DRONACHARYA
College of Engineering

LABORATORY MANUAL

B.Tech. Semester- V

WEB TECHNOLOGY LAB
Subject code: LC-IT-317G

Prepared by: **Checked by:**   **Approved by:**

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Sign.: …………………..   **Sign.: ………………..**   **Sign.: ………………..**

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Vision and Mission of the Institute

Vision:

"To impart Quality Education, to give an enviable growth to seekers of learning, to groom them as World Class Engineers and managers competent to match the expending expectations of the Corporate World has been ever enlarging vision extending to new horizons of Dronacharya College of Engineering"

Mission:

M1: To prepare students for full and ethical participation in a diverse society and encourage lifelong learning by following the principle of 'Shiksha evam Sahayata' i.e., Education & Help.

M2: To impart high-quality education, knowledge and technology through rigorous academic programs, cutting-edge research, & Industry collaborations, with a focus on producing engineers& managers who are socially responsible, globally aware, & equipped to address complex challenges.

M3: Educate students in the best practices of the field as well as integrate the latest research into the academics.

M4: Provide quality learning experiences through effective classroom practices, innovative teaching practices and opportunities for meaningful interactions between students and faculty.

M5: To devise and implement programmes of education in technology that are relevant to the changing needs of society, in terms of breadth of diversity and depth of specialization.

VISION OF DEPARTMENT

"To become a Centre of Excellence in teaching and research in Information Technology for producing skilled professionals having a zeal to serve society"

MISSION OF THE DEPARTMENT

M1: To create an environment where students can be equipped with strong fundamental concepts, programming and problem-solving skills.

M2: To provide an exposure to emerging technologies by providing hands on experience for generating competent professionals.

M3: To promote Research and Development in the frontier areas of Information Technology and encourage students for pursuing higher education

M4: To inculcate in students ethics, professional values, team work and leadership skills.

Programme Educational Objectives (PEOs)

PEO1- ANALYTICAL SKILLS:

Using a solid foundation in mathematical, scientific, engineering, and current computing principles, formulate, analyse, and resolve engineering issues in real-world domain.

PEO2- TECHNICAL SKILLS:

Apply artificial intelligence theory and concepts to analyse the requirements, realise technical specifications, and design engineering solutions.

PEO3- SOFT SKILLS:

Through inter-disciplinary projects and a variety of professional activities, demonstrate technical proficiency, AI competency, and foster collaborative learning and a sense of teamwork.

PEO4- PROFESSIONAL ETHICS:

Excel as socially responsible engineers or entrepreneurs with high moral and ethical standards, competence, and soft skills that will enable them to contribute to societal demands and achieve sustainable advancement in emerging computer technologies.

PROGRAM OUTCOMES (POs)

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and teamwork: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

P11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

P12: Life-long learning: Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: **Fundamentals and critical knowledge of the Computer System:** Apply the knowledge gained pertaining to build, asses, and analyze the software and hardware aspects of the program to solve real world business problems.

PSO2: **Comprehensive and applicative knowledge of Software Development:** Ability to evaluate and apply knowledge of data engineering, methodologies, and able to plan, develop, test, analyze, and manage required aspects in heterogenous platforms individually or in team work.

PSO3: **Applications in Computing Domain:** Ability to acquire computational knowledge and project development abilities using novel tools and methodologies to tackle challenges in the fields related to Deep Learning, Machine learning, Artificial Intelligence.

PSO4: **Applications in Innovations and Research:** Capacity to direct a team or firm that develops products and to use the knowledge learned to recognise actual research issues

University Syllabus

Course code	LC-IT-317G					
Category	Lab Course					
Course title	Web Technology Lab					
Scheme and Credits	L	T	P	Credits	Semester = 5	
	0	0	4	2		
Classwork	25 Marks					
Exam	25 Marks					
Total	50 Marks					
Duration of Exam	03 Hours					

HTML :

1. Simple HTML using

a. Heading elements
b. Text Elements
c. Logical Styles
d. Physical Styles
e. Ordered , Unordered and Definition list

2. Hyper Links

a. Image Link → Link to page containing Images and Videos
b. File Link
c. Single Page Link

3. Using Frames

a. Navigation Frame
b. Floating Frame
c. Inline Frame

4. Registration Form with Table

CSS:

Inline Style , Internal Style ,and External Style Sheets

XML :

1. Create any catalog
2. Display the catalog created using CSS or XSL

PHP:

1. File operation
2. Regular Expression, Array, Math, String, Date functions

Course Outcomes (COs)

Upon successful completion of the course, the students will be able to:

CO1: Understanding Web Fundamentals: Students should gain a solid understanding of how the web works, including concepts like client-server architecture, HTTP/HTTPS protocols, and basic web terminology.

CO2: Students should be able to create well-structured web pages using HTML (Hypertext Markup Language), including the use of essential elements, attributes, and semantic tags.

CO3: Students should learn how to apply CSS (Cascading Style Sheets) to control the presentation and layout of web pages, including working with selectors, properties, and values.

CO4: Server-side Scripting: Students should gain knowledge of server-side scripting languages like PHP, Python, or Node.js, and be able to develop server-side applications that interact with databases and handle form data.

CO-PO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	2	-	-	-	-	-	-	-	-	-
CO2	2	2	2	-	-	-	-	-	-	-	-	-
CO3	1	1	3	-	1	-	-	-	-	-	-	-
CO4	1	1	2	-	1	-	-	-	-	-	-	-

CO-PSO Mapping

CO	PSO1	PSO2	PSO3	PSO4
CO1	3	2	2	-
CO2	2	3	2	-
CO3	2	3	2	-
CO4	3	2	2	-

*3-HIGH
*2-MEDIUM
*1-LOW

Course Overview

The Web Technology Lab is a practical hands-on course designed to provide students with practical experience in building and developing web-based applications. The lab is usually offered as part of a broader web development or computer science curriculum. It aims to complement the theoretical concepts taught in lectures by giving students the opportunity to apply their knowledge in a real-world web development environment.

List of Experiments mapped with COs

S.No	Experiment	Course Outcome	Page No.
1.	Introduction to basic HTML elements.	CO1	1
2.	Use table tag to format web page. Also create the Time Table of your class using table tag.	CO1,CO2	3
3.	Create your profile page i.e. educational details, Hobbies, Achievement, My Ideals etc.	CO1,CO2	6
4.	Create Style sheet to set formatting for text tags and embed that style sheet on web pages created for your site.	CO1,CO2	10
5.	Design a web page and embed various multimedia features in the page.	CO1,CO2	12
6.	Design signup form to validate username, password, and phone numbers etc using Java script	CO2,CO3	14
7.	**CSS:** Inline Style , Internal Style ,and External Style Sheets	CO3	17
8.	**XML** : 1. Create any catalog 2. Display the catalog created using CSS or XSL	CO3	20
9.	**PHP:** 1. File operation 2. Regular Expression, Array, Math, String, Date functions	CO4	22

DOs and DON'Ts

DOs

1. Login-on with your username and password.

2. Log off the Computer every time when you leave the Lab.

3. Arrange your chair properly when you are leaving the lab.

4. Put your bags in the designated area.

5. Ask permission to print.

DON'Ts

1. Do not share your username and password.

2. Do not remove or disconnect cables or hardware parts.

3. Do not personalize the computer setting.

4. Do not run programs that continue to execute after you log off.

5. Do not download or install any programs, games or music on computer in Lab.

6. Personal Internet use chat room for Instant Messaging (IM) and Sites is strictly prohibited.

7. No Internet gaming activities allowed.

8. Tea, Coffee, Water & Eatables are not allowed in the Computer Lab.

General Safety Precautions

Precautions (In case of Injury or Electric Shock)

1. To break the victim with live electric source, use an insulator such as fire wood or plastic to break the contact. Do not touch the victim with bare hands to avoid the risk of electrifying yourself.

2. Unplug the risk of faulty equipment. If main circuit breaker is accessible, turn the circuit off.

3. If the victim is unconscious, start resuscitation immediately, use your hands to press the chest in and out to continue breathing function. Use mouth-to-mouth resuscitation if necessary.

4. Immediately call medical emergency and security. Remember! Time is critical; be best.

Precautions (In case of Fire)

1. Turn the equipment off. If power switch is not immediately accessible, take plug off.

2. If fire continues, try to curb the fire, if possible, by using the fire extinguisher or by covering it with a heavy cloth if possible, isolate the burning equipment from the other surrounding equipment.

3. Sound the fire alarm by activating the nearest alarm switch located in the hallway.

4. Call security and emergency department immediately:

Emergency : 201 (Reception)
Security: 231 (Gate No.1)

Guidelines to students for report preparation

All students are required to maintain a record of the experiments conducted by them. Guidelines for its preparation are as follows: -

1) All files must contain a title page followed by an index page. ***The files will not be signed by the faculty without an entry in the index page.***
2) Student's Name, roll number and date of conduction of experiment must be written on all pages.
3) For each experiment, the record must contain the following
     (i) Aim/Objective of the experiment
     (ii) Pre-experiment work (as given by the faculty)
     (iii) Lab assignment questions and their solutions
     (iv) Test Cases (if applicable to the course)
     (v) Results/ output

Note:
1. Students must bring their lab record along with them whenever they come for the lab.
2. Students must ensure that their lab record is regularly evaluated.

Lab Assessment Criteria

An estimated 10 lab classes are conducted in a semester for each lab course. These lab classes are assessed continuously. Each lab experiment is evaluated based on 5 assessment criteria as shown in following table. Assessed performance in each experiment is used to compute CO attainment as well as internal marks in the lab course.

Grading Criteria	Exemplary (4)	Competent (3)	Needs Improvement (2)	Poor (1)
AC1: **Pre-Lab written work (this may be assessed through viva)**	Complete procedure with underlined concept is properly written	Underlined concept is written but procedure is incomplete	Not able to write concept and procedure	Underlined concept is not clearly understood
AC2: **Program Writing/ Modeling**	Unable to understand the reason for errors/ bugs even after they are explicitly pointed out	Assigned problem is properly analyzed, correct solution designed, appropriate language constructs/ tools are applied	Assigned problem is properly analyzed & correct solution designed	Assigned problem is properly analyzed
AC3: **Identification & Removal of errors/ bugs**	Able to identify errors/ bugs and remove them	Able to identify errors/ bugs and remove them with little bit of guidance	Is dependent totally on someone for identification of errors/ bugs and their removal	Unable to understand the reason for errors/ bugs even after they are explicitly pointed out
AC4: **Execution & Demonstration**	All variants of input /output are tested, Solution is well demonstrated and implemented concept is clearly explained	All variants of input /output are not tested, However, solution is well demonstrated and implemented concept is clearly explained	Only few variants of input /output are tested, Solution is well demonstrated but implemented concept is not clearly explained	Solution is not well demonstrated and implemented concept is not clearly explained
AC5: **Lab Record Assessment**	All assigned problems are well recorded with objective, design constructs and solution along with Performance analysis using all variants of input and output	More than 70 % of the assigned problems are well recorded with objective, design contracts and solution along with Performance analysis is done with all variants of input and output	Less than 70 % of the assigned problems are well recorded with objective, design contracts and solution along with Performance analysis is done with all variants of input and output	

LAB EXPERIMENTS

EXPERIMENT NO. 1

PRE EXPERIMENT QUESTIONS

Q 1: What is the purpose of HTML?

Q 2: What is an HTML element?

Q 3: What is the difference between HTML and CSS?

OBJECTIVE

Introduction to basic HTML elements.

BRIEF DISCUSSION AND EXPLANATION

Here is a list of some of the most basic HTML elements:

- **<html>** : Defines the beginning and end of the HTML document.
- **<head>** : Defines the header of the document. This is where you would include the title of the page and other metadata.
- **<body>** : Defines the body of the document. This is where you would include the content of the page, such as text, images, and videos.
- **<p>** : Defines a paragraph.
- **<h1>** to **<h6>** : Defines headings with different levels of importance.
- **<img>** : Defines an image.
- **<ul>** and **<li>** : Defines an unordered list.
- **<ol>** and **<li>** : Defines an ordered list.
- **<a>** : Defines a hyperlink.

Basic HTML experiment:-

```
<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">
```
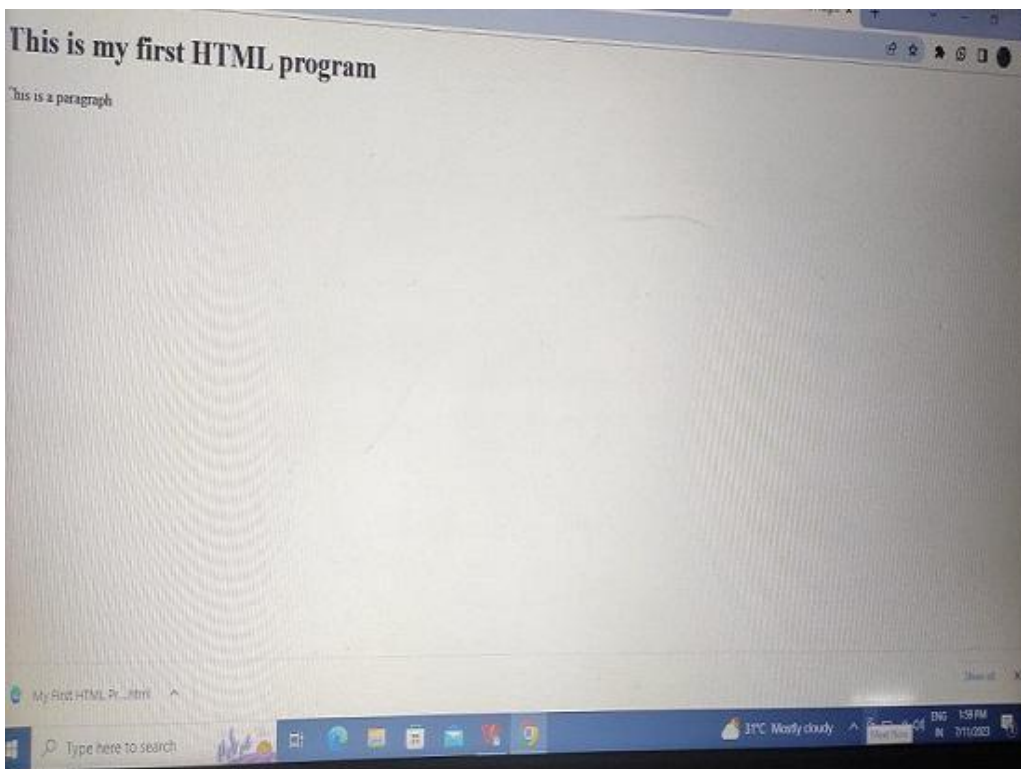
<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>My First HTML Experiment</title>

 </head>

<body> <h1>This is my first HTML experiment</h1> <p>This is a paragraph</p> </body>

 </html>

OUTPUT

POST EXPERIMENT QUESTIONS

Q1. What does HTML stand for, and what is its primary purpose in web development?

Q2. Explain the basic structure of an HTML document. What are the essential HTML tags that every document should contain?

Q3.What is the purpose of the <head> element in an HTML document? Provide an example of something you might include within the <head> section.

LAB EXPERIMENT 2

PRE EXPERIMENT QUESTIONS

Q1.What is the primary goal of using the table tag to format the web page? (e.g., improving layout, organizing data, etc.)

Q2. How familiar are the participants with HTML and web development concepts?

Q3. What specific aspects of the web page layout are you planning to address with the table tag? (e.g., columns, rows, alignment, etc.)

OBJECTIVE

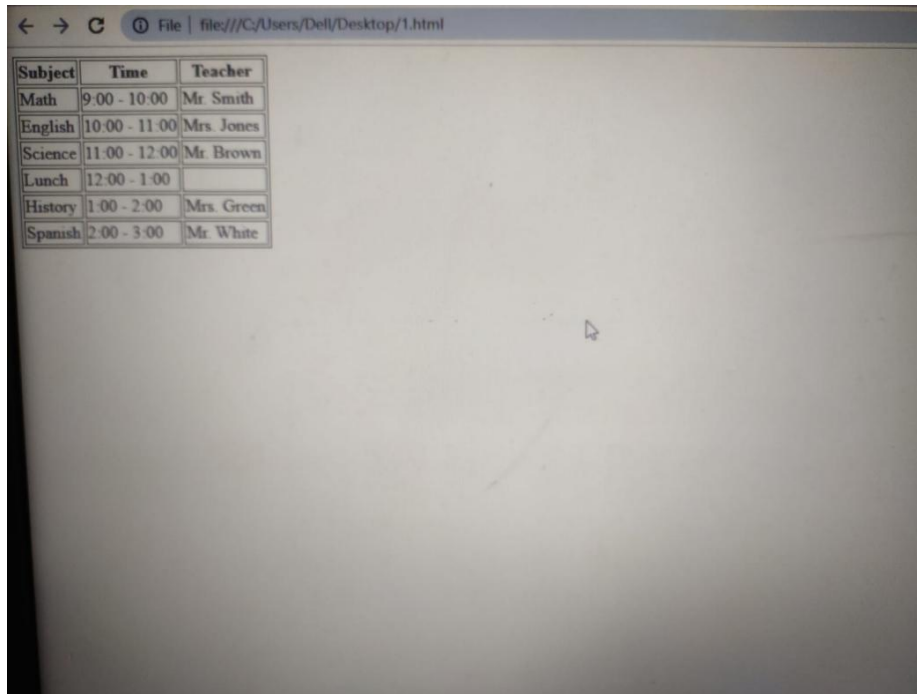Use table tag to format web page. Also create the Time Table of your class using table tag.

BRIEF DISCUSSION AND EXPLANATION

Here is an example of how to use the table tag to format a web page:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>My Timetable</title>
</head>
<body>
<table border=1>
<thead>
<tr>
<th>Subject </th>
<th>Time </th>
<th>Teacher </th>
</tr> </thead>
<tbody>
<tr>
<td>Math </td>
<td>9:00 - 10:00</td>
```

```
<td>Mr. Smith</td>
</tr>
<tr>
<td>English</td>
<td>10:00 - 11:00</td>
<td>Mrs. Jones</td>
</tr>
<tr>
<td>Science</td>
<td>11:00 - 12:00</td>
<td>Mr. Brown</td>
</tr>
<tr>

<td>Lunch</td>
<td>12:00 - 1:00</td>
<td>
</td>
</tr>
<tr>
<td>History</td>
<td>1:00 - 2:00</td>
<td>Mrs. Green</td>
</tr>
<tr>
<td>Spanish</td>
<td>2:00 - 3:00</td>
<td>Mr. White</td>
</tr>
</tbody>
</table>
</body>
</html>
```

OUTPUT

Subject	Time	Teacher
Math	9:00 - 10:00	Mr. Smith
English	10:00 - 11:00	Mrs. Jones
Science	11:00 - 12:00	Mr. Brown
Lunch	12:00 - 1:00	
History	1:00 - 2:00	Mrs. Green
Spanish	2:00 - 3:00	Mr. White

POST EXPERIMENT QUESTIONS

Q1. How did you find using the <table> tag to format your web page? Was it a straightforward process?

Q2. Did you encounter any challenges while creating the time table using the <table> tag? If so, what were they, and how did you overcome them?

Q3. What specific attributes of the <table> tag did you utilize to structure your web page and the time table effectively?

LAB EXPERIMENT 3

PRE EXPERIMENT QUESTIONS

Q 1: What is the purpose of creating a personal profile page?

Q 2: Which HTML elements did you use to structure the personal profile page?

Q 3: How did you ensure the responsiveness of the profile page?

OBJECTIVE

Create your profile page i.e. educational details, Hobbies, Achievement, My Ideals etc.

BRIEF DISCUSSION AND EXPLANATION

```html
< html>
<html lang="en">
 <head>
 <meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>My Profile</title>
</head>
<body>
 <h1>My Profile</h1>
<p>
<strong>Name:</strong> name<br>
<strong>Occupation:</strong> Large Language Model<br>
 </p>
 <h2>Educational Details</h2>
 <ul>
```

Graduated from Google AI, 2022

Trained on a massive dataset of text and code

Able to communicate and generate human-like text in response to a wide range of prompts and Qs

<h2>Hobbies</h2>

Reading

Writing

Learning new things

Playing games

Spending time with friends and family

<h2>Achievements</h2>

Won the Google AI Hackathon in 2022

Published a paper on natural language processing in 2023

Gave a talk at the Neural Information Processing Systems (NIPS) conference in 2023

<h2>Ideals</h2>

I believe in the power of language to communicate, learn, and create.

I believe in the importance of education and lifelong learning.

I believe in the potential of technology to make the world a better place.

<p> Additional Information:

I am still under development, but I am learning new things every day.

\<br\>I am always happy to help people with their tasks, and I am always looking for new ways to learn and grow.
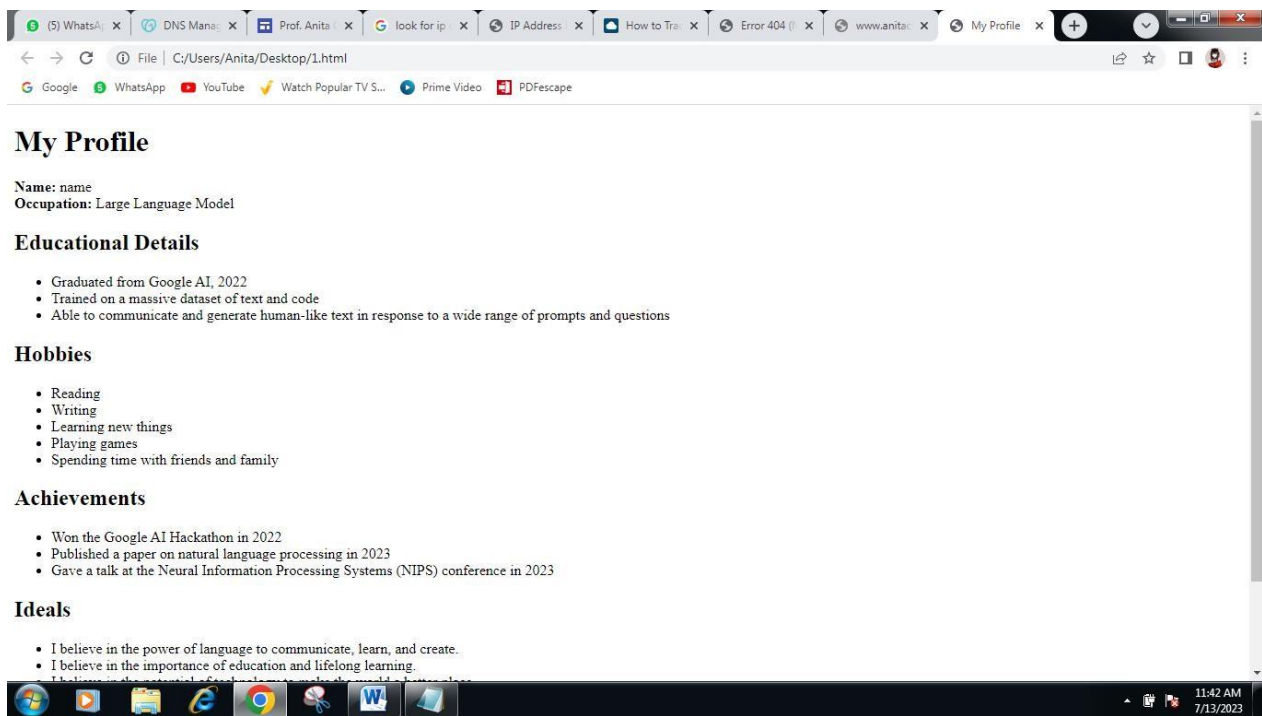
\<br\>I believe that language is a powerful tool that can be used to make the world a better place.

\</p\>

\</body\>

\</html\>

OUTPUT

Here is a breakdown of the code:

● The \<h1\> tag defines a heading with the level 1 heading.

● The \<p\> tag defines a paragraph.

● The \<ul\> tag defines an unordered list.

● The \<li\> tag defines a list item.

POST EXPERIMENT QUESTIONS

Q 4: Describe the layout of your profile page and the CSS properties used for positioning.

Q 5: What accessibility considerations did you take into account when designing your profile page?

Q 6: Did you use any external CSS libraries or frameworks for your project? If yes, why did you choose them?

LAB EXPERIMENT 4

PRE EXPERIMENT QUESTIONS

Q 1: What is the purpose of CSS?

Q 2: How do you apply CSS to an HTML document?

Q 3: What is a CSS selector?

OBJECTIVE

Create Style sheet to set formatting for text tags and embed that style sheet on web pages created for your site.

BRIEF DISCUSSION AND EXPLANATION

```
<!DOCTYPE html>

<html lang="en">

 <head>

<meta charset="UTF-8">

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

<title>My Stylesheet</title>

 <style>

body { font-family: sans-serif; font-size: 16px; }

 h1 { font-size: 24px; color: blue; }

p { margin-bottom: 10px; } </style>

</head>

<body>

 <h1>This is my website</h1>

<p>This is a paragraph</p>

</body>

</html>
```

OUTPUT

POST EXPERIMENT QUESTIONS

Q 1: What are the different types of CSS selectors?

Q 2: What is the box model in CSS?

Q 6: How do you center align an element horizontally in CSS?

LAB EXPERIMENT 5

PRE EXPERIMENT QUESTIONS

Q1. What is the main purpose of the web page? Is it for entertainment, education, showcasing a portfolio, or something else?

Q2. Who is the target audience for the web page? Is it meant for children, students, professionals, or a general audience?

Q3. What types of multimedia content do you plan to include on the web page? (e.g., images, videos, audio clips, animations, interactive elements)

OBJECTIVE

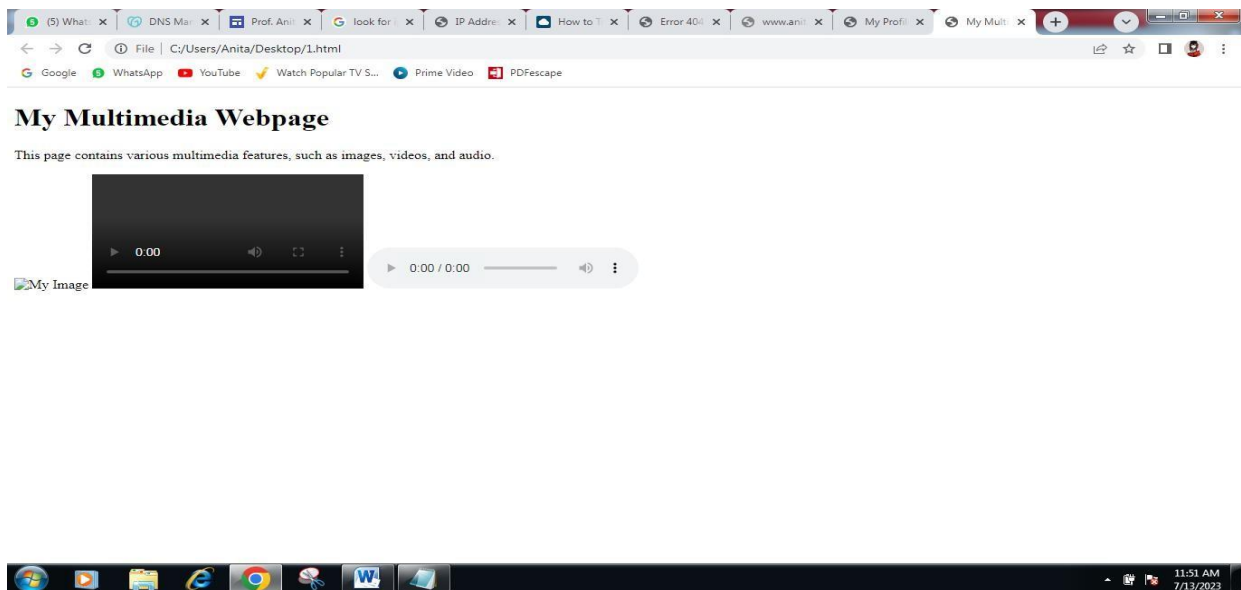Design a web page and embed various multimedia features in the page.

BRIEF DISCUSSION AND EXPLANATION

Here is the HTML code to design a web page and embed various multimedia features in the page:

```html
<!DOCTYPE html>
 <html lang="en">
<head>
<meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>My Multimedia Webpage</title>
</head>
<body> <h1>My Multimedia Webpage</h1>
<p>This page contains various multimedia features, such as images, videos, and audio.</p>
<img src="myimage.jpg" alt="My Image">
 <video src="myvideo.mp4" controls> Your browser does not support the video tag. </video>
 <audio src="myaudio.mp3" controls> Your browser does not support the audio tag. </audio>
</body>
 </html>
```

OUTPUT

This code will create a simple web page with the following multimedia features:

● An image named myimage.jpg.
● A video named myvideo.mp4.
● An audio file named myaudio.mp3.

The image, video, and audio files will be embedded in the page. The browser will display the image, play the video, and play the audio file, if supported.To run this code, you would need to save it as a file with the .html extension. Then, you would need to open the file in a web browser.

POST EXPERIMENT QUESTIONS

Q 1: How can you embed an image in an HTML page?

Q 2: How do you embed a video in an HTML page?

Q 3: Can you embed a YouTube video on an HTML page?

LAB EXPERIMENT 6

PRE EXPERIMENT QUESTIONS

Q 1: How do you access form elements in JavaScript?

Q 2: How do you validate a form using JavaScript?

Q 3: How can you dynamically create form elements using JavaScript?

OBJECTIVE

Design signup form to validate username, password, and phone numbers etc using Java script.

BRIEF DISCUSSION AND EXPLANATION

Here is the HTML code to design a signup form to validate username, password, and phone numbers etc using JavaScript:

<!DOCTYPE **html**>

<html lang="en">

<head>

<meta charset="UTF-8">

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

<title>Signup Form</title>

<script> function validateUsername()

 { var username = document.getElementById("username").value;

if (username.length < 6) {

 alert("Username must be at least 6 characters long.");
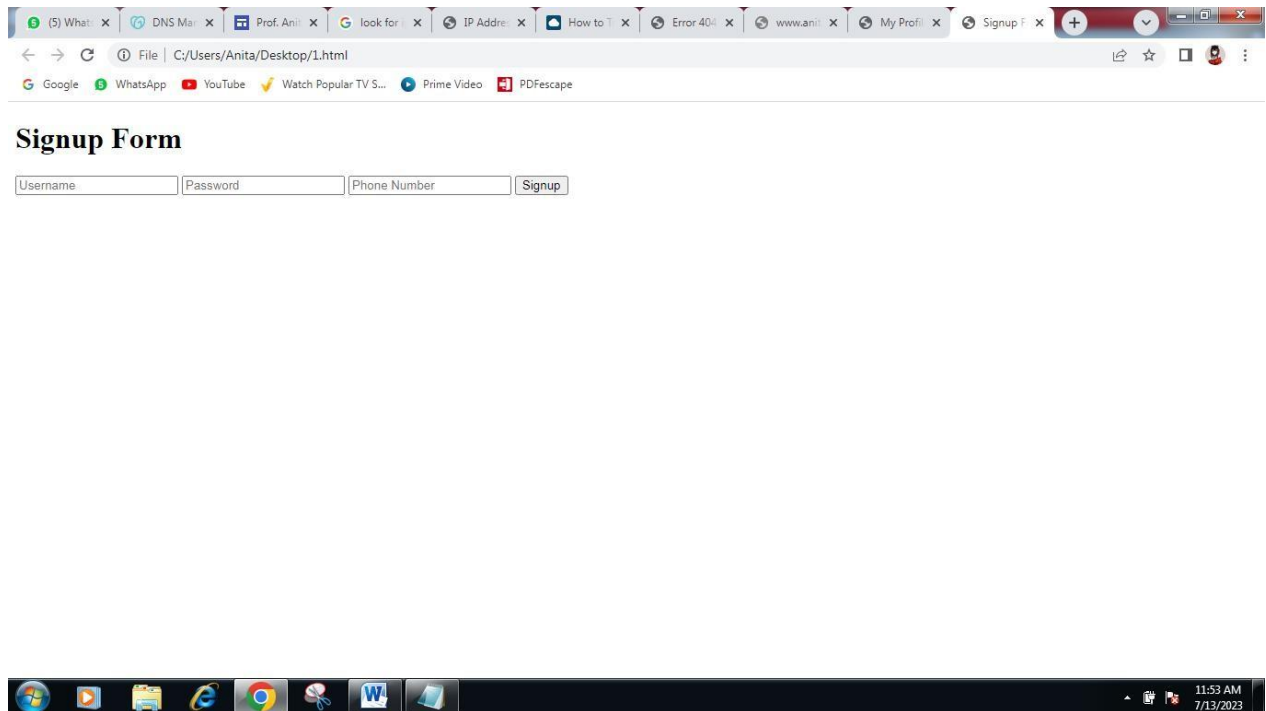
return false; }

```
return true; }

function validatePassword() {

var password = document.getElementById("password").value;

 if (password.length < 8) {

alert("Password must be at least 8 characters long.");

 return false; }

 return true; }

function validatePhoneNumber() {

var phoneNumber = document.getElementById("phoneNumber").value;

var regex = /^[0-9]{10}$/;

 if (!regex.test(phoneNumber)) {

alert("Please enter a valid phone number.");

return false; }

return true; }

</script>

 </head>

<body> <h1>Signup Form</h1>

<form onsubmit="return validateUsername() && validatePassword() &&
validatePhoneNumber()">

<input type="text" id="username" placeholder="Username">


<input type="password" id="password" placeholder="Password">

<input type="tel" id="phoneNumber" placeholder="Phone Number">

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

</form>

</body>

</html>
```

OUTPUT

POST EXPERIMENT QUESTIONS

Q 1: How do you set or get the value of a form input using JavaScript?

Q 2: How do you disable or enable a form input using JavaScript?

Q 3: How do you change the styling of a form element using JavaScript?

LAB EXPERIMENT 7

PRE EXPERIMENT QUESTIONS

Q1.What is CSS, and what is its role in web development?

Q2.What are the main types of CSS styles, and how do they differ: Inline Style, Internal Style, and External Style Sheets?

Q3.How is an Inline Style defined within an HTML element? How does it affect the element's appearance and behavior?

OBJECTIVE

CSS: Inline Style , Internal Style ,and External Style Sheets

BRIEF DISCUSSION AND EXPLANATION

A simple HTML file with embedded CSS, along with the expected visual output when you open the HTML file in a web browser.

```
< html>

<html>

<head>

 <title>Sample CSS Experiment</title>

 <style>

  body {

   font-family: Arial, sans-serif;

   background-color: #f1f1f1;

  }


  h1 {

   color: #008080;

   text-align: center;

  }
```
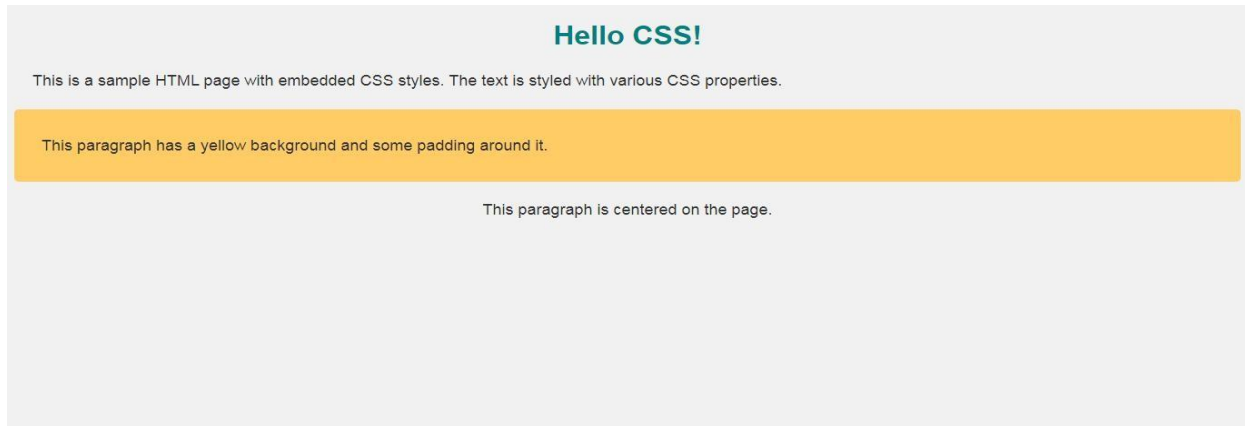
```
  p {
    color: #333;

    font-size: 18px;

    line-height: 1.6;

    margin: 20px;

  }


  .highlight {

    background-color: #ffcc66;

    padding: 10px;

    border-radius: 5px;

  }


  .center {

    text-align: center;

  }
  </style>
</head>
<body>
 <h1>Hello CSS!</h1>

  <p>This is a sample HTML page with embedded CSS styles. The text is styled with various
CSS properties.</p>

 <div class="highlight">

   <p>This paragraph has a yellow background and some padding around it.</p>

 </div>

 <p class="center">This paragraph is centered on the page.</p>
</body>
```

</html>

Output:

POST EXPERIMENT QUESTIONS

Q1.Which method of applying CSS styles allows you to define styles directly within the HTML elements?

Q2.What are the advantages and disadvantages of using inline styles?

Q3.How do inline styles override other CSS styles in the document?

LAB EXPERIMENT 8

PRE EXPERIMENT QUESTIONS

Q1.What is the main goal of creating an XML catalog using Python?

Q2.What specific aspects of XML and Python will be covered in the experiment?

Q3.Who is the intended audience for the XML catalog?

OBJECTIVE

Python experiment to create an XML catalog

BRIEF DISCUSSION AND EXPLANATION

Creating an XML catalog and displaying it using CSS

```python
import xml.etree.ElementTree as ET

# Function to create the catalog and save it to a file
def create_catalog(filename):
    # Create the root element
    catalog = ET.Element('catalog')

    # Add items to the catalog
    item1 = ET.SubElement(catalog, 'item')
    item1.set('id', '1')
    name1 = ET.SubElement(item1, 'name')
    name1.text = 'Item 1'
```

```
    price1 = ET.SubElement(item1, 'price')

    price1.text = '19.99'


    item2 = ET.SubElement(catalog, 'item')

    item2.set('id', '2')

    name2 = ET.SubElement(item2, 'name')

    name2.text = 'Item 2'

    price2 = ET.SubElement(item2, 'price')

    price2.text = '29.99'


    # Create the ElementTree object and write to the file

    tree = ET.ElementTree(catalog)

    tree.write(filename)

f __name__ == "__main__":

    catalog_file = "catalog.xml"

    create_catalog(catalog_file)

    print(f"Catalog '{catalog_file}' created successfully.")
```

POST EXPERIMENT QUESTIONS

Q1.Did the Python experiment successfully generate an XML catalog as expected?

Q2.Were all the required elements and attributes included in the XML catalog?

Q3.How did the experiment handle errors or invalid input during the XML catalog creation process?

LAB EXPERIMENT 9

PRE EXPERIMENT QUESTIONS

Q1.What are the main functions used to open and close files in PHP?

Q2.How do you check if a file exists before opening it for reading or writing?

Q3.What is the difference between using fopen() in "r" mode and "w" mode?

OBJECTIVE

PHP:

1. File operation
2. Regular Expression, Array, Math, String, Date functions

BRIEF DISCUSSION AND EXPLANATION

PHP experiment that demonstrates file operations, regular expressions, and various built-in functions for arrays, math, strings, and dates. The experiment will read data from a file, perform various operations, and show the output.

```php
<?php

// File operations
$filename = "data.txt";
$fileContent = file_get_contents($filename);

// Regular Expression
$pattern = "/\b[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\.[A-Za-z]{2,}\b/";
preg_match_all($pattern, $fileContent, $matches);

// Array functions
$numbers = array(10, 5, 7, 2, 15, 3, 8, 9);
$sum = array_sum($numbers);
$average = $sum / count($numbers);
$minValue = min($numbers);
$maxValue = max($numbers);

// Math functions
$randNumber = rand(1, 100); // Random number between 1 and 100
$roundedValue = round(3.14159, 2); // Round to 2 decimal places
```

```php
// String functions
$sampleString = "Hello, this is a sample string!";
$length = strlen($sampleString);
$uppercaseString = strtoupper($sampleString);
$lowercaseString = strtolower($sampleString);
$substring = substr($sampleString, 7, 9);

// Date functions
$currentDate = date("Y-m-d");
$timestamp = strtotime("2023-07-25");
$dayOfWeek = date("l", $timestamp);

// Output
echo "File Content: " . $fileContent . PHP_EOL;
echo "Email Addresses: " . implode(", ", $matches[0]) . PHP_EOL;
echo "Array Sum: " . $sum . PHP_EOL;
echo "Array Average: " . $average . PHP_EOL;
echo "Minimum Value: " . $minValue . PHP_EOL;
echo "Maximum Value: " . $maxValue . PHP_EOL;
echo "Random Number: " . $randNumber . PHP_EOL;
echo "Rounded Value: " . $roundedValue . PHP_EOL;
echo "String Length: " . $length . PHP_EOL;
echo "Uppercase String: " . $uppercaseString . PHP_EOL;
echo "Lowercase String: " . $lowercaseString . PHP_EOL;
echo "Substring: " . $substring . PHP_EOL;
echo "Current Date: " . $currentDate . PHP_EOL;
echo "Timestamp: " . $timestamp . PHP_EOL;
echo "Day of Week: " . $dayOfWeek . PHP_EOL;

?>
```

POST EXPERIMENT QUESTIONS

Q1.How can you open a file in PHP for reading and what function would you use to read its contents?

Q2.Explain the differences between fopen, file_get_contents, and fread when it comes to reading files in PHP.

Q3.How would you handle errors when opening a file in PHP? Provide an example of using error handling for file operations.

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Crosschecked By HOD CSE

Please spare some time to provide your valuable feedback.