Processing

HTTP Request and Response Messages

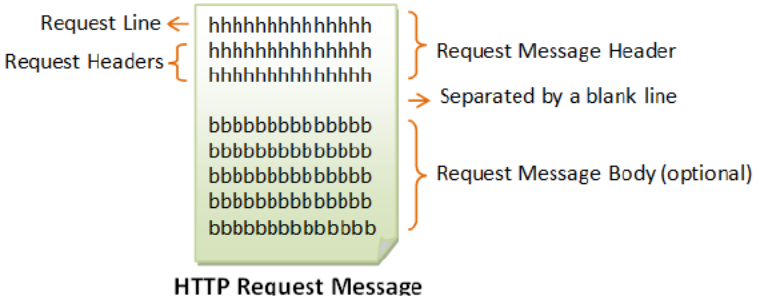
HTTP client and server communicate by sending text messages. The client sends a *request message* to the server. The server, in turn, returns a *response message*.

An HTTP message consists of a *message header* and an optional *message body*, separated by a *blank line*, as illustrated below:



HTTP Request Message

The format of an HTTP request message is as follow:



Request Headers

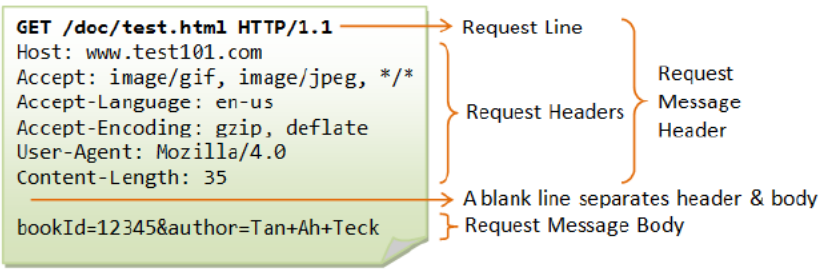
The request headers are in the form of name:value pairs. Multiple values, separated by commas, can be specified.

request-header-name: *request-header-value1*, *request-header-value2*, ...

Examples of request headers are:
Host: www.xyz.com
Connection: Keep-Alive
Accept: image/gif, image/jpeg, */*
Accept-Language: us-en, fr, cn

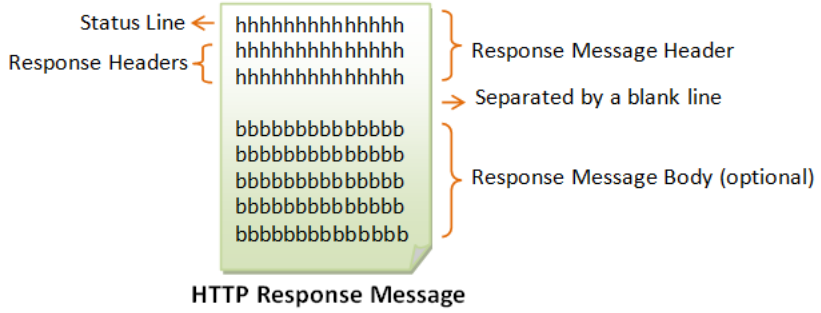
Example

The following shows a sample HTTP request message:

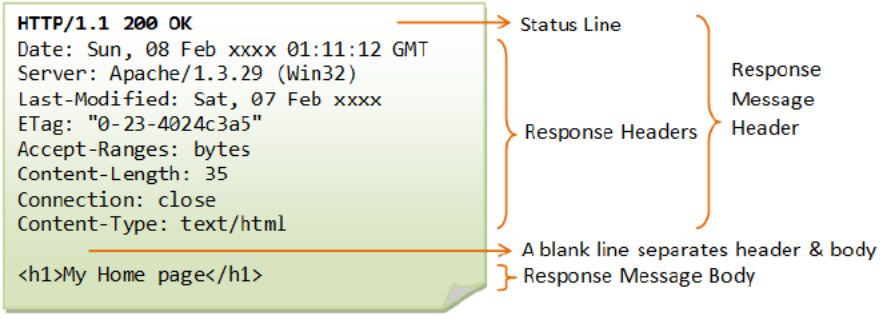


HTTP Response Message

The format of the HTTP response message is as follows:



HTTP Response Message



HTTP Request Methods

HTTP protocol defines a set of request methods. A client can use one of these request methods to send a request message to an HTTP server.

The methods are:

- **GET**: A client can use the GET request to get a web resource from the server.

- **HEAD**: A client can use the HEAD request to get the header that a GET request would have obtained. Since the header contains the last-modified date of the data, this can be used to check against the local cache copy.
- **POST**: Used to post data up to the web server.
- **PUT**: Ask the server to store the data.
- **DELETE**: Ask the server to delete the data.
- **TRACE**: Ask the server to return a diagnostic trace of the actions it takes.
- **OPTIONS**: Ask the server to return the list of request methods it supports.
- **CONNECT**: Used to tell a proxy to make a connection to another host and simply reply the content, without attempting to parse or cache it. This is often used to make SSL connection through the proxy.

Quiz:

1. What is a web browser?
2. List three most popular browser.
3. Draw and explain architecture of the web browser

Conclusion:

Suggested Reference:

1. https://www3.ntu.edu.sg/

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 2

Create your resume using HTML (Suggested sections of resume are Personal Information, Educational Information, Professional Skills, Experience, Achievements, Hobbies), Experiment with text, colors, link and list.

Date:

Competency and PracticalSkills:

Relevant CO: 2

Objectives:

1. To understand HTML Page Structure.
2. To understand how to use HTML tag attributes.

Theory:

HTML :

- HTML stands for Hypertext Markup Language
- It is used to display the document in the web browser
- Hypertext is simply a piece of text that works as a link
- Markup Language is a way of writing layout information within documents

HTML Document Structure

- HTML Document consists of three main parts
  - DOCTYPE declaration
  - <head> section
  - <body> section

```
<!DOCTYPE html>
<html>
<head>
        <title>Page Title</title>
</head>
<body>
<h1> Hello World </h1>
</body>
</html>
```

-

-

- DOCTYPE specifies the document type. the document type is specified by the Document Type Definition (DTD).

- <head> section is used to specify title of the page using <title> tag. It is also used for adding external css and javascript files to html document.

How to save and check output

- Editors like notepad, notepad++, sublime text, visual studio code can be used to write html code
- Save html document file with .html extension
- To check output open html document with browser like google chrome , Microsoft edge, Firefox etc.

HTML Formatting Tags

- text - for making the text bold.
- text- for making the text Important text
- text - for making the text Italic text
- text - to make the Emphasized text
- <mark>text</mark>- to make the text Marked text
- <small>text </small>- to make the text Smaller text
- ~~text~~ - to make the text Deleted text
- <ins>text </ins>- to make the text Inserted text
- <sub>text <sub>- to make the text Subscript text
- ^{text}- to make the text Superscript text
- <h1> to <h6> tags – for making Headings
- Font Color (Hello) – to change font color
- Font Size (Hello) – to change font size

HTML List Tag

- HTML List allow web developers to group a set of related items in lists
- **Unordered HTML List**
    - Starts with <ul> tag list item starts with <li> tag
    - Lists items will be marked with bullets
    - Example

```
<ul>
<li>C</li>
<li>C++</li>
<li>Java</li>
</ul>
```

- **Ordered HTML List**
    - Starts with <ol> tag. Each list item starts with the <li> tag.
    - Lists items will be marked with numbers by default

```
<ol>
<li>Apple</li>
<li>Mango</li>
<li>Banana</li>
</ol>
```

- **HTML Description Lists**
    - A description list is a list of terms with a description of each term.
    - <dl> tag defines the description list,<dt> tag defines the term (name) <dd> tag describes each term

```
<dl>
<dt>CE</dt>
<dd>- Computer Engineering</dd>
<dt>IT</dt>
<dd>- Information Technology</dd>
</dl>
```

Implementation:

Create your resume using HTML (Suggested sections of resume are Personal Information, Educational Information, Professional Skills, Experience, Achievements, Hobbies), Experiment with text, colors, link and list.

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>Document</title>

</head>

<body>
```

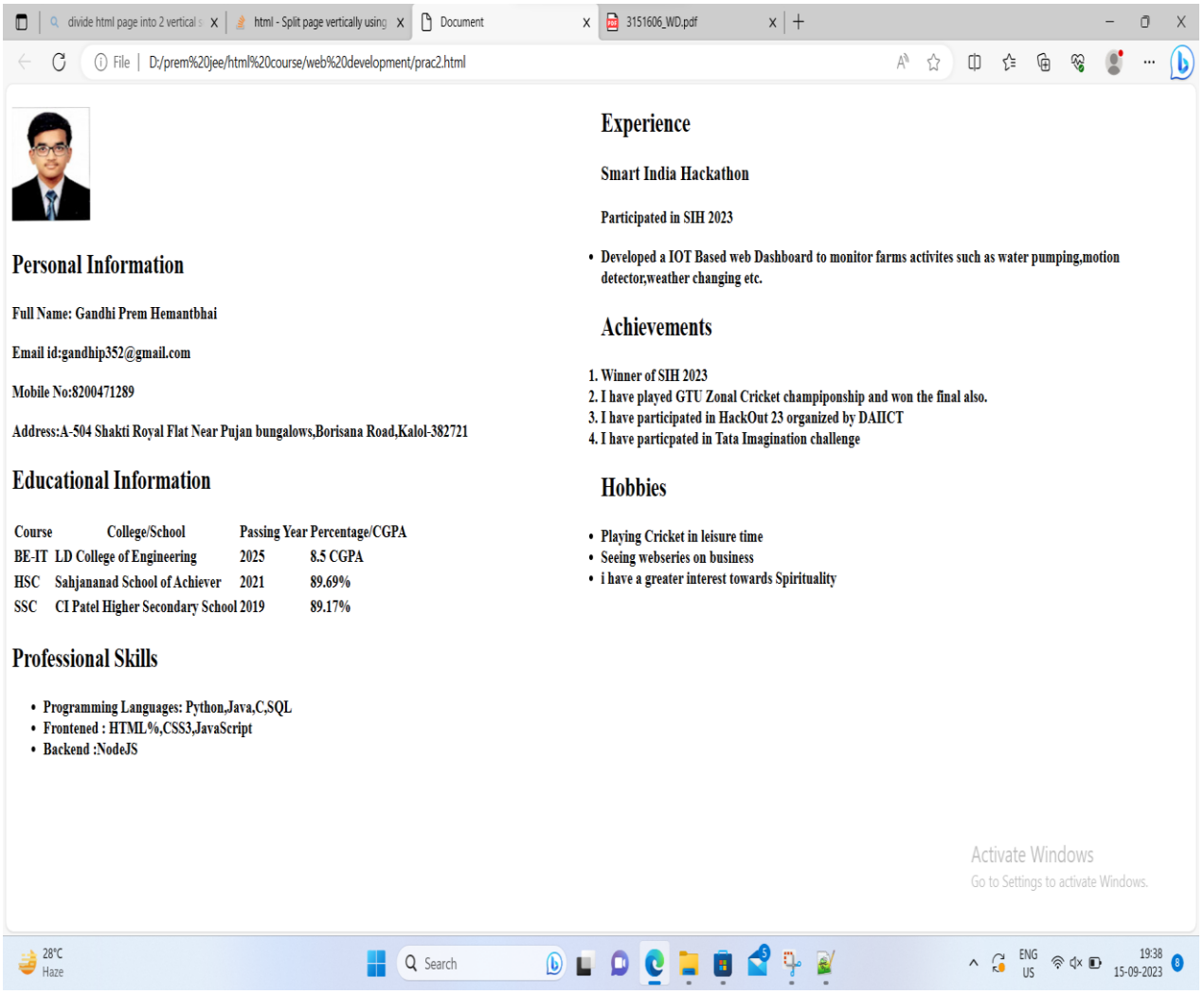
```
  <div style="width: 100%;">
        <div style="float:left; width: 50%">

<img src="D:/prem jee/PSX_20210624_182536.jpg"      alt="prem-photo"
            style="width:100px;height:100px;">

                                    <div class="Personal Information">
                                    <h2> Personal Information</h2>
                                    <p><b>Full Name:<b> Gandhi Prem Hemantbhai</p>
                                    <p><b> Email id:<b>gandhip352@gmail.com</p>
                                    <p><b>Mobile No:<b>8200471289</p
                                    <p><b>Address:<b>A-504 Shakti Royal Flat Near Pujan bungalows,Borisana Road,Kalol-382721</p>
</div>
<div class="Educational Information">
 <h2> Educational Information</h2>
 <table>
 <tr>+
 <th>Course</th>
 <th>College/School</th>
 <th>Passing Year</th>
 <th>Percentage/CGPA</th>
 </tr>
 <tr>
 <td>BE-IT</td>
```

```
<td>LD College of Engineering</td>

<td>2025</td>

<td>8.5 CGPA</td>

</tr>

<tr>

<td>HSC</td>

<td>Sahjananad School of Achiever</td>

<td>2021</td>

<td>89.69%</td>

</tr>

<tr>

<td>SSC</td>

<td>CI Patel Higher Secondary School</td>

<td>2019</td>

<td>89.17%</td>


</tr>

</table>

</div>

<div class="Professional Skills">

<h2> Professional Skills</h2>

 <ul>

 <li><b>Programming Languages:

      Python,Java,C,SQL</b></li>

                <li><b>Frontened : HTML%,CSS3,JavaScript</b></li>

                <li><b>Backend :NodeJS</b></li>
```

```
            </ul>

            </div>


            </div>


    <div style="float: right; width: 50%"></div>

            <div class="Experience">


            <h2> Experience</h2>

            <h3> Smart India Hackathon</h3>

            <p> Participated in SIH 2023</p>

            <ul>

            <li> Developed a IOT Based web Dashboard to monitor farms activites such as water pumping,motion detector,weather changing etc.</li>

            </ul>

            </div>

            <div class="Achievements">

            <h2>Achievements</h2>

            <ul>

            <li>Winner of SIH 2023</li>

            <li>I have played GTU Zonal Cricket champiponship and won the final also.</li>

            <li> I have participated in HackOut 23 organized by DAIICT</li>

            <li> I have particpated in Tata Imagination challenge</li>

            </ul>

            </div>

            <div class="Hobbies">
```

```
            <h2> Hobbies</h2>

            <ul>

            <li> Playing Cricket in leisure time</li>

            <li> Seeing webseries on business</li>

            <li> i have a greater interest towards Spirituality</li>

            </ul>

            </div>


            </div>
</body>

</html>
```

Output:



Personal Information

Full Name: Gandhi Prem Hemantbhai

Email id:gandhip352@gmail.com

Mobile No:8200471289

Address:A-504 Shakti Royal Flat Near Pujan bungalows,Borisana Road,Kalol-382721

Educational Information

Course	College/School	Passing Year	Percentage/CGPA
BE-IT	LD College of Engineering	2025	8.5 CGPA
HSC	Sahjananad School of Achiever	2021	89.69%
SSC	CI Patel Higher Secondary School	2019	89.17%

Professional Skills

- Programming Languages: Python,Java,C,SQL
- Frontened : HTML%,CSS3,JavaScript
- Backend :NodeJS

Experience

Smart India Hackathon

Participated in SIH 2023

- Developed a IOT Based web Dashboard to monitor farms activites such as water pumping,motion detector,weather changing etc.

Achievements

1. Winner of SIH 2023
2. I have played GTU Zonal Cricket champiponship and won the final also.
3. I have participated in HackOut 23 organized by DAIICT
4. I have particpated in Tata Imagination challenge

Hobbies

- Playing Cricket in leisure time
- Seeing webseries on business
- i have a greater interest towards Spirituality

Conclusion:

Quiz:

1. Explain HTML Document Structure.
2. List and explain any five HTML formatting tags.
3. Explain ordered and unordered list with example.

Suggested Reference:

- https://www.w3schools.com/html/html_basic.asp
- https://www.w3schools.com/html/html_lists.asp
- https://www.w3schools.com/html/html_formatting.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 3

Create your class time table using table tag, experiment with rowspan, colspan, cellspacing and cellpadding attributes.

Date:

Competency and PracticalSkills:

Relevant CO: 2

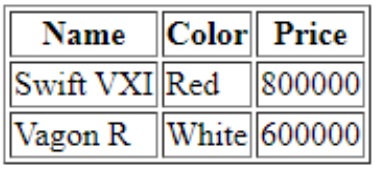
Objectives:

1. To study HTML table tag
2. To study how to organize data in tabular format

Theory:

HTML Table Tag

- HTML tables allow web developers to arrange data into rows and columns.
- The **<table>** tag defines an HTML table.
- table row is defined with a **<tr>** tag.
- table header is defined with a **<th>** tag.
- text in **<th>** elements are bold and centered.
- Each table data/cell is defined with a **<td>.**
- By default, the text in **<td>** elements are regular and left-aligned.
- **colspan** attribute is used to make a cell span more than one column.
- **rowspan** attriute is used to make a call span more than one row.
- **cellpadding** represents the distance between cell borders and the content within a cell.
- The **cellspacing** attribute defines space between table cells.
- **Example**
    - Below code is for arranging car details in tabular format.
    - You may stude table tag and output as below.

Code	Output
<table border="1"> <tr> <th>Name</th> <th>Color</th> <th>Price</th> </tr> <tr> <td>Swift VXI</td> <td>Red</td> <td>800000</td> </tr> <tr> <td>Vagon R</td> <td>White</td> <td>600000</td> </tr> </table>	

Implementation:

Create your class time table using table tag, experiment with rowspan, colspan, cellspacing and cellpadding attributes.

```
<html lang="en">

<head>

   <meta charset="UTF-8">

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

   <title>TimeTable</title>

         <style>

table, th, td {

  border: 1px solid black;

  border-collapse: collapse;

}

</style>
```

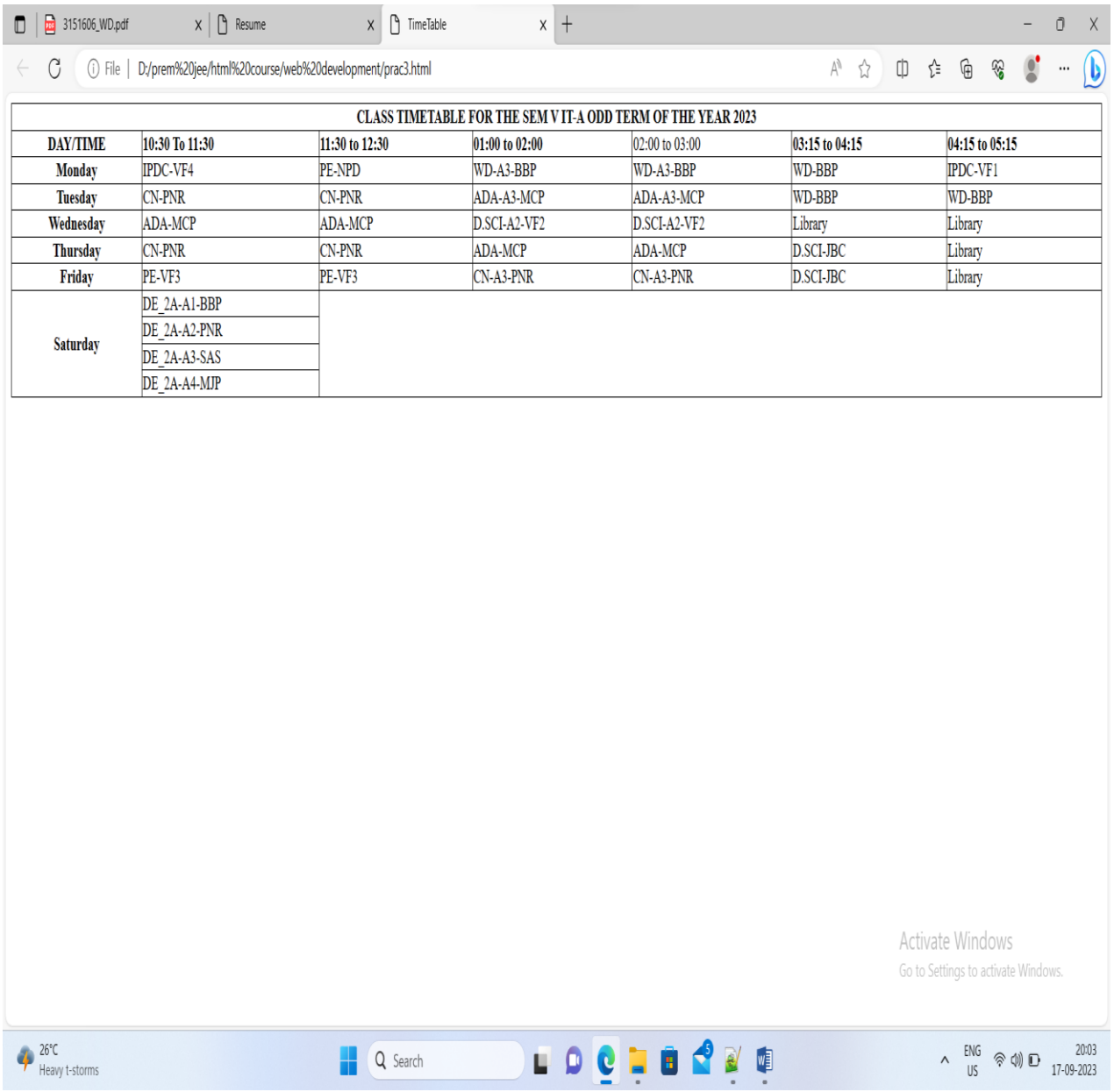
```
</head>

<body>

<table style="width:100%">

 <tr>

 <th colspan="9"> CLASS TIMETABLE FOR THE SEM V IT-A ODD TERM OF THE YEAR 2023</th>

 </tr>

 <tr>

 <th> DAY/TIME</th>

 <td><b>10:30 To 11:30</b></td>

 <td><b>11:30 to 12:30</b></td>

 <td><b>01:00 to 02:00</b></td>

 <td><b></b>02:00 to 03:00</td>

 <td><b>03:15 to 04:15</b></td>

 <td><b>04:15 to 05:15</b></td>

 </tr>

 <tr>

 <th>Monday</th>

 <td>IPDC-VF4</td>

 <td>PE-NPD  </td>

 <td>WD-A3-BBP</td>

 <td>WD-A3-BBP</td>

 <td>WD-BBP</td>

 <td>IPDC-VF1</td>



 </tr>
```

```
<tr>
<th>Tuesday</th>
<td>CN-PNR</td>
<td>CN-PNR</td>
<td>ADA-A3-MCP</td>
<td>ADA-A3-MCP</td>
<td>WD-BBP</td>
<td>WD-BBP</td>
</tr>
<tr>
<th>Wednesday</th>
<td>ADA-MCP</td>
<td>ADA-MCP</td>
<td>D.SCI-A2-VF2</td>
<td>D.SCI-A2-VF2</td>
<td>Library</td>
<td>Library</td>
</tr>
<tr>
<th>Thursday</th>
<td>CN-PNR</td>
<td>CN-PNR</td>
<td>ADA-MCP</td>
<td>ADA-MCP</td>
<td>D.SCI-JBC</td>
<td>Library</td>
```

```
</tr>

<tr>

<th>Friday</th>

<td>PE-VF3</td>

<td>PE-VF3</td>

<td>CN-A3-PNR</td>

<td>CN-A3-PNR</td>

<td>D.SCI-JBC</td>

<td>Library</td>

</tr>

<tr>

<th rowspan="4">Saturday</th>

<td>DE_2A-A1-BBP</td>


</tr>

<tr>

<td>DE_2A-A2-PNR</td>

</TR>

<TR>

<td>DE_2A-A3-SAS</td>

</TR>

<TR>

<td>DE_2A-A4-MJP</td>

</tr>


</table>
```

```
</body>

</html>
```

Output:



CLASS TIMETABLE FOR THE SEM V IT-A ODD TERM OF THE YEAR 2023						
DAY/TIME	**10:30 To 11:30**	**11:30 to 12:30**	**01:00 to 02:00**	02:00 to 03:00	**03:15 to 04:15**	**04:15 to 05:15**
Monday	IPDC-VF4	PE-NPD	WD-A3-BBP	WD-A3-BBP	WD-BBP	IPDC-VF1
Tuesday	CN-PNR	CN-PNR	ADA-A3-MCP	ADA-A3-MCP	WD-BBP	WD-BBP
Wednesday	ADA-MCP	ADA-MCP	D.SCI-A2-VF2	D.SCI-A2-VF2	Library	Library
Thursday	CN-PNR	CN-PNR	ADA-MCP	ADA-MCP	D.SCI-JBC	Library
Friday	PE-VF3	PE-VF3	CN-A3-PNR	CN-A3-PNR	D.SCI-JBC	Library
Saturday	DE_2A-A1-BBP					
	DE_2A-A2-PNR					
	DE_2A-A3-SAS					
	DE_2A-A4-MJP					

Conclusion:

Quiz:

1. Explain the use of rowspan and colspan attributes in table tag.
2. Differentiate between <td> and <th>.

Suggested Reference:

- https://www.w3schools.com/html/html_tables.asp

References used by the students: (Sufficient space to be provided)

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 4

Design static web pages for your college containing a description of the courses, departments, faculties, library etc. Provide links for navigation among pages.

Date:

Competency and PracticalSkills:

Relevant CO: 2

Objectives:

1. To study HTML Link.

Theory:

HTML Links:

- Links allow users to click their way from page to page.
- User can click on a link and jump to another document.
- When you move the mouse over a link, the mouse arrow will turn into a little hand.
- **Syntax**
  - ** link text **
- **Example**

```
<a href=https://www.gecmodasa.ac.in/ target=”_blank”>Visit GEC Modasa</a>
```

- **links will appear as follows in all browsers:**
  - An unvisited link is underlined and blue
  - A visited link is underlined and purple
  - An active link is underlined and red
- **HTML Link Taget Attribute**
  - By default, the linked page will be displayed in the current browser window. To change this, you must specify another target for the link.
  - The **target attribute specifies where to open the linked document**.
  - **The target attribute can have one of the following values:**
    - **_self** - Default. Opens the document in the same window/tab as it was clicked
    - **_blank** - Opens the document in a new window or tab
    - **_parent** - Opens the document in the parent frame
    - **_top** - Opens the document in the full body of the window

Implementation:

Design static web pages for your college containing a description of the courses, departments, faculties, library etc. Provide links for navigation among pages.

```
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>LDCE</title>
        <style>
table, th, td {
 border: 1px solid black;
 border-collapse: collapse;
}
</style>
</head>
<body>
<h1>UnderGraduate Courses Offered By LDCE</h1>
<table style="width:100%">
<tr>
<th>#</th>
<th>Name of course</th>
<th>Period(Years)</th>
<th>Intake</th>
</tr>
<tr>
<td>1</td>
```

```
<td>Artificial Intelligence and Machine Learning</td>

<td>4</td>

<td>60</td>

</tr>

<tr>

<td>2</td>

<td><a href=https://ldce.ac.in/departments/automobile-engineering target="_parent">Automobile Engineering</a></td>

<td>4</td>

<td>120</td>

</tr>

<tr>

<td>3</td>

<td><a href=https://ldce.ac.in/departments/biomedical-engineering target="_blank">Biomedical Engineering</a></td>

<td>4</td>

<td>60</td>

</tr>

<tr>

<td>4</td>

<td><a href=https://ldce.ac.in/departments/chemical-engineering target="_blank">Chemical Engineering</a></td>

<td>4</td>

<td>60</td>

</tr>

<tr>
```

```
<td>5</td>

<td><a href=https://ldce.ac.in/departments/civil-engineering target="_blank">Civil Enginnering</a></td>

<td>4</td>

<td>120</td>

</tr>

<tr>

<td>6</td>

<td><a href=https://ldce.ac.in/departments/computer-engineering target="_blank">Computer Engineering</a></td>

<td>4</td>

<td>120</td>

</tr>

<tr>

<td>7</td>

<td><a href=https://ldce.ac.in/departments/electrical-engineering target="_blank">Electrical Enginnering</a></td>

<td>4</td>

<td>120</td>

</tr>

<tr>

<td>8</td>

<td><a href=https://ldce.ac.in/departments/electronics-communication-engineering target="_blank">Electronics & Communication Engineering</a></td>

<td>4</td>

<td>120</td>

</tr>
```

```
<tr>

<td>9</td>

<td><a href=https://ldce.ac.in/departments/environment-engineering target="_blank">Environment Enginnering</a></td>

<td>4</td>

<td>60</td>

</tr>

<tr>

<td>10</td>

<td><a href=https://ldce.ac.in/departments/information-technology target="_blank">Information Technology</a></td>

<td>4</td>

<td>120</td>

</tr>



<tr>

<td>11</td>

<td><a href=https://ldce.ac.in/departments/instrumentation-control-engineering target="_blank">Instrumentation & Control Engineering</a></td>

<td>4</td>

<td>60</td>

</tr>

<tr>

<td>12</td>

<td><a href=https://ldce.ac.in/departments/mechanical-engineering target="_blank">Mechanical Enginnering</a></td>

<td>4</td>
```

```
<td>120</td>

</tr>

<tr>

<td>13</td>

<td><a href=https://ldce.ac.in/departments/plastic-technology target="_blank">Plastic Technology</a></td>

<td>4</td>

<td>30</td>

</tr>

<tr>

<td>14</td>

<td>Robotics and Automation</td>

<td>4</td>

<td>60</td>

</tr>

<tr>

<td>15</td>

<td><a href=https://ldce.ac.in/departments/rubber-technology target="_blank">Rubber Technology</a></td>

<td>4</td>

<td>60</td>

</tr>

<tr>

<td>16</td>

<td><a href=https://ldce.ac.in/departments/textile-technology target="_blank">Textile Technology</a></td>
```

<td>4</td>

<td>60</td>

</tr>

</table>

<h1> Library OF LDCE</h1>

** The Central Library of the renowned institute of the state, L. D. College of Engineering, Ahmedabad is the hub for information services in the institute, gathering place for the faculties & students of diversified technological areas and also serves as a major learning and resource centre. It is a creative and innovative partner in supporting the teaching, learning, scholarship and research activities of the institute. With the fast growing collection, both in digital and print forms using the state-of-the-art facilities, the Central library of the institute is contributing exponentially to provide a world class academic environment with the institute.**

It is located in a separate building having eautiful landscape of lush green plants within the campus which gives a pleasant ambience to the readers. Well-furnished and illuminated location creates an atmosphere of serenity that motivates the readers to have effective learning and research activities.It has a spacious area of 2845.85 Sq. meter that exudes peaceful learning environment.

The collection in the library encompasses 90520 books of 33726 titles varying in subjects like Engineering, Management, Architecture & Design, Basic Science & Humanities and also includes reference books, number of CDs/DVDs and subscribed to 53 print journals and magazines in print and 1326 e-books and other e-resources. Major e-resources such as IEEE Journals, Science Direct, IEEE Proceedings, ASME, ASCE and Springer which are accessible to the faculties and students community from anywhere in the campus.The Library was given best knowledge centre (Library) award of the state (1st Rank) for the year 2018 by Indian Society for Technical Education (ISTE).

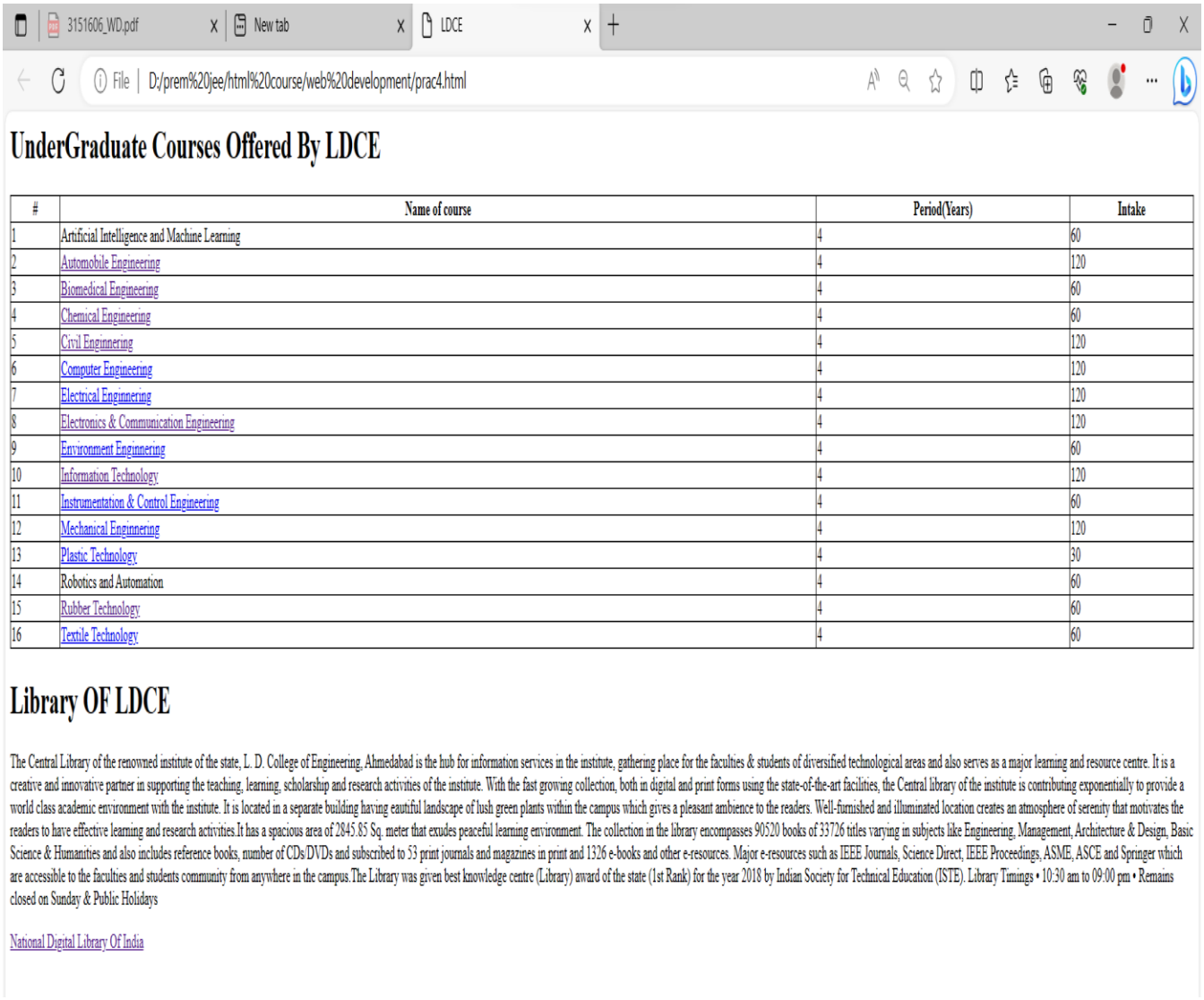
Library Timings

• 10:30 am to 09:00 pm

**• Remains closed on Sunday & Public Holidays **

```
<p><a href="https://ndl.iitkgp.ac.in/" target="_blank">National Digital Library Of India</a>

</p>

</body>

</html>
```

Output:



UnderGraduate Courses Offered By LDCE

#	Name of course	Period(Years)	Intake
1	Artificial Intelligence and Machine Learning	4	60
2	Automobile Engineering	4	120
3	Biomedical Engineering	4	60
4	Chemical Engineering	4	60
5	Civil Enginnering	4	120
6	Computer Engineering	4	120
7	Electrical Enginnering	4	120
8	Electronics & Communication Engineering	4	120
9	Environment Enginnering	4	60
10	Information Technology	4	120
11	Instrumentation & Control Engineering	4	60
12	Mechanical Enginnering	4	120
13	Plastic Technology	4	30
14	Robotics and Automation	4	60
15	Rubber Technology	4	60
16	Textile Technology	4	60

Library OF LDCE

The Central Library of the renowned institute of the state, L. D. College of Engineering, Ahmedabad is the hub for information services in the institute, gathering place for the faculties & students of diversified technological areas and also serves as a major learning and resource centre. It is a creative and innovative partner in supporting the teaching, learning, scholarship and research activities of the institute. With the fast growing collection, both in digital and print forms using the state-of-the-art facilities, the Central library of the institute is contributing exponentially to provide a world class academic environment with the institute. It is located in a separate building having eautiful landscape of lush green plants within the campus which gives a pleasant ambience to the readers. Well-furnished and illuminated location creates an atmosphere of serenity that motivates the readers to have effective learning and research activities.It has a spacious area of 2845.85 Sq. meter that exudes peaceful learning environment. The collection in the library encompasses 90520 books of 33726 titles varying in subjects like Engineering, Management, Architecture & Design, Basic Science & Humanities and also includes reference books, number of CDs/DVDs and subscribed to 53 print journals and magazines in print and 1326 e-books and other e-resources. Major e-resources such as IEEE Journals, Science Direct, IEEE Proceedings, ASME, ASCE and Springer which are accessible to the faculties and students community from anywhere in the campus.The Library was given best knowledge centre (Library) award of the state (1st Rank) for the year 2018 by Indian Society for Technical Education (ISTE). Library Timings • 10:30 am to 09:00 pm • Remains closed on Sunday & Public Holidays

National Digital Library Of India

Conclusion:

Quiz:

1. Explain HTML Link target attribute.
2. How to use image as a link ?

Suggested Reference:

- https://www.w3schools.com/html/html_links.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 5

Create User Registration Form in HTML (Suggested to use fields like Name, Date of Birth, Gender, Email Id, Mobile No.,Address, State , Education , Image Upload etc) using textbox, textarea, checkbox, radio button, select box, button, file upload etc.

Date:

Competency and PracticalSkills:

Relevant CO: 2

Objectives:

1. To study HTML Form Tag.
2. To Study Various Input Types like textbox, password, radio button, checkbox etc.

Theory:

HTML Forms are required, when .

- For example for registration you may collect information like user name , email , contact number, address etc.
- A form will take input from the site visitor and then will post it to a back-end application such as CGI, ASP Script or PHP script etc.
- The back-end application will perform required processing on the passed data based on defined business logic inside the application.
- There are various form elements available like text fields, textarea fields, drop-down menus, radio buttons, checkboxes, etc.
- The HTML **<form>** tag is used to create an HTML form
- **Syntax :**

```
<form action = "Script URL" method = "GET|POST">

  form elements like input, textarea etc.

</form>
```

- **Important form attributes are as given below**

Attribute	Description
action	Backend script ready to process your passed data.
method	Method to be used to upload data. The most frequently used are GET and POST methods.
target	Specify the target window or frame where the result of the script will be displayed. It takes values like _blank, _self, _parent etc.
enctype	You can use the enctype attribute to specify **how the browser encodes the data before it sends it to the server.** Possible values are – **application/x-www-form-urlencoded** – This is the standard method most forms use in simple scenarios. **mutlipart/form-data** – This is used when you want to upload binary data in the form of files like image, word file etc.

- **HTML Form Controls**

Control Name	Used for	Sample Code
Text input control Single line text input control	Textbox is used for accepting text from user, like firstname,lastname etc	<input type = "text" name = "first_name" />
Text input control Password input control	Password input control is used to accept password from user.	<input type = "password" name = "password" />
Text input control Multiline input control.	Teaxtarea is used to accept multiline text input , like comments.	<textarea rows = "5" cols = "50" name = "description"> Enter description here... </textarea>
Checkbox Control	Checkboxes are used when more than one option is required to be selected.	<input type = "checkbox" name = "maths" value = “maths"> Maths <input type = "checkbox" name = "physics" value = “physics">name = "password" />

Radio Button Controls	Radio buttons are used when out of many options, just one option is required to be selected.	<input type = "radio" name = "subject" value = "maths"/> Maths <input type = "radio" name = "subject" value = "physics"/> Physics
Drop Down box Control	provides option to list down various options in the form of drop down list, from where a user can select one or more options.	<select name = "dropdown"> <option value = "Maths" selected>Maths</option> <option value = "Physics">Physics</option> </select>
File Upload	It allows site users to upload a file to website.it is also known as file select box.	<input type = "file" name = "fileupload" accept = "image/*" />
Button Control Submit	This creates a button that automatically submits a form.	<input type = "submit" name = "submit" value = "Submit" />
Button Control Reset	This creates a button that automatically resets form controls to their initial values.	<input type = "reset" name = "reset" value = "Reset" />
Button Control Button	This creates a button that is used to trigger a client-side script when the user clicks that button.	<input type = "button" name = "ok" value = "OK" />

Button Control Image	This creates a clickable button but we can use an image as background of the button.	<input type = "image" name = "imagebutton" src = "/html/images/logo.png" />
Hidden Control	Hidden form controls are used to hide data inside the page which later on can be pushed to the server. This control hides inside the code and does not appear on the actual page.	<input type = "hidden" name = "pagename" value = "10" />

Implementation:

Create User Registration Form in HTML (Suggested to use fields like Name, Date of Birth, Gender, Email Id, Mobile No.,Address, State , Education , Image Upload etc) using textbox, textarea, checkbox, radio button, select box, button, file upload etc

```
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Registration Form</title>
      </head>
      <body>
      <form>
      <label for="Name">Name:</label><br>
      <input type="text" name="Name"/><br>
      <label for="DOB">Date of Birth:</label><br>
      <input type="text" name="DOB"/><br>
      <label for="Gender">Gender:</label><br>
```

```
        <input type="radio" name="Gender" value="male"/>Male<br>
        <input type="radio" name="Gender" value="female"/>Female<br>
        <label for="Email">Email id:</label><br>
        <input type="text" name="Email"/><br>
                <label for="Mobile No.">Mobile No:</label><br>
        <input type="text" name="Mobile No."/><br>
                <label for="Address">Address:</label><br>
        <input type="textarea" name="Address"/><br>
                <label for="State">State:</label>
        <select name = "State"><br>
<option value = "gujarat"
selected>Gujarat</option><br>
<option value =
"Maharashtra">Maharashtra</option><br>
<option value="Rajasthan" selected>Rajasthan</option><br>

</select><br>

                <label for="Education">Education:</label><br>
                <input type = "checkbox" name =
"Education" value = “phd">PHD<br>
<input type = "checkbox" name =
"Education" value = “ME/MTECH">ME/MTECH<br>
<input type = "checkbox" name =
"Education" value = “BE/BTECH">BE/BTECH
```

```
<input type = "checkbox" name =

"Education" value = “HSC">HSC

<input type = "checkbox" name =

"Education" value = “SSC">SSC

<input type = "checkbox" name =

"Education" value = “Below">Below SSC<br>


<label for="fileupload">Upload Your Image:</label><br>

<input type="file" name="fileupload" accept="image/*"/><br>

<br>

<br>

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




        </form>

        </body>

        </html>
```

Output :


3151606_WD.pdf
Registration Form
File | D:/prem%20jee/html%20course/web%20development/prac5.html
Name:
Date of Birth:
Gender:
Male
Female
Email id:
Mobile No:
Address:
State: Rajasthan
Education:
PHD
ME/MTECH
BE/BTECH HSC SSC Below SSC
Upload Your Image:
Choose File No file chosen
Submit

Conclusion:

Quiz:

1. Explain form tag with its attributes.
2. Differentiate between text input and password input controls.
3. Explain various types of buttons available in HTML.

Suggested Reference:

- https://www.w3schools.com/html/html_forms.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 6

Create two web pages, one contains audios and other page contains videos (using HTML5 audio and video tags). Also provide link for navigation between pages.

Date:

Competency and PracticalSkills:

Relevant CO: 2

Objectives:

1. To study how to add audio and video content in html page.

Theory:

HTML Video

The HTML <video> element is used to show a video on a web page.

Example :

```
<video width="320" height="240" controls>
<source src="movie.mp4" type="video/mp4">
<source src="movie.ogg" type="video/ogg">
Your browser does not support the video tag.
```

The controls attribute adds video controls, like play, pause, and volume.

The <source> element allows you to specify alternative video files which the browser may choose from. The browser will use the first recognized format.

The text between the <video> and </video> tags will only be displayed in browsers that do not support the <video> element.

HTML Audio

The HTML <audio> element is used to play an audio file on a web page.

```
<audio controls>
<source src="horse.ogg" type="audio/ogg">
<source src="horse.mp3" type="audio/mpeg">
Your browser does not support the audio element.
```

The controlsattribute adds audio controls, like play, pause, and volume.

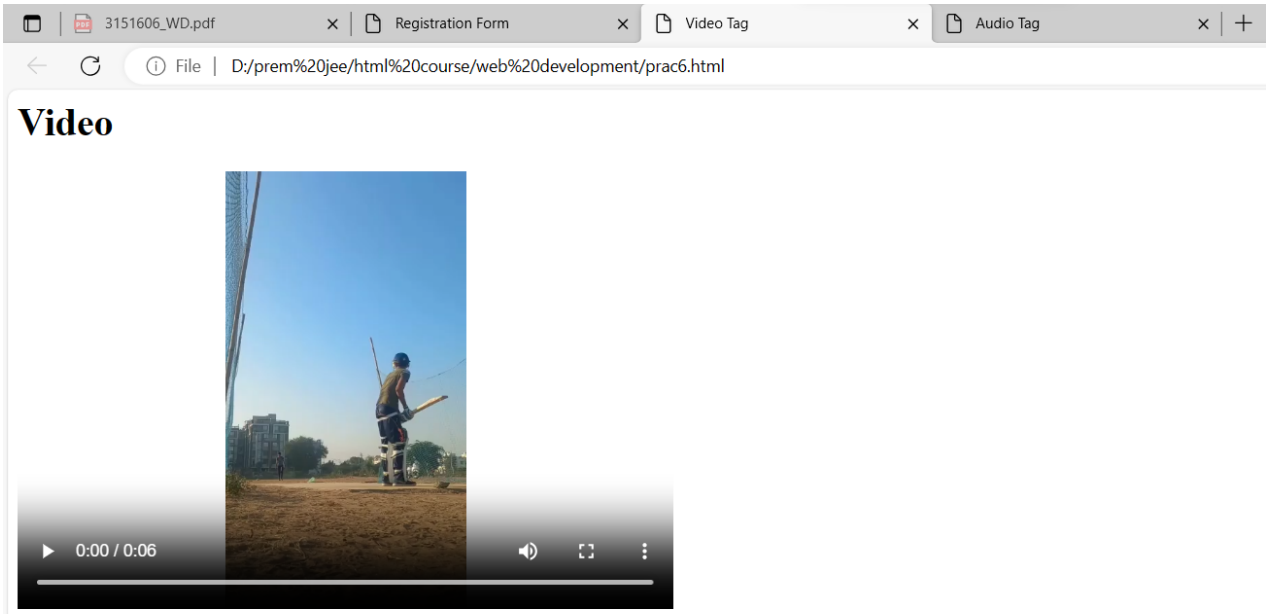
The <source> element allows you to specify alternative audio files which the browser may choose from. The browser will use the first recognized format.

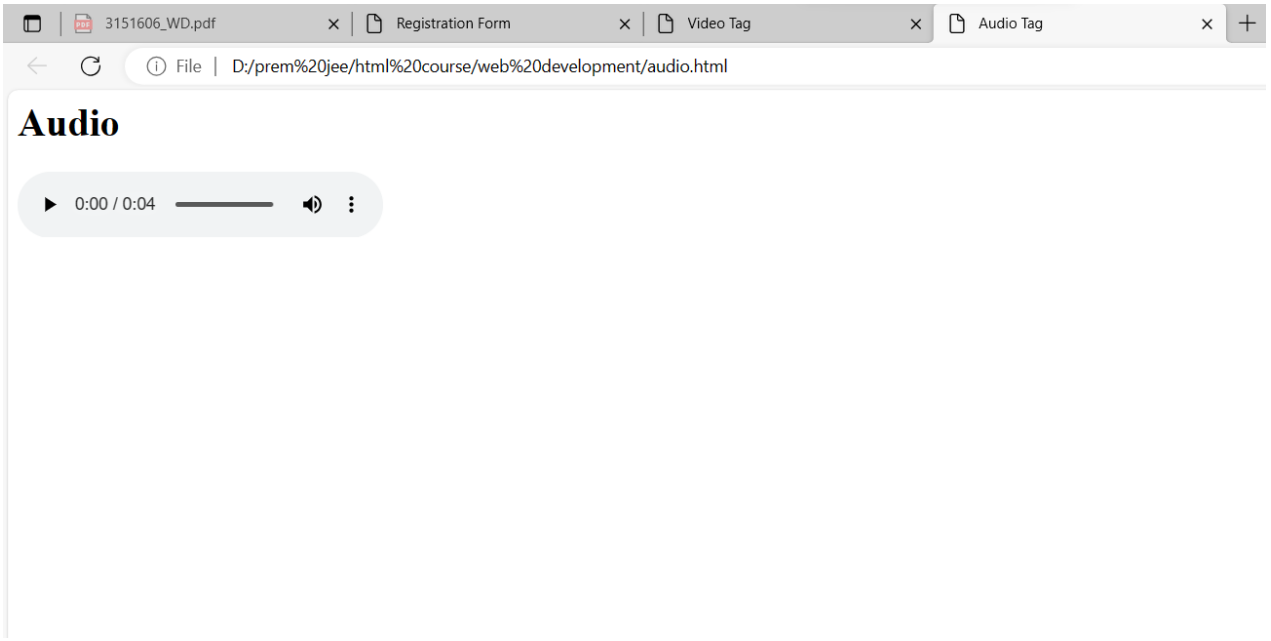
Implementation:

Create two web pages, one contains audios and other page contains videos (using HTML5 audio and video tags). Also provide link for navigation between pages.

```
<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>Video Tag</title>

        </head>

        <body>

        <h1> Video</h1>

        <video width="540" height="360" controls>

 <source src="C:/Users/GANDHI/Downloads/WhatsApp Video 2023-09-17 at 12.23.37 PM.mp4" type="video/mp4">


 Your browser does not support the video tag.

</video>

<p> For Audio Click below</p>

<a href="audio.html" target="_blank">Audio</a>

        </body>

        </html>
```

Output:


3151606_WD.pdf
Registration Form
Video Tag
Audio Tag
File | D:/prem%20jee/html%20course/web%20development/prac6.html
Video
0:00 / 0:06
For Audio Click below
Audio


3151606_WD.pdf
Registration Form
Video Tag
Audio Tag
File | D:/prem%20jee/html%20course/web%20development/audio.html
Audio
0:00 / 0:04

Conclusion:

Quiz:

1. Explain audio and video tags.

Suggested Reference:

- https://www.w3schools.com/html/html_media.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 7

Create a web page using frame. Divide the page into two parts with Navigation links on left hand side of page (width=20%) and content page on right hand side of page (width = 80%). On clicking the navigation Links corresponding content must be shown on the right-hand side.

Date:

Competency and PracticalSkills:

Relevant CO: 2

Objectives:

1. To study frame and frameset to divide page multiple sections.
2. To understand about use of target attribute to open web page in target frame.

Theory:

The <frame> tag was used in HTML 4 to define one particular window (frame) within a <frameset>

HTML frames are used to divide your browser window into multiple sections where each section can load a separate HTML document.

A collection of frames in the browser window is known as a frameset.

The window is divided into frames in a similar way the tables are organized: into rows and columns.

Creating Frames

To use frames on a page we use **<frameset> tag** instead of <body> tag.

The <frameset> tag defines, how to divide the window into frames. The rows attribute of <frameset> tag defines horizontal frames and cols attribute defines vertical frames.

Each frame is indicated by <frame> tag and it defines which HTML document shall open into the frame.

The <frameset> Tag Attributes

Attribute	Description
cols	Specifies how many columns are contained in the frameset and the size of each column. You can specify the width of each column in one of the four ways – cols = "100, 500, 100“ cols = "10%, 80%, 10%". cols = "10%, *, 10%“ cols = "3*, 2*, 1*"
rows	This attribute works same as cols but it is used to specify the rows in the frameset. **rows = "10%, 90%"**
border	This attribute specifies the width of the border of each frame in pixels. **border = "5"**

Example : example to create three horizontal frames

```
<frameset rows = "10%,80%,10%">
<frame name = "top" src = "./rows_demo_pages/top_frame.htm" />
<frame name = "main" src = "./rows_demo_pages/main_frame.htm" />
<frame name = "bottom" src = "./rows_demo_pages/bottom_frame.htm" />

<noframes>
<body>Your browser does not support frames.</body>
</noframes>
```

in below implementation use target attribute in navigation link to open page in specific frame.

Implementation:

Create a web page using frame. Divide the page into two parts with Navigation links on left hand side of page (width=20%) and content page on right hand side of page (width = 80%). On clicking the navigation Links corresponding content must be shown on the right-hand side.

Prac7.html

```
<html>

<head>

   <meta charset="UTF-8">

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

   <title>prac7</title>

</head>




<frameset cols = "20%,80%">

 <frame name = "left" src = "left.html" />

 <frame name = "right" src = "right.html" />
```

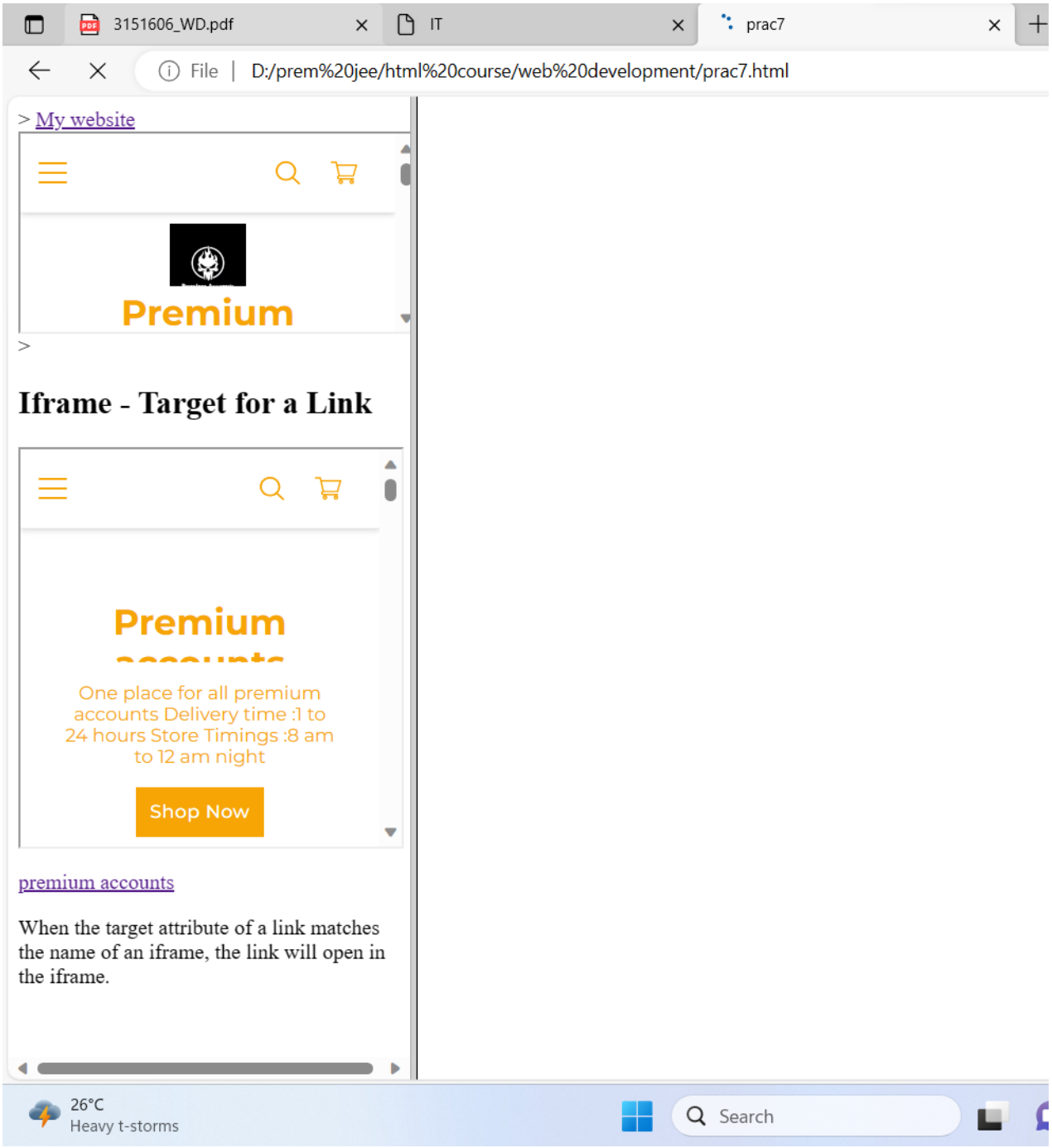
```
</frameset>


</html>
```

Left.html

```
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>left</title>
</head>
<body>
<!-->>
<a href="https://premiumaccounts.co.in/" target="right.html">My website</a>


<iframe src="https://premiumaccounts.co.in" target="right.html">My website</iframe>
<!-->>
<h2>Iframe - Target for a Link</h2>


<iframe src="right.html" name="right" height="300px" width="100%" title="Iframe Example"></iframe>


<p><a href="https://premiumaccounts.co.in/" target="right">premium accounts</a></p>


<p>When the target attribute of a link matches the name of an iframe, the link will open in the iframe.</p>
</body>
```

```
</html>
```

Output:



Conclusion: (Sufficient space to be provided)

Quiz:

1. Explain about rows and cols attribute of frame tag.
2. Which tag embed an inline frame in a web page?
3. Which attribute in frame tag is used to specifies the web page to load into that frame?

Suggested Reference:

- https://www.w3schools.com/tags/tag_frameset.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 8

Design a web page of your home town with an attractive background color, text color, an Image, font etc. (use internal CSS).

Date:

Competency and PracticalSkills:

Relevant CO: 3

Objectives:

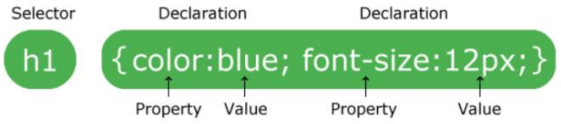
1. To understand how CSS works.

Theory:

Introduction To CSS

- CSS stands for Cascading Style Sheets
- CSS describes how HTML elements are to be displayed.
- CSS saves a lot of work. It can control the layout of multiple web pages all at once
- External stylesheets are stored in CSS files
- HTML was NEVER intended to contain tags for formatting a web page!. HTML was created to describe the content of a web page.
- When tags like <font>, and color attributes were added to the HTML 3.2 specification, it started a nightmare for web developers. Development of large websites, where fonts and color information were added to every single page, became a long and expensive process.
- To solve this problem, the World Wide Web Consortium (W3C) created CSS.
- CSS removed the style formatting from the HTML page!

CSS Syntax



- A CSS rule-set consists of a selector and a declaration block:
- The selector points to the HTML element you want to style.
- The declaration block contains one or more declarations separated by semicolons.
- Each declaration includes a CSS property name and a value, separated by a colon.
- declaration blocks are surrounded by curly braces.

Example: In this example all elements will be center-aligned, with a red text color

Code	Output
<!DOCTYPE html> <html> <head> **<style>** **p {** **color: red;** **text-align: center;** **}** **</style>** </head> <body> ** Hello World! ** ** These paragraphs are styled with CSS. ** </body> </html>	Hello World! These paragraphs are styled with CSS.

- p is a selector in CSS (it points to the HTML element you want to style:).
- color is a property, and red is the property value
- text-align is a property, and center is the property value

CSS Selectors

- **CSS Element Selector**
  - The element selector selects HTML elements based on the element name.
  - Example:

```
p {
  text-align: center;
  color: red;
}
```

- The CSS id Selector
  - The id selector uses the id attribute of an HTML element to select a specific element.
  - The id of an element is unique within a page, so the id selector is used to select one unique element!

- To select an element with a specific id, write a hash (#) character, followed by the id of the element.
- Example

```
<!DOCTYPE html>
<html>
<head>
<style>
#para1 {
  text-align: center;
  color: red;
}
</style>
</head>
<body>
<p id="para1">Hello World!</p>
<p>This paragraph is not affected by the style.</p>
</body>
</html>
```

- CSS Class Selector
  - The class selector selects HTML elements with a specific class attribute.
  - To select elements with a specific class, write a period (.) character, followed by the class name.
  - Example
    - In this example all HTML elements with class="center" will be red and center-aligned:

```
<!DOCTYPE html>
<html>
<head>
<style>
.center {
  text-align: center;
  color: red;
}
</style>
</head>
<body>
<h1 class="center">Red and center-aligned heading</h1>
<p class="center">Red and center-aligned paragraph.</p>
</body>
</html>
```

- **CSS Universal Selector**
  - The universal selector (*) selects all HTML elements on the page.
  - Example

```
<!DOCTYPE html>
<html>
<head>
<style>
* {
  text-align: center;
  color: blue;
}
</style>
</head>
<body>
<h1>Hello world!</h1>
<p>Every element on the page will be affected by the style.</p>
<p id="para1">Me too!</p>
<p>And me!</p>
</body>
</html>
```

- **CSS Grouping Selector**
  - The grouping selector selects all the HTML elements with the same style definitions.

- To group selectors, separate each selector with a comma.
- Example:

```
h1, h2, p {
  text-align: center;
  color: red;
}
```

- **The CSS Pseudo Class Selector**

  - Some selectors can be considered different because of the way the element they belong to works.
  - For example the anchor that creates a link between documents can have pseudo classes attached to it simply because it is not known at the time of writing the markup what the state will be.
  - It could be visited , not visited , or in the process of being selected.
  - CSS pseudo-classes are used to add special effects to some selectors. You do not need to use JavaScript or any other script to use those effects.
  - selector:pseudo-class {property: value}
  - CSS classes can also be used with pseudo-classes
  - selector.class:pseudo-class {property: value}
  - **Example**

```
a : link { color: red}
a : active { color: yellow}
a : visited { color: green}
a : hover { font-weight: bold}
a : link : hover {font-weight:bold}
```

- **Types Of CSS**

  - External CSS
  - Internal CSS
  - Inline CSS

- **Internal CSS**

  - An internal style sheet may be used if one single HTML page has a unique style.
  - The internal style is defined inside the <style> element, inside the head section.
  - Example:

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-color: linen;
}
h1 {
  color: maroon;
  margin-left: 40px;
}
</style>
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
</body>
</html>
```

-CSS Background Color

- The background-color property specifies the background color of an element.
- With CSS, a color is most often specified by:
  - a valid color name - like "red"
  - a HEX value - like "#ff0000"
  - an RGB value - like "rgb(255,0,0)"

Example:

```
body {
background-color: lightblue;
}
```

-CSS Text Color

- text color can be set using color property

Example:

```
<h1 style="color:Tomato;">Hello
World</h1>
```

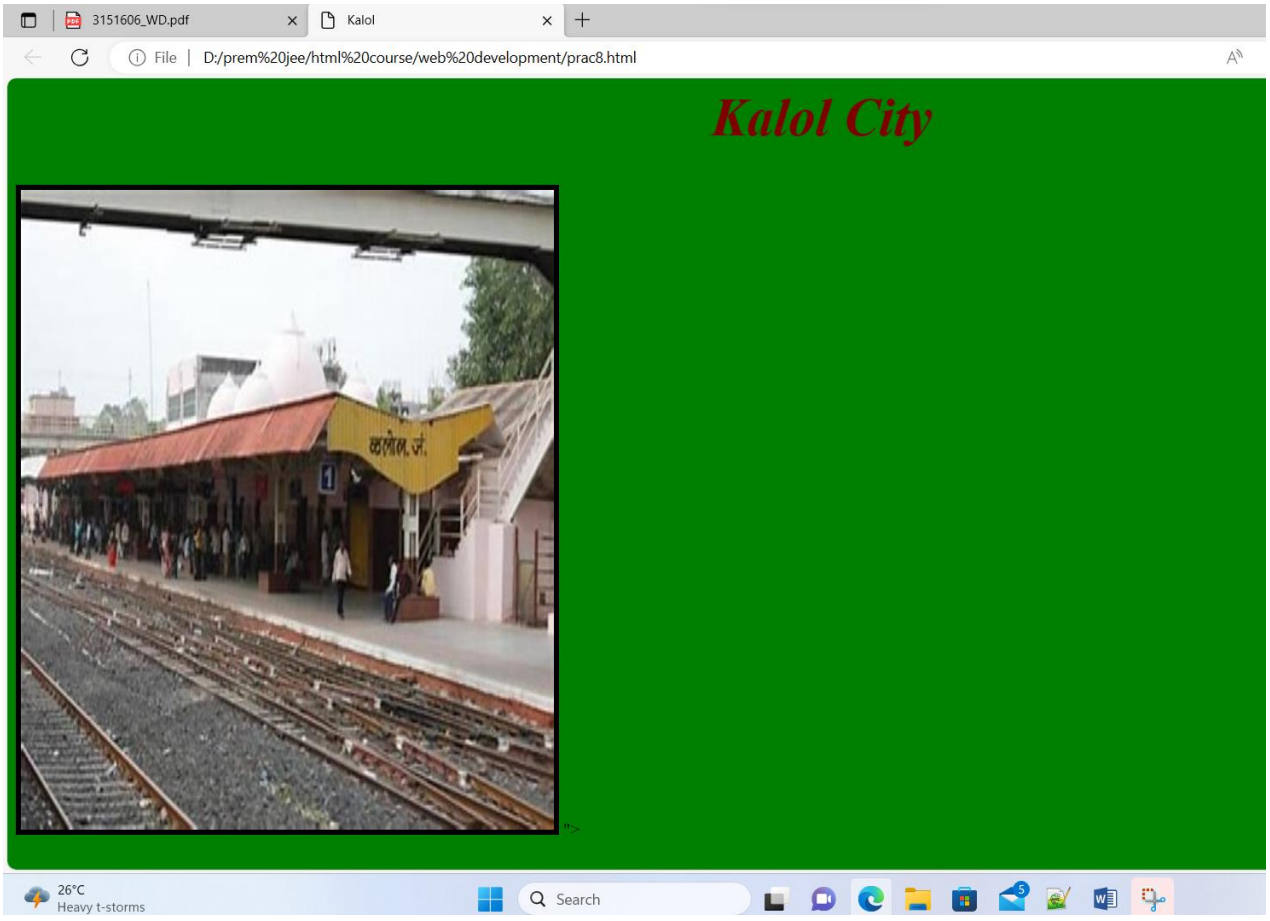
Implementation:

Design a web page of your home town with an attractive background color, text color, an Image, font etc. (use internal CSS).

```
<html lang="en">
<head>
<meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Kalol</title>
        <style>
        body{
        background-color:green;
        }

        h1{color:maroon;
        text-align:center;
        font-size:50px;
        font-style:italic;
        }
        </style>
</head>
<body>
<h1>Kalol City</h1>
<img src="C:/Users/GANDHI/Downloads/kalol.jpeg" alt="kalol image" width="500" height="600" style="border:5px solid black">
">
```

```
</body>

</html>
```

Output:



Conclusion:

Quiz:

1. Explain the syntax of the CSS.
2. What is internal CSS?
3. Explain CSS class and Id selector.

Suggested Reference:

- https://www.w3schools.com/css/css_syntax.asp
- https://www.geeksforgeeks.org/types-of-css-cascading-style-sheet/

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 9

Use Inline CSS to format your resume that you created in practical no 02.

Date:

Competency and PracticalSkills:

Relevant CO: 3

Objectives:

1. To understand the use of Inline CSS.

Theory:

Internal CSS

- An inline style may be used to apply a unique style for a single element.
- To use inline styles, add the style attribute to the relevant element. The style attribute can contain any CSS property.

Example:

```
<!DOCTYPE html>
<html>
<body>
<h1 style="color:blue;text-align:center;">This is a heading</h1>
<p style="color:red;">This is a paragraph.</p>
</body>
</html>
```

Implementation:

Use Inline CSS to format your resume that you created in practical no 02.

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>Resume</title>
```

```
        <style>
        body{
        background-color: yellow;
        }
        </style>
</head>
<body>

  <div style="width: 100%;">
        <div style="float:left; width: 50%">

<img src="D:/prem jee/PSX_20210624_182536.jpg"      alt="prem-photo"
            style="width:100px;height:100px;">



                                    <div class="Personal Information">
                                    <h2 style="color:Red; font-size:18; font-style:italic;">
Personal Information</h2>
                                    <p><b>Full Name:<b> Gandhi Prem Hemantbhai</p>
                                    <p><b> Email id:<b>gandhip352@gmail.com</p>
                                    <p><b>Mobile No:<b>8200471289</p
                                    <p><b>Address:<b>A-504 Shakti Royal Flat Near Pujan
bungalows,Borisana Road,Kalol-382721</p>
</div>
<div class="Educational Information">
 <h2 style="color:Red; font-size:18; font-style:italic;"> Educational Information</h2>
```

```
<table>

<tr>+

<th>Course</th>

<th>College/School</th>

<th>Passing Year</th>

<th>Percentage/CGPA</th>

</tr>

<tr>

<td>BE-IT</td>

<td>LD College of Engineering</td>

<td>2025</td>

<td>8.5 CGPA</td>

</tr>

<tr>

<td>HSC</td>

<td>Sahjananad School of Achiever</td>

<td>2021</td>

<td>89.69%</td>

</tr>

<tr>

<td>SSC</td>

<td>CI Patel Higher Secondary School</td>

<td>2019</td>

<td>89.17%</td>
```

```
</tr>

</table>

</div>

<div class="Professional Skills">

<h2 style="color:Red; font-size:18; font-style:italic;"> Professional Skills</h2>

 <ul style="color:green;">

 <li><b>Programming Languages:

      Python,Java,C,SQL</b></li>

                  <li><b>Frontened : HTML%,CSS3,JavaScript</b></li>

                  <li><b>Backend :NodeJS</b></li>

                  </ul>

                  </div>


                  </div>


  <div style="float: right; width: 50%"></div>

                  <div class="Experience">


                  <h2 style="color:Red; font-size:18; font-style:italic;"> Experience</h2>

                  <h3> Smart India Hackathon</h3>

                  <p> Participated in SIH 2023</p>

                  <ul style="color:green;">

                  <li> Developed a IOT Based web Dashboard to monitor farms activites such as water pumping,motion detector,weather changing etc.</li>

                  </ul>

                  </div>
```

```
            <div class="Achievements">
            <h2 style="color:Red; font-size:18; font-style:italic;">Achievements</h2>
            <ul style="color:green;">
            <li>Winner of SIH 2023</li>
            <li>I have played GTU Zonal Cricket champiponship and won the final also.</li>
            <li> I have participated in HackOut 23 organized by DAIICT</li>
            <li> I have particpated in Tata Imagination challenge</li>
            </ul>
            </div>
            <div class="Hobbies">
            <h2 style="color:Red; font-size:18; font-style:italic;"> Hobbies</h2>
            <ul style="color:green;">
            <li> Playing Cricket in leisure time</li>
            <li> Seeing webseries on business</li>
            <li> i have a greater interest towards Spirituality</li>
            </ul>
            </div>

            </div>
</body>
</html>
```

Output:


3151606_WD.pdf
Resume
Close tab (Ctrl+W)
File | D:/prem%20jee/html%20course/web%20developmen
Personal Information
Full Name: Gandhi Prem Hemantbhai
Email id:gandhip352@gmail.com
Mobile No:8200471289
Address:A-504 Shakti Royal Flat Near Pujan bungalows,Borisana Road,Kalol-382721
Educational Information
+
Course College/School Passing Year Percentage/CGPA
BE-IT LD College of Engineering 2025 8.5 CGPA
HSC Sahjananad School of Achiever 2021 89.69%
SSC CI Patel Higher Secondary School 2019 89.17%
Professional Skills
Programming Languages: Python,Java,C,SQL
Frontened : HTML%,CSS3,JavaScript
Backend :NodeJS
Experience
Smart India Hackathon
Participated in SIH 2023
Developed a IOT Based web Dashboard to monitor farms activites such as water pumping,motion detector,weather changing etc.
Achievements
Winner of SIH 2023
I have played GTU Zonal Cricket champiponship and won the final also.
I have participated in HackOut 23 organized by DAIICT
I have particpated in Tata Imagination challenge
Hobbies
Playing Cricket in leisure time
Seeing webseries on business
i have a greater interest towards Spirituality
Activate Windows
Go to Settings to activate Windows.
26°C
Heavy t-storms
Search
ENG
US
20:19
17-09-2023

Conclusion:

Quiz:

1. Explain Internal CSS VS Inline CSS.
2. CSS stands for _____ .
3. Which HTML tag is used to define an internal style sheet?

Suggested Reference:

- https://www.geeksforgeeks.org/types-of-css-cascading-style-sheet/

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 10

Use External, Internal, Inline CSS to format Information Technology Department Web Pages that you created in Practical No.04

Date:

Competency and PracticalSkills:

Relevant CO: 3

Objectives:

1. To understand use of External CSS

Theory:

External CSS

- An external file is a good idea when you have a number of pages, or even a complete site, which you need to control in terms of presentation.
- it saves lots of effort as at one time you would have needed to alter each page individually.
- With an external style sheet, you can change the look of an entire website by changing just one file!
- Each HTML page must include a reference to the external style sheet file inside the <link> element, inside the head section.
- External CSS file must be saved with a .css extension.
- **Example**

HTML Code : index.html

```
<!DOCTYPE html>
<html>
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
</body>
</html>
```

CSS Code : mystyle.css

```
body {
  background-color: lightblue;
}
h1 {
  color: navy;
  margin-left: 20px;
```

Implementation:

Use External, Internal, Inline CSS to format Information Technology Department Web Pages that you created in Practical No.04

```
<html>

<head>

   <meta charset="UTF-8">

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

   <title>IT</title>

         <link rel="stylesheet"

type="text/css" href="it.css">

<style>

body {

 background-color: lightblue;

}

</style>

</head>

<body>

<h1 class="center">Department of Information Technology</h1>

<img src="C:/Users/GANDHI/Downloads/information-technology-t4TYxQFtBD.jpg"
width="560" height="280" alt="not loaded image" >

<h3> Vision :<h3>
```

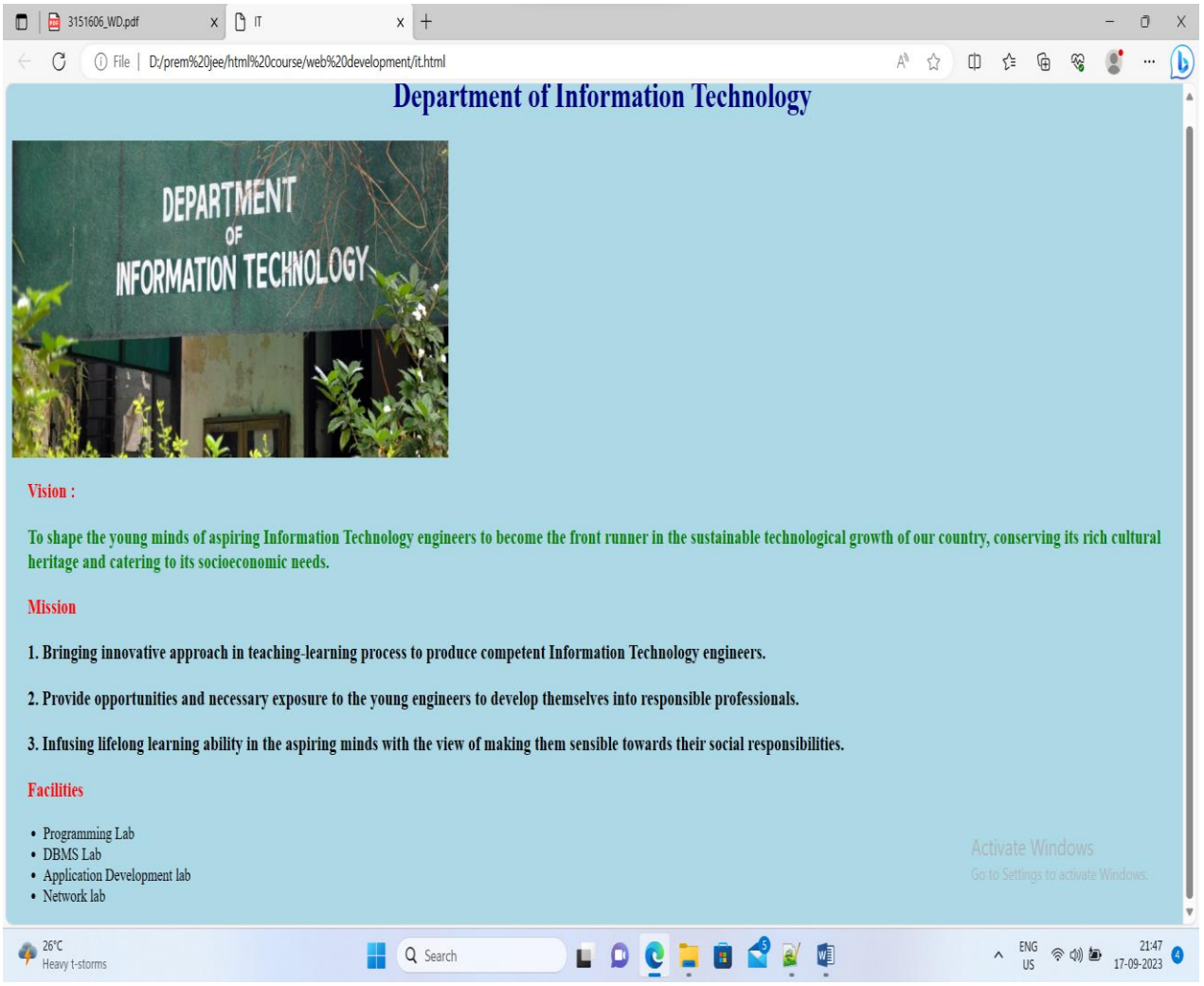
```
<p style="color:green;"> To shape the young minds of aspiring Information Technology engineers to become the front runner in the sustainable technological growth of our country, conserving its rich cultural heritage and catering to its socioeconomic needs.

</p>

<h3>Mission<h3>

<p>



1. Bringing innovative approach in teaching-learning process to produce competent Information Technology engineers. </p>

<p>

2. Provide opportunities and necessary exposure to the young engineers to develop themselves into responsible professionals.</p>

<p>3. Infusing lifelong learning ability in the aspiring minds with the view of making them sensible towards their social responsibilities.

</p>

<h3> Facilities</h3>

<ul>

<li>Programming Lab</li>

<li>DBMS Lab</li>

<li>Application Development lab</li>

<li>Network lab</li>

</ul>

</body>

</html>
```

it.css

```
h1 {
```

```
 color: navy;
 margin-left: 20px;
}
h3{
        color:red;
        margin-left:20px;
}
p{
        color:black;
}
.center{
text-align: center;
}
```

Output:



Conclusion:

Quiz:

1. Explain External CSS.
2. Compare Internal, Inline and External CSS.
3. Which property is used to change the background color?
4. Which property is used to change the text color of the element?

Suggested Reference:

- https://www.geeksforgeeks.org/types-of-css-cascading-style-sheet/

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 11

Develop a java script to display today's date.

Date:

Competency and PracticalSkills:

Relevant CO: 4

Objectives:

1. To understand how to write simple java script

Theory:

Javascript

- Javascript is a client side scripting language.
- HTML and CSS for static rendering of a page
- Scripting languges allows content to change dynamically
- Possible to interact with the user beyond what is possible with HTML
- Scripts are programs and can execute on the client side (the one with the browser) or server.
- Running a script on the client saves processing time on the server
- **Types Of Javascript**
    - **Internal Javascript**
        - JavaScript code is placed in the head and body section of an HTML page.
        - **Example**

```
<html>
<head>
<title>Internal JavaScript</title>
<script type="text/javascript">
document.write("Hello World.!!!");
</script>
</head>
<body>
</body>
</html>
```

- **External javascript**
    - If you want to use the same script on several pages it could be good idea to place the code in separate file, rather than writing it on each.

- JavaScript code are stored in separate external file using the .js extension (Ex: external.js).
    - Example :

HTML File : index.html

```
<html>
<head>
<title>External JavaScript</title>
<script type="text/javascript" src="external.js"></script>
</head>
<body>
</body>
</html>
```

External javascript file : external.js

```
document.write("This is External Javascript Example.!!!");
```

Implementation:

Develop a java script to display today's date.

```
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Date</title>
      </head>
      <body>
      <p> date and Time</p>
      <script type="text/Javascript">
      const d=new Date();
      document.write(d)
      </script>
      </body>
      </html>
```

Output :

Conclusion:

Javascript is a fun programming language which can be easily learned by anyone.

JS can be merge in html code or can be made any external file for the same.

Quiz:

1. What is javascript?
2. Explain internal and external javascript.

Suggested Reference:

- https://www.w3schools.com/JSREF/jsref_obj_date.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 12

Develop simple calculator for addition, subtraction, multiplication and division operation using java script.

Date:

Competency and PracticalSkills:

Relevant CO: 4

Objectives:

1. To understand the use of mathematical operators in javascript.
2. To understand the use of document object model.
3. To understand javascript event handling.

Theory:

Javascript Syntax

How to create and use variables?

```
var x,y,z;

x=5;

y=5

z=x+y;

document.write("total is : "+z)
```

The HTML DOM (Document Object Model)

- When a web page is loaded, the browser creates a Document Object Model of the page.
- The HTML DOM model is constructed as a tree of Objects:
- Using DOM Javascript can
    - change all the HTML elements in the page
    - change all the HTML attributes in the page
    - change all the CSS styles in the page
    - remove existing HTML elements and attributes
    - add new HTML elements and attributes
    - react to all existing HTML events in the page

- create new HTML events in the page

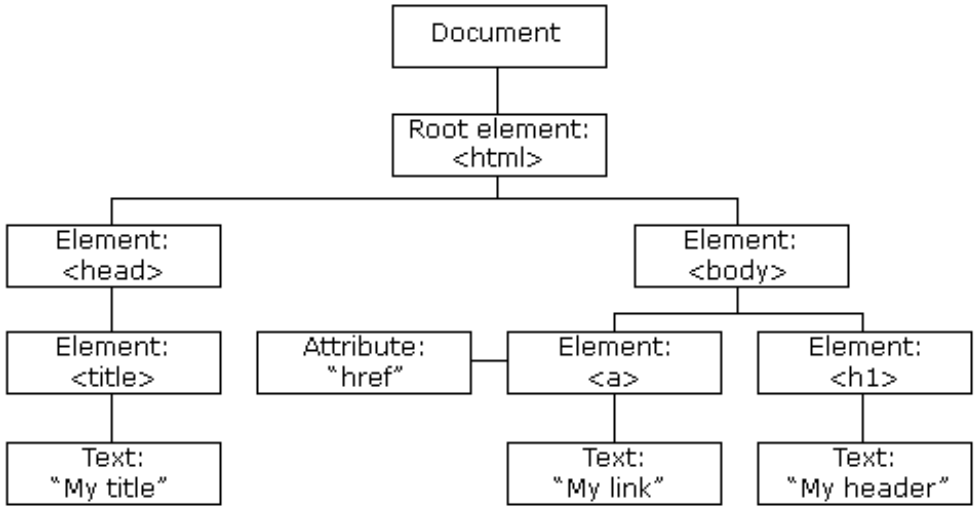


Figure 3 Document Object Model

DOM Examples

Example 1 : following example changes the content of <p> element

```
<html>
<body>

<p id="demo"></p>

<script>
document.getElementById("demo").innerHTML = "Hello          World!";
</script>

</body>
</html>
```

Here getElementById is a method, while innerHTML is a property.

Example 2: Validate Numeric Input

```
<!DOCTYPE html>
<html>
<body>

<h2>Number Validation</h2>

<p>Enter a number between 1 and 10:</p>

<input id="numb">

<button type="button" onclick="myFunction()">Submit</button>

<p id="demo"></p>

<script>
function myFunction() {
  // Get the value of the input field with id="numb"
  let x = document.getElementById("numb").value;
  // If x is Not a Number or less than one or greater than 10
  let text;
  if (isNaN(x) || x < 1 || x > 10) {
    text = "Input not valid";
  } else {
    text = "Input OK";
  }
  document.getElementById("demo").innerHTML = text;
}
</script>

</body>
</html>
```

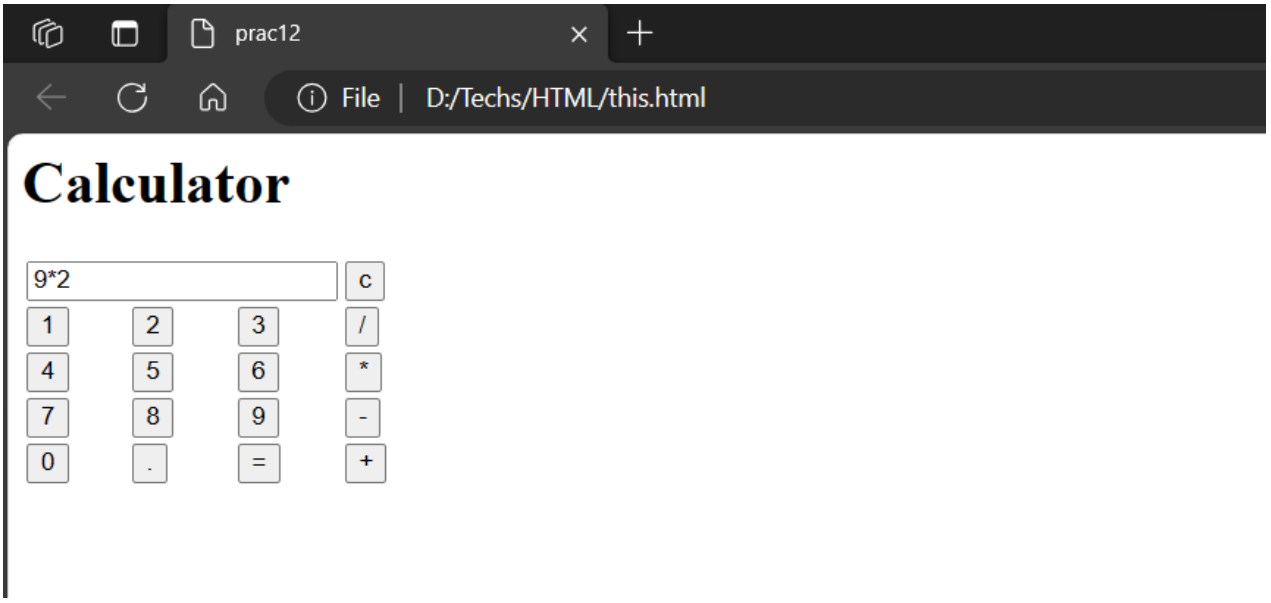
Implementation:

Develop simple calculator for addition, subtraction, multiplication and division operation using java script.

```
<html>
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>prac12</title>
</head>
<body>
<h1>Calculator</h1>
<table>
<tr>

            <td colspan="3"><input type="text" id="result"></td>
            <td><input type="button" value="c" onclick="clr()" /> </td>
        </tr>
        <tr>
            <td><input type="button" value="1" onclick="dis('1')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="2" onclick="dis('2')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="3" onclick="dis('3')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="/" onclick="dis('/')"
                        onkeydown="myFunction(event)"> </td>
        </tr>
        <tr>
            <td><input type="button" value="4" onclick="dis('4')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="5" onclick="dis('5')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="6" onclick="dis('6')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="*" onclick="dis('*')"
                        onkeydown="myFunction(event)"> </td>
        </tr>
        <tr>
            <td><input type="button" value="7" onclick="dis('7')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="8" onclick="dis('8')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="9" onclick="dis('9')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="-" onclick="dis('-')"
                        onkeydown="myFunction(event)"> </td>
        </tr>
        <tr>
            <td><input type="button" value="0" onclick="dis('0')"
                        onkeydown="myFunction(event)"> </td>
            <td><input type="button" value="." onclick="dis('.')"
                        onkeydown="myFunction(event)"> </td>

            <!-- solve function call function solve to evaluate value -->
            <td><input type="button" value="=" onclick="solve()"> </td>

            <td><input type="button" value="+" onclick="dis('+')"
                        onkeydown="myFunction(event)"> </td>
```

```
        </tr>
    </table>

    <script>

        // Function that display value
        function dis(val) {
            document.getElementById("result").value += val
        }

        function myFunction(event) {
            if (event.key == '0' || event.key == '1'
                || event.key == '2' || event.key == '3'
                || event.key == '4' || event.key == '5'
                || event.key == '6' || event.key == '7'
                || event.key == '8' || event.key == '9'
                || event.key == '+' || event.key == '-'
                || event.key == '*' || event.key == '/')
                document.getElementById("result").value += event.key;
        }

        var cal = document.getElementById("calcu");
        cal.onkeyup = function (event) {
            if (event.keyCode === 13) {
                console.log("Enter");
                let x = document.getElementById("result").value
                console.log(x);
                solve();
            }
        }

        // Function that evaluates the digit and return result
        function solve() {
            let x = document.getElementById("result").value
            let y = math.evaluate(x)
            document.getElementById("result").value = y
        }

        // Function that clear the display
        function clr() {
            document.getElementById("result").value = ""
        }
    </script>
</body>
</html>
```

Output :



Conclusion:

JS can be easily calculated through input in the input area.

Quiz:

1. Explain Document Object Model.

Suggested Reference:

- https://www.w3schools.com/js/js_htmldom.asp
- https://www.w3schools.com/js/js_validation.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 13

Write a java script code to combine and display the information in textbox when the button is clicked use registration page that you created in Practical No.5.

Date:

Competency and PracticalSkills:

Relevant CO: 4

Objectives:

1. To understand the use of DOM for getting values from Form Controls.
2. To understand event handling with javascript

Theory:

What is an Event ?

- JavaScript's interaction with HTML is handled through events that occur when the user or the browser manipulates a page.
- When the page loads, it is called an event. When the user clicks a button, that click too is an event. Other examples include events like pressing any key, closing a window, resizing a window, etc.
- Developers can use these events to execute JavaScript coded responses, which cause buttons to close windows, messages to be displayed to users, data to be validated, and virtually any other type of response imaginable.
- Events are a part of the Document Object Model (DOM) Level 3 and every HTML element contains a set of events which can trigger JavaScript Code.

Here is a list of some common HTML events:

Event	Description
onchange	An HTML element has been changed
onclick	The user clicks an HTML element
onmouseover	The user moves the mouse over an HTML element
onmouseout	The user moves the mouse away from an HTML element
onkeydown	The user pushes a keyboard key
onload	The browser has finished loading the page

-

Example : the following javascript example demonstrate how to fetch value from textbox and display using alert()

```
<!DOCTYPE html>
<html>
<head>

<title>Java Script Demo</title>
<script>
   function showData()
   {
     var uname,email;
     uname = document.forms["myform"]["username"].value;
     email = document.forms["myform"]["email"].value;
     alert("you entered name:"+uname+" email:"+email);
   }
</script>
</head>
<body>

<form name="myform">
   UserName : <input type="text" name="username"/><br/>
   Password : <input type="email" name="email"/><br/>
<input type="button" value="display" onclick="showData()" />
</form>
</body>
</html>
```

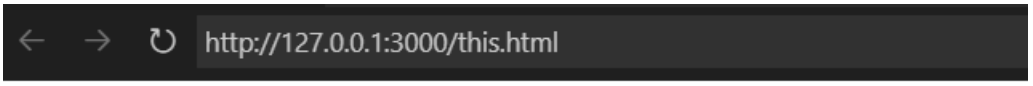
Implementation:

Write a java script code to combine and display the information in textbox when the button is clicked use registration page that you created in Practical No.5.

```
function showData(){
var Fullname=document.forms["Registration"]["Name"].value;
var dob=document.forms["Registration"]["DOB"].value;
var gender=document.forms["Registration"]["Gender"].value;
var email=document.forms["Registration"]["Email"].value;
var MobileNo=document.forms["Registration"]["Mobile No."].value;
var add=document.forms["Registration"]["Address"].value;
var state=document.forms["Registration"]["State"].value;
      document.write("You entered name:" +Fullname);
      document.write("<br>");
      document.write("You entered date of birth :" +dob);
      document.write("<br>");
      document.write("You entered Gender:" +gender);
```

```
        document.write("<br>");
        document.write("You entered Email:" +email);
        document.write("<br>");
        document.write("You entered Mobile No.:" +MobileNo);
        document.write("<br>");
        document.write("Address: " +add);
        document.write("<br>");
        document.write("State: " +state);
        document.write("<br>");
        document.write("Education:" +edu);
        document.write("<br>");
        document.write("Photo:" +img);
}
```

Output :



Name: Chavda Yash A
Date of Birth: 09/04/2004
Gender: Male
Email id: cahvday944@gmail.com
Mobile No: 7046783983
Address: Nikol Gam Road
State: Gujarat

Conclusion:

JS can be used to edit html code and make the html code responsive on clicking the button and entering the number or any key. Here in this practical we have used the document.write() function to directly write the values in the html file and between tags.

Quiz:

1. Explain event handling with javascript.

Suggested Reference:

- https://www.w3schools.com/js/js_validation.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 14

Use JavaScript to Implement validation in Practical No.5.

Date:

Competency and PracticalSkills:

Relevant CO: 4

Objectives:

1. To understand validation using javascript.

Theory:

Javascript can be used for HTML form validation

Following example demonstrate form validation using javascript

```
<!DOCTYPE html>
<html>
<head>
<script>
function validateForm() {
  let x = document.forms["myForm"]["fname"].value;
  if (x == "") {
    alert("Name must be filled out");
    return false;
  }
}
</script>
</head>
<body>

<h2>JavaScript Validation</h2>

<form name="myForm" action="/action_page.php" onsubmit="return validateForm()" method="post">
  Name: <input type="text" name="fname">
<input type="submit" value="Submit">
</form>

</body>
</html>
```

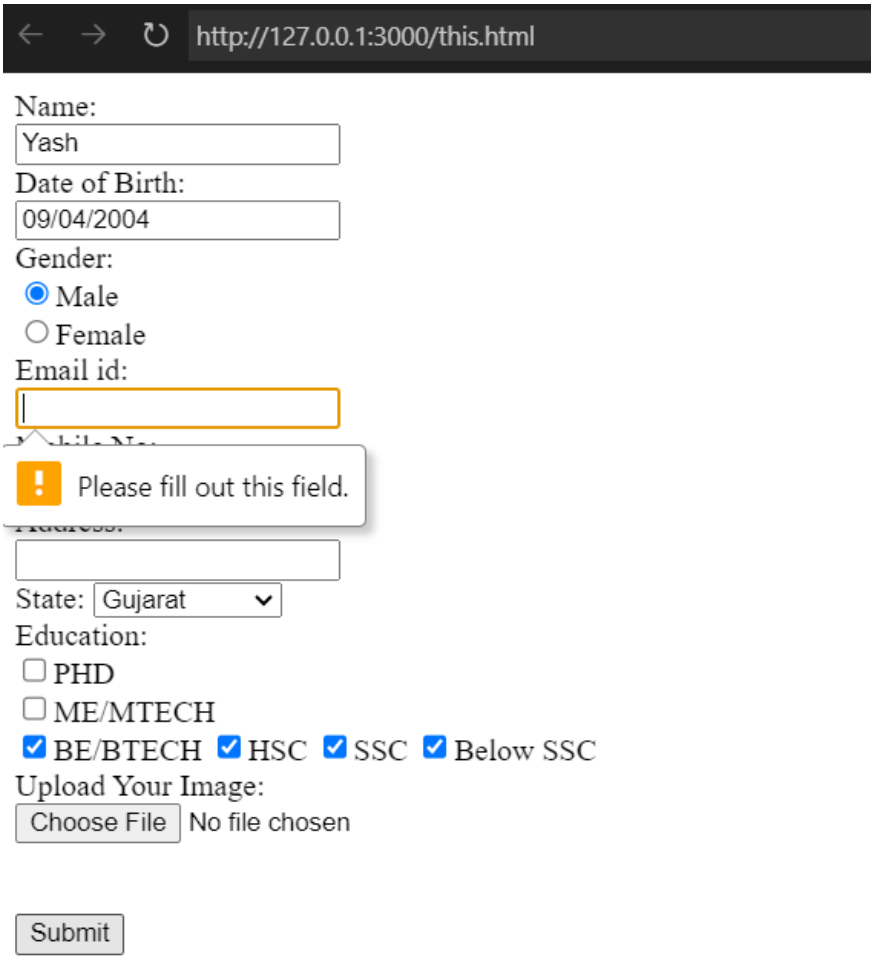
Implementation:

Use JavaScript to Implement validation in Practical No.5

```
html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Registration Form</title>
      <script type="text/javascript" src="prac5.js"></script>

      </head>
      <body>

      <form name="Registration" onsubmit="return showData()">
      <label for="Name">Name:</label><br>
      <input type="text" name="Name" required/><br>
      <label for="DOB">Date of Birth:</label><br>
      <input type="text" name="DOB" required/><br>
      <label for="Gender">Gender:</label><br>
      <input type="radio" name="Gender" value="male"/>Male<br>
      <input type="radio" name="Gender" value="female"/>Female<br>
      <label for="Email">Email id:</label><br>
      <input type="text" name="Email" required/><br>
            <label for="Mobile No.">Mobile No:</label><br>
      <input type="text" name="Mobile No." required/><br>
            <label for="Address">Address:</label><br>
      <input type="textarea" name="Address" required/><br>
            <label for="State">State:</label>
      <select name = "State" required><br>
<option value = "gujarat"
selected>Gujarat</option><br>
<option value =
"Maharashtra">Maharashtra</option><br>
<option value="Rajasthan" selected>Rajasthan</option><br>

</select><br>

            <label for="Education">Education:</label><br>
            <input type = "checkbox" id="phd" name =
"Education" value = "phd">PHD<br>
<input type = "checkbox" id="me" name =
"Education" value = "ME/MTECH">ME/MTECH<br>
<input type = "checkbox" id="be" name =
"Education" value = "BE/BTECH">BE/BTECH
<input type = "checkbox" id="hsc" name =
"Education" value = "HSC">HSC
<input type = "checkbox" id="ssc" name =
"Education" value = "SSC">SSC
<input type = "checkbox" id="below"name =
"Education" value = "Below">Below SSC<br>

<label for="fileupload">Upload Your Image:</label><br>
<input type="file" name="fileupload" accept="image/*" required/><br>
<br>
<br>
<input type="submit"  value="Submit"/>
```

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

Output :



Conclusion:

Validation will be done through JS with if else conditions and maybe you can make a function about the validation.

Quiz:

1. Explain javascript form validation.

Suggested Reference:

- https://www.w3schools.com/js/js_validation.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 15

Write a PHP program to check if number is prime or not.

Date:

Competency and PracticalSkills:

Relevant CO: 5

Objectives:

1. To understand how to write simple php program
2. To understand how to use php conditional and Loops Statement

Theory:

PHP

- PHP is a server scripting language, and a powerful tool for making dynamic and interactive Web pages.
- PHP is a widely-used, free, and efficient alternative to competitors such as Microsoft's ASP.
- **Syntax**

```
<?php
//  PHP  code  goes  here
?>
```

- **Example :**demonstrate printing Hello World

```
<!DOCTYPE html>
<html>
<body>

<?php
echo "Hello World";
?>
</body>
</html>
```

- Creating (Declaring) PHP Variables

```
<?php
$txt      = "Hello      world!";
$x                          = 5;
$y                        = 10.5;
?>
```

- PHP Conditional Statements

Statement	Syntax
PHP - The if Statement	`if (condition) { code to be executed if condition is true; }`
PHP - The if...else Statement	`if (condition) { code to be executed if condition is true; } else { code to be executed if condition is false; }`
PHP - The if...elseif...else Statement	`if (condition) { code to be executed if this condition is true; } elseif (condition) { code to be executed if first condition is false and this condition is true; } else { code to be executed if all conditions are false; }`

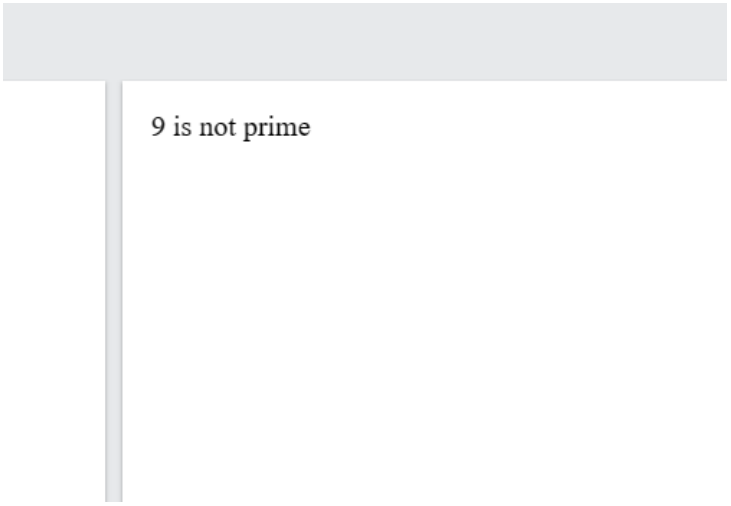
- PHP Loop Statements

Statement	Syntax
The PHP while Loop	`while (condition is true) { code to be executed; }`
The PHP do...while Loop	`do { code to be executed; } while (condition is true);`
The PHP for Loop	`for (init counter; test counter; increment counter) { code to be executed for each iteration; }`
The PHP foreach Loop	`foreach ($array as $value) { code to be executed; }`

Implementation:

```
<html>
    <body>
        <?php
            $x = 9;
            for($i = 2 ; $i <= $x/2 ; $i++){
                if($x%$i == 0){
                    echo "$x is not prime";
                    break;
                }
            }

        ?>
    </body>
</html>
```

Output :



Conclusion:

Php can be easily understandable language and variable declaration is easy to understand.

Quiz:

1. What is PHP? Explain PHP Syntax.
2. Explain foreach Loop in PHP.

Suggested Reference:

- https://www.w3schools.com/php/php_looping.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 16

Use Registration Form from practical number 5 to store user registration details in MySql database. On submission next page displays all registration data in in html table using php. Also provide feature to update and delete the registration data.

Date:

Competency and PracticalSkills:

Relevant CO: 5

Objectives:

1. To understand how to use MySql database
2. To understand how to perform CRUD operations.

Theory:

Accessing MySQL from PHP Note that documentation is available online here: http://www.php.net/manual/en/ref.mysql.php

Basically, there are four things you want to be able to do in MySQL from within PHP:

1. connect to the mysql database

2. execute mysql queries

3. check the status of your mysql commands

4. disconnect from the mysql database

Queries can be any kind of MySQL query, including SELECT, UPDATE, INSERT, etc. Using SELECT queries, you can execute MySQL/PHP functions to put the data read from the MySQL database into PHP variables. Then you can use the PHP variables in your PHP script to do whatever analysis, display, etc. that you want.

1. Connect to the MySQL database

Here is an example of connecting to the MySQL database from within PHP:

```
$conn=mysql_connect($mysql_host,$mysql_user,$mysql_password) or die('Could not connect: '.mysql_error());

echo 'Connected successfully';
```

```
mysql_select_db( $mysql_db ) or die( 'Could not select database' );
```

You will need to replace the variables $mysql_host, $mysql_user, $mysql_password and $mysql_db with strings containing the values for connecting to your database. $mysql_host is "localhost"

Notice that there are two functions invoked:

- Logs into mysql: mysql_connect()
- Selects the database to use: mysql_select_db()

Also notice that you put your un-encrypted password in the script that connects to the database. So be careful where you put that script! Make sure it is in a directory where there is a default index.html (or index.php) file so that nobody can get to the script from a web browser.

2. Execute MySQL queries

Here is an example of executing a SELECT query from within PHP:

```
// set up and execute the MySQL query

$query = 'SELECT * FROM my_table';

$result = mysql_query( $query ) or die( 'Query failed: '. mysql_error() );

// print the results as an HTML table

echo " \n";

while ( $row = mysql_fetch_array( $result, MYSQL_ASSOC ))

{

   echo "\t \n";

   foreach ( $row as $item )

  {

    echo "\t\t $item\n";

 }

 echo "\t\n";

}

echo "\n";
```

```
// free result

mysql_free_result( $result );
```

There are three functions used here:

- To execute the query and store the result in a local variable: mysql_query()
- Parse the data read returned from the query as an array: mysql_fetch_array()
- Free the memory used by the query result: mysql_free_result()

NOTE that if the result returned is a scalar and not an array, then only mysql_query() needs to be called and does not need to be followed by a call to mysql_fetch_array().

Finally, note the use of mysql_error() in the query function.

3. Check the status of your MySQL commands

If errors occur, the functions return errors. These errors can be read as strings using the function mysql_error(). Note the usage in this statement:

```
$conn=mysql_connect($mysql_host,$mysql_user,$mysql_password) or die('Could not

connect: ’.mysql_error());

echo ’Connected successfully’;
```

4. Disconnect from the MySQL database

To disconnect from MySQL, there is one function needed:

```
mysql_close($conn);
```

Implementation:

Use Registration Form from practical number 5 to store user registration details in MySql database. On submission next page displays all registration data in in html table using php. Also provide feature to update and delete the registration data.

```
<!DOCTYPE html>

<html lang="en">
```

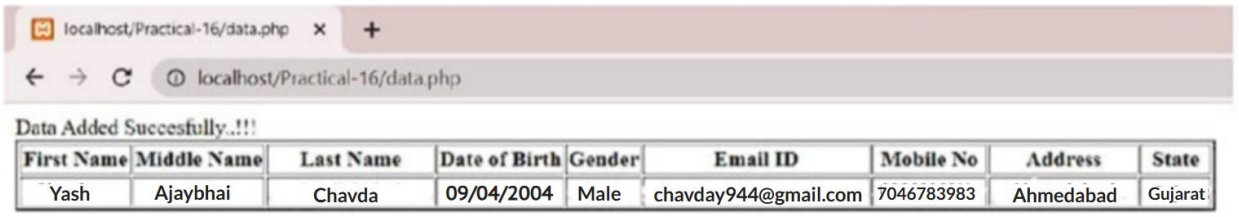
```
<head>

  <meta charset="UTF-8">

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

  <title>User Registration Form</title>

</head>

<body>

  <h2>User Registration Form</h2>
  <form           action="process_form.php"           method="post"
    enctype="multipart/form-data"> First  Name:  <input  type="text"
    name="first_name" required><br>
    Middle       Name:       <input       type="text"
    name="middle_name"><br>    Last    Name:    <input
    type="text" name="last_name" required><br> Date of
    Birth: <input type="date" name="dob" required><br>
    Gender: <input type="radio" name="gender" value="Male"> Male

        <input  type="radio"  name="gender"  value="Female">
    Female<br> Email  Id:  <input  type="email"  name="email"
    required><br>
    Mobile   No.:   <input   type="text"   name="mobile"
    required><br>  Address:  <textarea  name="address"
    required></textarea><br> State: <input type="text"
    name="state" required><br>
    Image Upload: <input type="file" name="image"><br>

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

  </form>

</body>

</html>

<?php

$servername = "sql12.freesqldatabase.com";

$username = "sql12658176";

$password = "XSceCxYCvG";

$database = "sql12658176";

$conn = new mysqli($servername, $username, $password,
$database); if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);

}

if ($_SERVER["REQUEST_METHOD"] == "POST") {

  // Retrieve form data

  $first_name = $_POST['first_name'];
```

```
    $middle_name = $_POST['middle_name'];

    $last_name = $_POST['last_name'];

    $dob = $_POST['dob'];

    $gender = $_POST['gender'];

    $email = $_POST['email'];

    $mobile = $_POST['mobile'];

    $address = $_POST['address'];

    $state = $_POST['state'];

    // Handle image upload

    $image = $_FILES['image']['name'];

    $target = "uploads/" . basename($image);

    move_uploaded_file($_FILES['image']['tmp_name'], $target);

    // SQL query to insert data into the database

    $sql = "INSERT INTO users (first_name, middle_name, last_name, dob, gender, email,
mobile, address, state, image)

        VALUES ('$first_name', '$middle_name', '$last_name', '$dob', '$gender',
'$email', '$mobile', '$address', '$state', '$image')";

    if ($conn->query($sql) === TRUE) {

      header("Location:
      display_data.php");
      exit();
    } else {


      echo "Error: " . $sql . "<br>" . $conn->error;

    }


}

$conn->close();

?>

<?php
```

```
$servername = "localhost";

$username = "root";

$password = "";

$database = "users";

$conn = new mysqli($servername, $username, $password,
$database); if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);

}

$sql = "SELECT * FROM users";

$result = $conn-
>query($sql); echo "<table
border='1'>
<tr>

<th>First Name</th>

<th>Middle Name</th>

<th>Last Name</th>

<th>Date of Birth</th>

<th>Gender</th>

<th>Email</th>

<th>Mobile</th>

<th>Address</th>

<th>State</th>

<th>Image</th>

</tr>";

while($row = $result-
  >fetch_assoc()) { echo "<tr>";
  echo "<td>".$row['first_name']."</td>";
```

```
        echo
        "<td>".$row['middle_name']."</td>";
        echo
        "<td>".$row['last_name']."</td>";
        echo "<td>".$row['dob']."</td>";

        echo "<td>".$row['gender']."</td>";

        echo "<td>".$row['email']."</td>";

        echo "<td>".$row['mobile']."</td>";

        echo "<td>".$row['address']."</td>";

        echo "<td>".$row['state']."</td>";

        echo "<td><img src='uploads/".$row['image']."' width='50' height='50'></td>";

        echo "</tr>";

    }

    echo "</table>";

    $conn->close();

    ?>
```

Output :



Conclusion:

Implementing update and delete functionalities would require additional PHP code and SQL statements to handle user requests for modifying or removing their data from the database. These features typically involve the use of unique identifiers (like user IDs) to target specific records for modification or deletion.

Quiz:

1. What is MySql?
2. Write a sample code to demonstrate php mysql connectivity.

Suggested Reference:

- http://www.php.net/manual/en/ref.mysql.php

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 17

Write a PHP script for user authentication using PHP-MYSQL. Use session for storing username

Date:

Competency and PracticalSkills:
Relevant CO: 3

Objectives:

1. To understand session in PHP

Theory:

What is a PHP Session?

When you work with an application, you open it, do some changes, and then you close it. This is much like a Session. The computer knows who you are. It knows when you start the application and when you end. But on the internet there is one problem: the web server does not know who you are or what you do, because the HTTP address doesn't maintain state.

Session variables solve this problem by storing user information to be used across multiple pages (e.g. username, favorite color, etc). By default, session variables last until the user closes the browser.

So; Session variables hold information about one single user, and are available to all pages in one application.

Start a PHP Session

A session is started with the session_start() function.

Session variables are set with the PHP global variable: $_SESSION.

Now, let's create a new page called "demo_session1.php". In this page, we start a new PHP session and set some session variables:

```
<?php
//     Start     the     session
session_start();
?>
<!DOCTYPE html>
<html>
<body>

<?php
//    Set    session    variables
$_SESSION["favcolor"]  = "green";
$_SESSION["favanimal"]   = "cat";
echo "Session    variables    are
set.";
?>

</body>
</html>
```

Get PHP Session Variable Values

Next, we create another page called "demo_session2.php". From this page, we will access the session information we set on the first page ("demo_session1.php").

Notice that session variables are not passed individually to each new page, instead they are retrieved from the session we open at the beginning of each page (session_start()).

Also notice that all session variable values are stored in the global $_SESSION variable:

```
<?php
session_start();
?>
<!DOCTYPE html>
<html>
<body>

<?php
//  Echo  session  variables  that
were   set   on   previous   page
echo "Favorite      color      is
" . $_SESSION["favcolor"]
. ".<br>";
echo "Favorite     animal     is
" . $_SESSION["favanimal"] . ".";
?>

</body>
</html>
```

Modify a PHP Session Variable

To change a session variable, just overwrite it:

```
<?php
session_start();
?>
<!DOCTYPE html>
<html>
<body>

<?php
// to change a session variable, just overwrite it
$_SESSION["favcolor"] = "yellow";
print_r($_SESSION);
?>

</body>
</html>
```

Destroy a PHP Session

To remove all global session variables and destroy the session, use session_unset() and session_destroy():

```
<?php
session_start();
?>
<!DOCTYPE html>
<html>
<body>

<?php
// remove all session variables
session_unset();

// destroy the session
session_destroy();
?>

</body>
</html>
```

Implementation:

Write a PHP script for user authentication using PHP-MYSQL. Use session for storing username.

<?php

```
session_start(); // Start session to store user data
$servername = "localhost
$username = "root";
$password = "";
$database = "users";

// Create a connection

$conn = new mysqli($servername, $username, $password, $database);

// Check connection

if ($conn->connect_error) {

die("Connection failed: " . $conn->connect_error);

}

if ($_SERVER["REQUEST_METHOD"] == "POST") {

$input_username = $_POST['username'];

$input_password = $_POST['password'];

// Query to check if the provided credentials exist in the database

$sql = "SELECT * FROM users WHERE username='$input_username' AND
password='$input_password'";

$result = $conn->query($sql); if ($result->num_rows > 0) {

// User is authenticated, store username in session

$_SESSION['username'] = $input_username;

header("Location: welcome.php"); // Redirect to welcome page after successful login

} else {

// Invalid credentials, redirect back to login page with an error message

header("Location: login.php?error=1");

}

}
$conn->close();

?>
```

Output :

Conclusion:

PHP script demonstrates a basic user authentication system using PHP and MySQL. Users submit their credentials through a form, and the script checks the provided data against a MySQL database. If the credentials are valid, the user's username is stored in a session variable, allowing them to access protected areas of the website.

Quiz:

1. What is PHP Session?
2. How to destroy PHP Session?

Suggested Reference:

- https://www.w3schools.com/php/php_sessions.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 18

Using AJAX Create visual search feature to search using name for practical number 16 which list name, mobile number and email id of matching users.

Date:

Competency and PracticalSkills:

Relevant CO: 6

Objectives:

1. To understand how Ajax works.

Theory:

What is AJAX?

AJAX = Asynchronous JavaScript And XML.

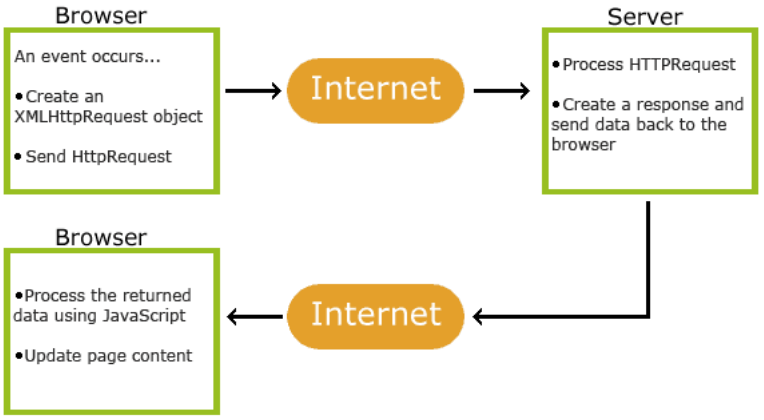
AJAX is not a programming language.

AJAX just uses a combination of:

- A browser built-in XMLHttpRequest object (to request data from a web server)
- JavaScript and HTML DOM (to display or use the data)

AJAX allows web pages to be updated asynchronously by exchanging data with a web server behind the scenes.

This means that it is possible to update parts of a web page, without reloading the whole page.



Ref: https://www.w3schools.com/js/js_ajax_intro.asp

Steps:

1. An event occurs in a web page (the page is loaded, a button is clicked)
2. An XMLHttpRequest object is created by JavaScript

5. The server sends a response back to the web page
6. The response is read by JavaScript
7. Proper action (like page update) is performed by JavaScript

The keystone of AJAX is the XMLHttpRequest object.

1. Create an XMLHttpRequest object

```
variable = new XMLHttpRequest();
```

2. Define a callback function

```
xhttp.onload = function() {
  // What to do when the response is ready
}
```

3. Open the XMLHttpRequest object

```
xhttp.open("GET", "ajax_info.txt");
```

4. Send a Request to a server

```
xhttp.send();
```

XMLHttpRequest Object Methods

Method	Description
new XMLHttpRequest()	Creates a new XMLHttpRequest object
abort()	Cancels the current request
getAllResponseHeaders()	Returns header information
getResponseHeader()	Returns specific header information

responseText	Returns the response data as a string
responseXML	Returns the response data as XML data
Status	Returns the status-number of a request 200: "OK" 403: "Forbidden" 404: "Not Found" For a complete list go to the Http Messages Reference
statusText	Returns the status-text (e.g. "OK" or "Not Found")

Call back function

With the XMLHttpRequest object you can define a callback function to be executed when the request receives an answer. The function is defined in the onload property of the XMLHttpRequest object:

```
xhttp.onload = function() {
                document.getElementById("demo").innerHTML = this.responseText;
}
xhttp.open("GET", "ajax_info.txt");
xhttp.send();
```

The onreadystatechange Property

The readyState property holds the status of the XMLHttpRequest. The onreadystatechange property defines a callback function to be executed when the readyState changes. The status property and the statusText properties hold the status of the XMLHttpRequest object.

readyState	Holds the status of the XMLHttpRequest. 0: request not initialized 1: server connection established 2: request received 3: processing request 4: request finished and response is ready

- https://www.w3schools.com/xml/ajax_intro.asp

- Status 200: "OK"
  403: "Forbidden"
  404: "Page not found"
  For a complete list go to the Http Messages Reference

Implementation:

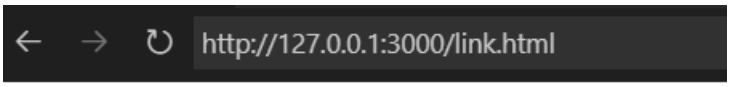
Using AJAX Create visual search feature to search using name for practical number 16 which list name, mobile number and email id of matching users.

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>User Search</title>

  <script
  src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

</head>

<body>

  <h2>User Search</h2>

  Search by Name: <input type="text" id="search">

  <div id="results"></div>

  <script>

    $(document).ready(function(){

      $("#search").keyup(function(

        ){     var      query      =

        $(this).val();

        if(query.length >= 2){
          $.ajax({
```

```
            url:
            'search.php',
            method:    'POST',
            data:      {query:
            query},
            success: function(data){
              $("#results").html(data);
            }
        });
    });
  </script>
</body>
</html>

<?php
$servername = "sql12.freesqldatabase.com";
$username = "sql12658176";
$password = "XSceCxYCvG";
$database = "sql12658176";
$conn = new mysqli($servername, $username, $password,
$database); if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}
if ($_SERVER["REQUEST_METHOD"] == "POST") {
  $query = $conn->real_escape_string($_POST['query']);
  $sql = "SELECT * FROM users WHERE name LIKE '%$query%'";
  $result      =      $conn-
  >query($sql); if ($result-
  >num_rows > 0) {
    while($row = $result->fetch_assoc()) {
```

```
        echo "Name: " . $row["name"]. " - Mobile: " . $row["mobile"]. " - Email: " .
    $row["email"]. "<br>";

      }

    } else {

      echo "No matching users found.";

    }
  }

  $conn->close();

?>
```

Output :



User Search

Search by Name: Yash

Conclusion:

the implemented solution allows users to perform dynamic searches based on names using AJAX. When users enter characters in the search input field, the system retrieves matching records from the MySQL database and displays them in real-time

Quiz:

1. What is Ajax?
2. Explain XMLHttpRequest.

Suggested Reference:

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 19

Create a REST API using php.

Date:

Competency and PracticalSkills:

Relevant CO: 6

Objectives:

1. To understand how REST API works.

Theory:

What is REST?

REST stands for Representational State Transfer, REST is an architectural style which defines a set of constraints for developing and consuming web services through standard protocol (HTTP). REST API is a simple, easy to implement and stateless web service. There is another web service available which is SOAP which stands for Simple Object Access Protocol which is created by Microsoft.

REST API is widely used in web and mobile applications as compared to SOAP. REST can provide output data in multiple formats such as JavaScript Object Notation (JSON), Extensible Markup Language (XML), Command Separated Value (CSV) and many others while SOAP described output in Web Services Description Language (WSDL).

How Does REST API Work

REST requests are related to CRUD operations (Create, Read, Update, Delete) in database, REST uses GET, POST, PUT and DELETE requests. Let me compare them with CRUD.

- **GET** is used to retrieve information which is similar to **Read**
- **POST** is used to create new record which is similar to **Create**
- **PUT** is used to update record which is similar to **Update**
- **DELETE** is used to delete record which is similar to **Delete**

How to Create and Consume Simple REST API in PHP

JSON format is the most common output format of REST API, we will use the JSON format to consume our simple REST API. We will developed an online transaction payment REST API for our example. I will try to keep it as simple as possible so i will use **GET** request to retrieve information.

1. Create REST API in PHP
2. Consume REST API in PHP

1. Create REST API in PHP

To create a REST API, follow these steps:

A. Create a Database and Table with Dummy Data

B. Create a Database Connection

C. Create a REST API File

A. Create a Database and Table with Dummy Data

To create database run the following query.

```
CREATE DATABASE allphptricks;
```

To create a table run the following query. **Note:** I have already attached the SQL file of this table with dummy data, just download the complete zip file of this tutorial.

```
CREATE TABLE IF NOT EXISTS `transactions` (
`id` int(20) NOT NULL AUTO_INCREMENT,
`order_id` int(50) NOT NULL,
`amount` decimal(9,2) NOT NULL,
`response_code` int(10) NOT NULL,
`response_desc` varchar(50) NOT NULL,
PRIMARY KEY (`id`),
UNIQUE KEY `order_id` (`order_id`)
) ENGINE=InnoDB DEFAULT CHARSET=latin1 ;
```

B. Create a Database Connection

Just create a **db.php** file and paste the following database connection in it. Make sure that you update these credentials with your database credentials.

```
// Enter your Host, username, password, database below.
$con = mysqli_connect("localhost","root","","allphptricks");
   if (mysqli_connect_errno()){
        echo "Failed to connect to MySQL: " . mysqli_connect_error();
        die();
        }
```

C. Create a REST API File

Create a **api.php** file and paste the following script in it.

```
<?php
header("Content-Type:application/json");
if (isset($_GET['order_id']) && $_GET['order_id']!="") {
        include('db.php');
        $order_id = $_GET['order_id'];
```

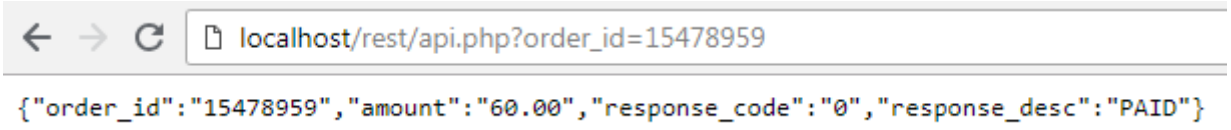
```
        $result = mysqli_query(
        $con,
        "SELECT * FROM `transactions` WHERE order_id=$order_id");
        if(mysqli_num_rows($result)>0){
        $row = mysqli_fetch_array($result);
        $amount = $row['amount'];
        $response_code = $row['response_code'];
        $response_desc = $row['response_desc'];
        response($order_id, $amount, $response_code,$response_desc);
        mysqli_close($con);
        }else{
                response(NULL, NULL, 200,"No Record Found");
                }
}else{
        response(NULL, NULL, 400,"Invalid Request");
        }

function response($order_id,$amount,$response_code,$response_desc){
        $response['order_id'] = $order_id;
        $response['amount'] = $amount;
        $response['response_code'] = $response_code;
        $response['response_desc'] = $response_desc;

        $json_response = json_encode($response);
        echo $json_response;
}
?>
```

The above script will accept the GET request and return output in the JSON format.

I have created all these files in folder name **rest,** now you can get the transaction information by browsing the following URL.

http://localhost/rest/api.php?order_id=15478959

You will get the following output.



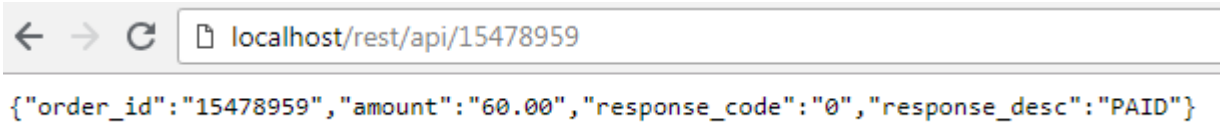
Above URL is not user friendly, therefore we will rewrite URL through the .htaccess file, copy paste the following rule in .htaccess file.

```
RewriteEngine On    # Turn on the rewriting engine

RewriteRule ^api/([0-9a-zA-Z_-]*)$ api.php?order_id=$1 [NC,L]
```

Now you can get the transaction information by browsing the following URL.

http://localhost/rest/api/15478959

You will get the following output.



2. Consume REST API in PHP

To consume a REST API, follow these steps:

1. Create an Index File with HTML Form
2. Fetch Records through CURL

1. Create an Index File with HTML Form

```
<form action="" method="POST">
<label>Enter Order ID:</label><br />
<input type="text" name="order_id" placeholder="Enter Order ID" required/>
<br /><br />
<button type="submit" name="submit">Submit</button>
</form>
```

2. Fetch Records through CURL

```
<?php
if (isset($_POST['order_id']) && $_POST['order_id']!="") {
        $order_id = $_POST['order_id'];
        $url = "http://localhost/rest/api/".$order_id;

        $client = curl_init($url);
        curl_setopt($client,CURLOPT_RETURNTRANSFER,true);
        $response = curl_exec($client);

        $result = json_decode($response);

        echo "<table>";
        echo "<tr><td>Order ID:</td><td>$result->order_id</td></tr>";
        echo "<tr><td>Amount:</td><td>$result->amount</td></tr>";
        echo "<tr><td>Response Code:</td><td>$result->response_code</td></tr>";
        echo "<tr><td>Response Desc:</td><td>$result->response_desc</td></tr>";
        echo "</table>";
    }
?>
```

You can do anything with these output data, you can insert or update it into your own database if you are using REST API of any other service provider. Usually in case of online transaction, the service provider provides status of payment via API. You can check either payment is made successfully or not. They also provide a complete guide of it.

Note: Make sure CURL is enabled on your web server or on your localhost when you are testing demo.

Implementation:

Create a REST API using php.

```
<?php
try {

  $conn  =  mysqli_connect("localhost",  "root",  "Kumar@064917",
  "API"); require_once "Practical_19.php";

}catch (Exception $e){

  $error     =     $e-
  >getMessage();   echo
  $error;

}

$response     =
array();     if
($conn) {

  $sql = "SELECT * FROM users;";

  $result                    =
  mysqli_query($conn,   $sql);
  if ($result) {

    $x = 0;

    while ($row = mysqli_fetch_array($result)) {

      $response[$x]['ID'] = $row['ID'];
}

?>
```

Output :

Conclusion:

Implementing a REST API in PHP, developers can achieve seamless integration, enabling diversesystems to interact with one another. This approach promotes modularity, scalability, and easeof maintenance, making it a popular choice for modern software architecture.

Quiz:

1. What is REST API?

Suggested Reference:

- https://www.allphptricks.com/create-and-consume-simple-rest-api-in-php/)

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 20

Create an Image slider using jQuery.

Date:

Competency and PracticalSkills:

Relevant CO: 6

Objectives:

1. To understand how JQuery Works.

Theory:

JQUERY

The purpose of jQuery is to make it much easier to use JavaScript on your website. jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code. jQuery also simplifies a lot of the complicated things from JavaScript, like AJAX calls and DOM manipulation.

The jQuery library contains the following features:

A. HTML/DOM manipulation
B. CSS manipulation
C. HTML event methods
D. Effects and animations
E. AJAX

There are several ways to start using jQuery on your web site.

You can:

- Download the jQuery library from jQuery.com
- Include jQuery from a CDN, like Google

```
<head>
<script src="jquery-3.6.4.min.js"></script>
</head>
                                    OR
<head>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.4/jquery.min.js">
</script>
</head>
```

The jQuery syntax is tailor-made for **selecting** HTML elements and performing some **action** on the element(s).

Basic syntax is:

$(selector).action()

- A $ sign to define/access jQuery
- A (*selector*) to "query (or find)" HTML elements
- A jQuery *action*() to be performed on the element(s)

Examples:

$(this).hide() - hides the current element.
$("p").hide() - hides all <p> elements.
$(".test").hide() - hides all elements with class="test".
$("#test").hide() - hides the element with id="test".

All jQuery methods in our examples, are inside a document ready event:

```
$(document).ready(function(){

 // jQuery methods go here...

});
```

This is to prevent any jQuery code from running before the document is finished loading (is ready). It is good practice to wait for the document to be fully loaded and ready before working with it. This also allows you to have your JavaScript code before the body of your document, in the head section.

jQuery selectors allow you to select and manipulate HTML element(s).

jQuery selectors are used to "find" (or select) HTML elements based on their name, id, classes, types, attributes, values of attributes and much more. It's based on the existing CSS Selectors, and in addition, it has some own custom selectors.

All selectors in jQuery start with the dollar sign and parentheses: $().

When a user clicks on a button, all <p> elements will be hidden:

```
$(document).ready(function(){
  $("button").click(function(){
                                        $("p").hide();

  });
});
```

The jQuery *#id* selector uses the id attribute of an HTML tag to find the specific element.

An id should be unique within a page, so you should use the #id selector when you want to find a single, unique element.

To find an element with a specific id, write a hash character, followed by the id of the HTML element:

```
$("#test")
```

When a user clicks on a button, the element with id="test" will be hidden:

```
$(document).ready(function(){
  $("button").click(function(){
                                    $("#test").hide();
                                  });
});
```

All the different visitors' actions that a web page can respond to are called events. An event represents the precise moment when something happens.

Examples:

- moving a mouse over an element
- selecting a radio button
- clicking on an element

The term **"fires/fired"** is often used with events. Example: "The keypress event is fired, the moment you press a key". Here are some common DOM events:

Mouse Events	Keyboard Events	Form Events	Document/Window Events
Click	Keypress	submit	Load
Dblclick	Keydown	change	Resize
Mouseenter	Keyup	focus	Scroll
Mouseleave		blur	Unload

In jQuery, most DOM events have an equivalent jQuery method. To assign a click event to all paragraphs on a page, you can do this:

```
$("p").click();
```

The next step is to define what should happen when the event fires. You must pass a function to the event:

```
$("p").click(function(){
  // action goes here!!
});
```

Commonly Used jQuery Event Methods

$(document).ready()

The $(document).ready() method allows us to execute a function when the document is fully loaded.

click()

The click() method attaches an event handler function to an HTML element. The function is executed when the user clicks on the HTML element. The following example says: When a click event fires on a <p> element; hide the current <p> element:

```
$("p").click(function(){
  $(this).hide();
});
```

dblclick()

The dblclick() method attaches an event handler function to an HTML element. The function is executed when the user double-clicks on the HTML element:

```
$("p").dblclick(function(){
                                        $(this).hide();
});
```

mouseenter()

The mouseenter() method attaches an event handler function to an HTML element. The function is executed when the mouse pointer enters the HTML element:

```
$("#p1").mouseenter(function(){
                alert("You entered p1!");
});
```

Implementation:

Create an Image slider using jQuery.

```
<!DOCTYPE html>
```

```
<html lang="en">

<head>

  <meta charset="UTF-8">

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

  <title>Image Slider</title>

  <link rel="stylesheet" href="styles.css">

</head>

<body>

  <div class="slider-container">

    <div class="slider">

      <div class="slide"><img src="./assets/web.jpeg" alt="Image 1"></div>

      <div class="slide"><img src="./assets/web2.jpeg" alt="Image 2"></div>

      <div class="slide"><img src="./assets/web3.jpeg" alt="Image 3"></div>

    </div>

    <div class="controls">

      <button class="prev">&lt; Prev</button>

      <button class="next">Next &gt;</button>

    </div>

  </div>

  <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>

  <script src="script.js"></script>

</body>

</html>
```

Styles.c

```
ss body {

  margin: 0;
```

```
  display: flex;
  justify-content:
  center; align-items:
  center;
  height: 100vh;
  background-color:
  #f2f2f2;    font-family:
  Arial, sans-serif;
}
.slider-
  container     {
  overflow:
  hidden;  width:
  80%;
  position: relative;
}
.slider {
  display: flex;
  transition: transform 0.5s ease-in-out;
}
.slide {
  flex: 0 0 100%;
}
.slider img {
  width: 100%;
  height: auto;
}
  .controls      {
  position:
```

```
  absolute;   top:
  50%;
  width: 100%;
  display:
  flex;
  justify-content:       space-
  between;           transform:
  translateY(-50%);
}
button {
  background-color:
  #4CAF50; color: white;
  border: none;
  padding:     10px
  20px;  text-align:
  center;
  text-decoration:
  none;      display:
  inline-block; font-
  size: 16px;
  cursor: pointer;
  border-radius: 5px;
  transition: background-color 0.3s;
}
button:hover {
  background-color: #45a049;
}
Script.js
$(document).ready(function(
  ){ var currentIndex = 0;
  var slides = $('.slide');
```

```
    var totalSlides = slides.length;

    function showSlide(index) {

      $('.slider').css('transform', 'translateX(' + (-index * 100) + '%)');

    }

    $('.next').click(function(){

      if (currentIndex < totalSlides

        - 1) { currentIndex++;

      } else {

        currentIndex = 0;

      }

      showSlide(currentIndex);

    });

    $('.prev').click(functi

      on(){ if (currentIndex

      > 0) {

        currentIndex--;

      } else {

        currentIndex = totalSlides - 1;

      }

      showSlide(currentIndex);

    });

  });
```

Output :

Conclusion:

jQuery stands as a foundational and versatile JavaScript library that significantly simplifies web development tasks. Its concise syntax and powerful features facilitate the creation of interactive, dynamic, and responsive web applications. jQuery's extensive array of plugins, animations, and AJAX functionalities streamline the development process and enhance user experience

Quiz:

1. What is jquery?
2. Javascript Vs. Jquery

Suggested Reference:

- https://www.w3schools.com/jquery/jquery_intro.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				

Experiment No: 21

Cookie Example

Create HTML form with one textbox and button. Keep button label as SAVE. User will enter color name in textbox and click on save button. On save, the value of textbox color name should be saved in COOKIE. Whenever user opens page again, the background color should be same as saved in cookie. Whenever user opens page again, the background color should be same as saved in cookie.

Date;

Competency and PracticalSkills:

Relevant CO: 6

Objectives:

1. To understand use of COOKIES.

Theory:

Cookie

- Cookie is used to identify a user
- It is a small file which server embeds on the user's computer
- Each time same computer requests a page with a browser, it will send the cookie also.
- Using PHP cookies values can be created and retrieved.

Create Cookies With PHP

setcookie() function is used to create a cookie

Syntax

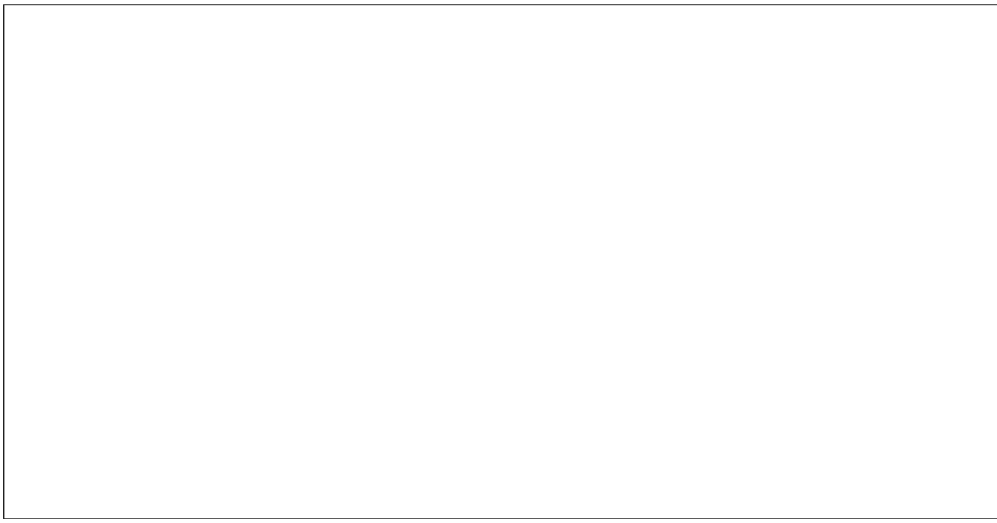
```
setcookie(name, value, expire, path, domain, secure, httponly);
```

Here name parameter is required while other parameters are optional

PHP Create and Retrieve a Cookie

Example

```
<?php
$cookie_name = "email";
$cookie_value = "abc@xyz.com";
setcookie($cookie_name, $cookie_value, time() + (86400 * 30), "/");
//86400 = 1 day
?>
<html>
<body>
<?php
if(!isset($_COOKIE[$cookie_name
])) {
```



Above example creates a cookie named “email” with value abc@xyz.com which will expireafter 30 days.

For cookie modification again use setcookie() function.

Delete a Cookie

To delete a cookie use setcookie() function with an expiration date in the past.

Example

```
<?php
// set the expiration date to one hour ago
setcookie("user", "", time() - 3600);
?>
<html>
<body>
```

Implementation:

Create HTML form with one textbox and button. Keep button label as SAVE. User will enter color name in textbox and click on save button. On save, the value of textbox color name should be saved in COOKIE. Whenever user opens page again, the background color should be same as savedin cookie. Whenever user opens page again, the background color should besame as saved in cookie.

Input:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Background Color Setter</title>
</head>
<body>
  <h2>Set Background Color</h2>
  <form id="colorForm">
    <label for="colorInput">Enter Color Name:</label>
    <input type="text" id="colorInput" name="color">
    <button type="submit">SAVE</button>
  </form>
  <script src="script.js"></script>
</body>
</html>
```

Script.js

```
document.addEventListener("DOMContentLoaded",
  function()       {       var       colorForm        =
  document.getElementById("colorForm");  var  colorInput
  = document.getElementById("colorInput");

  colorForm.addEventListener("submit",
    function(event) { event.preventDefault();
    var        colorValue        =
    colorInput.value;           if
    (colorValue) {
      // Set color value in cookie
      document.cookie = "bgColor=" + colorValue + "; expires=Fri, 31 Dec 9999 23:59:59
      GMT";
      //          Set          background          color
      document.body.style.backgroundColor = colorValue;
    }
});
  function checkCookie() {
    var          bgColor          =
    getCookie("bgColor");         if
    (bgColor !== "") {
      document.body.style.backgroundColor = bgColor;
```

```
      colorInput.value = bgColor;
    }
  }
  function getCookie(name) {
    var value = "; " + document.cookie;
    var parts = value.split("; "
    +    name    +    "=");    if
    (parts.length === 2) {
      return parts.pop().split(";").shift();
    }
    return "";
  }
  checkCookie();
});
```

Output :

Conclusion:

Cookies are small pieces of data stored in a user's web browser. They have been a fundamental component of web development, enabling various functionalities such as session management, user preferences, and tracking user behavior.

Quiz:

1. What is cookie?
2. What is the life of cookie?

Suggested Reference:

- https://www.w3schools.com/php/php_cookies.asp

References used by the students:

Rubric wise marks obtained:

Rubrics	1	2	3	Total
Marks				