

S.NO	Observation	Date	Marks	Signature
1.	Personal webpage	26/8/24	10	✓✓
2.	clickable image	26/8/24	9	✓✓
3.	Navigation Bar	27/8/24	10	✓✓
4.	Student Grades	27/8/24	9	✓✓
5.	Product information table	28/8/24	10	✓✓
6.	Employee list	28/8/24	10	✓✓
7.	Navigation	29/8/24	10	✓✓
8.	Document with folder	29/8/24	10	✓✓
9.	Three column layout	30/8/24	9	✓✓
10.	My resume	30/8/24	9	✓✓
11.	Promotion Button	31/8/24	10	✓✓
12.	welcome (load Posts)	2/9/24	9	✓✓
13.	Student Registration	3/9/24	9	✓✓
14.	BOOK catalog	4/9/24	10	✓✓
15.	News Articles	5/9/24	10	✓✓
16.	XML Transformation	6/9/24	10	✓✓

Basic HTML

Scenario - 1:

Simple personal
a brief bio av

Question: How
page? include
for the bio
website.

HTML Structure

Basic HTML Concepts:

Observation-1

Scenario-1: You are tasked with creating a simple personal webpage that includes your name, a brief bio and a link to your favourite webpage.

Question: How would you structure this HTML page? Include elements for a heading, a paragraph for the bio and a hyperlink to your favourite website.

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title>Personal webpage</title>
</head>
<body>
    <h1>Name:</h1>
    <p>D. Vishnu Priya</p><br>
    <h1>Bio:</h1>
    <p>This is D Vishnu Priya, studying 3rd year in
        Saveetha School of Engineering</p><br>
    <p>Visit my favourite website:</p>
    <a href="https://www.netflix.com"
        target="_main">Link</a>
    </p>
</body>
</html>
```

Scenario 2: you need to create a webpage with an image that acts as a clickable link to another website.

Question: How would you code this HTML? Describe tags and attributes you would use.

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title>clickable Image Link</title>
</head>
<body>
    <a href="https://www.google.com" target=
        "_blank">
</a>
</body>
</html>
```

Scenario 3: you have been asked to create a navigation bar at the top of your webpage with links "Home", "About" and "Contact" Pages.

Question: How would you structure this using an unordered list in HTML?

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title>Webpage with Navigation Bar</title>
</head>
<body>
```

```
</body>
</html>
Index.html
<!DOCTYPE html>
<html>
<head>
    <title>Index.html</title>
</head>
<body>
    <h1>Welcome to my website!</h1>
    <ul>
        <li>Home</li>
        <li>About</li>
        <li>Contact</li>
    </ul>
</body>
</html>
```

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

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

```
<ul>
  <li><a href="index.html">Home</a></li>
  <li><a href="about.html">About</a></li>
  <li><a href="contact.html">Contact</a></li>
</ul>
```

</body>

</html>

Index.html:

```
<!DOCTYPE html>
```

<html>

<head>

```
  <title> Index </title>
```

</head>

<body>

```
  <h1> Index Page </h1>
```

```
  <p> This is an Index Page </p>
```

</body>

</html>

About.html:

```
<!DOCTYPE html>
```

<html>

<head>

```
  <title> About </title>
```

</head>

<body>

```
  <h1> About Page </h1>
```

```
  <p> welcome to the About Page ! </p>
```

</body>

</html>

Contact.html:

```
<!DOCTYPE html>
<html>
<head>
    <title> Contact </title>
</head>
<body>
    <h1> Contact Page: </h1>
    <p> Welcome to Contact Page! If any Query  
please contact duishnu P@gmail.com </p>
</body>
</html>
```

HTML Tables:

Scenario 4: you are designing a webpage that displays student grades in a tabular format. Each row should represent a student, with cols for the student ID, Name and Grade. The first row should be a header row.

Question: How would you create a table in HTML? Include the header row and at least two rows of data.

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title> Student Grades </title>
</head>
<body>
    <table border="2">
        <tr>
            <th> Student ID </th>
```

```
<th> Name </th>
<th> Grade </th>
</tr>
<tr>
    <td> 100 </td>
    <td> 50 </td>
    <td> 90 </td>
</tr>
<tr>
    <td> 100 </td>
    <td> 50 </td>
    <td> 90 </td>
</tr>
```

student	100	100

Scenario 5: displays P includes C spanning columns Question attribu HTML?

```

<th> Name </th>
<th> Grade </th>
</tr>
<tr>
  <td> 1001 </td>
  <td> Siva </td>
  <td> S </td>
</tr>
<tr>
  <td> 1002 </td>
  <td> Sai </td>
  <td> A </td>
</tr>
</table>

```

that

```

</body>
</html>

```

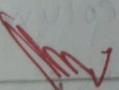
student ID	Name	Grade
1001	Siva	S
1002	Sai	A

Scenario 5: you need to create a table that displays product information. The table should include merged cells for the product name (spanning across two columns) and separate columns and for the price and quantity.

Question: How would you use the colspan attribute to achieve this layout in HTML?

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title>Tables </title>
</head>
<body>
    <table border="1">
        <tr>
            <th colspan="2">Product Name </th>
            <th>Price </th>
            <th>Quantity </th>
        </tr>
        <tr>
            <td colspan="2">Product A </td>
            <td>1200 </td>
            <td>1 </td>
        </tr>
        <tr>
            <td colspan="2">Product B </td>
            <td>1500 </td>
            <td>2 </td>
        </tr>
    </table>
</body>
</html>
```



Product Name	Price	Quantity
Product A	1200	1
Product B	1500	2

Scenario 6: You are given an HTML code snippet that lists employee names and their department names. The code uses `tbody` and `tr` elements to group rows. Your task is to extract the department name for each employee.

Question: How would you extract the department name for each employee using the rows?

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title>Tables </title>
</head>
<body>
    <table border="1">
        <thead>
            <tr>
                <th>Employee Name </th>
                <th>Department </th>
            </tr>
        </thead>
        <tbody>
            <tr>
                <td>John Doe </td>
                <td>Marketing </td>
            </tr>
            <tr>
                <td>Jane Smith </td>
                <td>Sales </td>
            </tr>
            <tr>
                <td>Mike Johnson </td>
                <td>IT </td>
            </tr>
        </tbody>
    </table>
</body>
</html>
```

Scenario 6: You are required to create a table that lists employees by department. The department name should span across multiple rows with employee names listed in rows beneath each department name.

Question: How would you structure this table using the rowspan attribute in HTML?

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title>Tables list </title>
</head>
<body>
    <table border="1">
        <tr>
            <th> Department </th>
            <th> Employee Name </th>
        </tr>
        <tr>
            <td rowspan="3" style="text-align: center;">Sales
            <td> John </td>
        </tr>
        <tr>
            <td> Kartik </td>
        </tr>
        <tr>
            <td> Vishnu Priya </td>
        </tr>
        <tr>
            <td rowspan="2" style="text-align: center;">Marketing
            <td> Marketing Name </td>
        </tr>
    </table>
</body>
</html>
```

```

<td> Gireesha </td>
</tr>
<tr>
<td> Sai </td>
</tr>
</table>
</body>
</html>

```

Department	<u>Employee Name</u>
Sales	John Karthik Vishnu Priya
Marketing	Gireesha Sai

HTML Frames:

Scenario 7: Your task is to create a webpage with a left navigation pane and a main content area. The left pane should contain links to different sections. Contain links to different sections of sites and clicking on these links should update the content in the main area without refreshing the entire page.

Question: How would you implement this using frames in HTML? Describe how you would set up the frameset and link behaviors.

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title> Webpage with frames </title>
</head>
<frameset cols="20%, 80%">
    <frame src="navigation.html" name="nav">
    <frame src="content.html" name="content">
</frameset>
</html>
```

Scenario: you are asked to design a webpage that displays a document in the top half of the window and a footer with contact information in bottom half.

Question: How would you divide the window using frames, to achieve layout? Explain how you would set up the rows in the frameset.

HTML Structure:

```
<!DOCTYPE html>
<html>
<head>
    <title> Frames </title>
</head>
<frameset rows="50%, 50%">
    <frame src="document.html" name="topFrame">
```

```
</frame src="footer.html" name="bottomFrame">
</frameset>
</html>
```

Document Page

This is the content of document

Contact Information

email: dvishnup@gmail.com

phone: 9121730467

Address: Chennai

Scenario 9: You need to create a webpage with three columns: a left nav menu, a centre content area, and a right sidebar for additional information. The centre content area should be resizable, but the left and right columns should have fixed widths.

Question: How would you structure the frameset in HTML to create this layout?

Describe the attributes you would use for each frame.

HTML Structure:

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
    <title>Frames</title>
```

```
</head>
```

```
<body>
```

```
<frameset cols="20%, *, 20%>
```

```
</frameset>
</html>
```

• Section

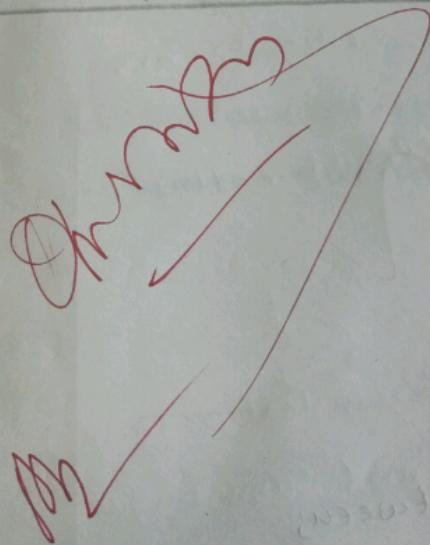
• Section

```

<frame src="nav.html" name="left"
      frame scrolling="auto" noresize>
<frame src="Content.html" name="centre"
      frame scrolling="auto">
<frame src="Sidebar.html" name="right"
      frame scrolling="auto" noresize>
</frameset>
</html>

```

• section1	welcome	Additional Information
• section2	this is Content Page	This is right sidebar to display addition information.



Observation-2

Scenario-1: You are developing a website for a local restaurant and need a responsive navigation bar that displays menu items horizontally on larger screens and collapses into a hamburger menu on smaller screens.

Problem/Question: How would you apply styles to this resume directly within the HTML file?

HTML

```
<nav class="navbar">
  <div class="logo">Restaurant</div>
  <ul class="nav-links">
    <li><a href="#">Home</a></li>
    <li><a href="#">Menu</a></li>
    <li><a href="#">About Us</a></li>
    <li><a href="#">Contact</a></li>
  </ul>
  <div class="hamburger">
    <span></span>
    <span></span>
    <span></span>
  </div>
</nav>
```

CSS

```
<style>
  .navbar {
    display: flex;
    justify-content: space-between;
    align-items: center;
    padding: 10px 20px;
    background-color: #333;
  }
```

```
.nav-links {
  display: flex;
  list-style: none;
}
.nav-links li {
  margin: 0 15px;
}
.nav-links a {
  color: white;
  text-decoration: none;
}
.hamburger {
  display: none;
  flex-direction: column;
  cursor: pointer;
}
```

JavaScript

```
<script>
  document.querySelector('.hamburger')
    .addEventListener('click', () => {
      const nav = document.querySelector('.nav-links');
      nav.classList.toggle('open');
    });
</script>
```

this.cl
docum

});

Output:

✓

a
action
n menu
to

```
.nav-links { position: absolute; left: 0; top: 0; width: 100%; height: 100%; display: flex; justify-content: center; align-items: center; list-style: none; background-color: brown; transition: all 0.3s ease-in-out; }

.nav-links li { width: 100px; height: 100px; background-color: white; margin: 0 10px; border-radius: 50%; display: flex; justify-content: center; align-items: center; font-size: 24px; font-weight: bold; color: black; text-decoration: none; }

.nav-links a { position: absolute; top: 0; left: 0; width: 100%; height: 100%; display: flex; justify-content: center; align-items: center; font-size: 24px; font-weight: bold; color: white; text-decoration: none; }

.hamburger { display: none; flex-direction: column; cursor: pointer; }

</style>
```

JavaScript

```
<script> document.querySelector('.hamburger').addEventListener('click', function() {
    this.classList.toggle('active');
    document.querySelector('.nav-links').classList.toggle('active');
});</script>
```

out put:

My Resume

Vishnu - web developer / designer

passionate web developer with experience. Experience: previous roles

SKILLS: HTML, CSS

Contact: vishnu@gmail.com

Scenario 2: A social networking site requires a user registration form with fields for username, email, password and confirmation password. The form should validate that the email format is correct and that the passwords match.

Question: How would you apply a specific background color to this button without altering external stylesheet.

HTML

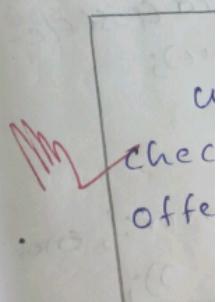
```
<form id="registrationForm">
  <label for="username">Username:</label>
  <input type="text" id="username" required><br>
  <label for="email">Email:</label>
  <input type="email" id="email" required><br>
  <label for="password">Password:</label>
  <input type="password" id="password" required><br>
  <label for="confirmPassword">Confirm Password:</label>
  <input type="password" id="confirmPassword"
         required><br>
  <button type="Submit">Register</button>
</form>
```

JavaScript

```
<script>
  document.getElementById('registrationForm').addEventListener('Submit', function(e){
    e.preventDefault();
    const email = document.getElementById('email').value;
```

```
const password = document.getElementById('password').value;
const confirmPassword = document.getElementById('confirmPassword').value;
if (password === confirmPassword) {
  alert('Registration successful');
} else {
  alert('Passwords do not match');
}
```

Output:



③ - Server
cally
reloading
"Load

Quest
new

HTML
<div>
<button>

Java
esc

```
const password = document.getElementById('password').value;
const confirmPassword = document.getElementById('confirmPassword').value;

if (password !== confirmPassword) {
    alert('Passwords do not match!');
    return;
}

alert('Registration Successful!');

</script>
```

Output:

Promotional Button

Welcome to our website

Checkout our latest promotional offer by clicking the button below

Promotional Button

③ Scenario: A blog website needs to dynamically load more posts from an API without reloading the page when a user clicks the "Load More Posts" button.

Question: How would you efficiently apply new styles across all pages of websites

HTML

```
<div id="posts"></div>
```

```
<button id="loadMore">Load More Posts</button>
```

JavaScript

```
<script>
```

```

document.getElementById('loadMore').addEventListener('click', function() {
  fetch('link').then(response => response.json())
    .then(data => {
      const postsContainer = document.getElementById('posts')
      data.forEach(post => {
        const postElement = document.createElement('div')
        postElement.innerHTML = `

### ${post.title}



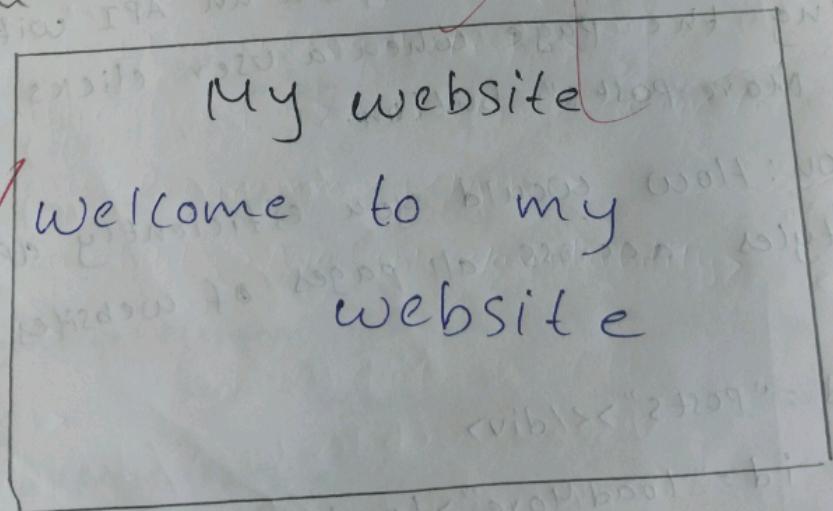
${post.content}

`
        postsContainer.appendChild(postElement)
      })
    })
    .catch(error => console.error('error:', error))
})

```

</script>

Output:



Scenario - 4: A user wants to submit workshops by submitting course submitted in on the same page

Question: write a HTML.

JSP Code
Let's @ page import

<html>
<body>
 <form method="post">
 Name:<input type="text" name="name"/>
 Email:<input type="text" name="email"/>
 Course:<input type="text" name="course"/>

</form>
Let's

String

String

String

if (n

{

%o>

<h2>

<p>

<p>

<p>

Scenarios-4: A University portal requires a JSP page for students to register for workshops by submitting their name, email and course. Submitted information should display on the same page.

Question: write a JSP page that includes HTML.

JSP Code

```
<%@ page import="java.io.*; javax.servlet.*;  
         javax.servlet.http.*" %>  
<html>  
<body>  
    <form method="post">  
        Name:<input type="text" name="name"><br>  
        Email:<input type="email" name="email"><br>  
        Course:<input type="text" name="course"><br>  
        <input type="submit" value="Register">  
    </form>  
<%  
    String name = request.getParameter("name");  
    String email = request.getParameter("email");  
    String course = request.getParameter("course");  
    if (name != null && email != null && course != null)  
    {  
    %>  
        <h2>Submitted Data:</h2>  
        <p>Name: <%= name %></p>  
        <p>Email: <%= email %></p>  
        <p>Course: <%= course %></p>  
    <%
```

```
</body>
</html>
Output:
Submitted Data:
Name: Alice
Email: alice@gmail.com
Course: Java Programming
```

Scenario-5: A library maintains its book catalog in XML format, requiring an XSD schema with specific constraints (ISBN must be 13 digits, publication year is 4 digits, and availability is either "Available" or "Checked Out")

XML Document

```
<Catalog>
  <book>
    <title>Effective Java</title>
    <author>Dishu Priya</author>
    <isbn>9780134685991</isbn>
    <publicationYear>2018</publicationYear>
    <genre>Programming</genre>
    <availability>Available</availability>
  </book>
</Catalog>
```

XSD schema:

```
<ns:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xss:element name="book">
    <xss:complexType>
      <xss:sequence>
        <xss:element name="title"></xss:element>
        <xss:element name="author"></xss:element>
        <xss:element name="isbn"></xss:element>
        <xss:element name="publicationYear"></xss:element>
        <xss:element name="genre"></xss:element>
        <xss:element name="availability"></xss:element>
      </xss:sequence>
    </xss:complexType>
  </xss:element>
</ns:schema>
```

of ISBN of 13 digits
in 4 digits
Available or
Checked Out

XSD schema:

```
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <xsd:element name="Catalog">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="book" maxOccurs="unbounded">
          <xsd:complexType>
            <xsd:sequence>
              <xsd:element name="title" type="xsd:string"/>
              <xsd:element name="author" type="xsd:string"/>
              <xsd:element name="isbn" type="xsd:string" pattern="(\d{13})"/>
              <xsd:element name="publicationYear" type="xsd:int" minInclusive="1000" maxInclusive="9999"/>
              <xsd:element name="genre" type="xsd:string"/>
              <xsd:element name="availability" type="xsd:string">
                <xsd:simpleType>
                  <xsd:restriction base="xsd:string">
                    <xsd:enumeration value="Available"/>
                    <xsd:enumeration value="Check"/>
                  </xsd:restriction>
                </xsd:simpleType>
              </xsd:element>
            </xsd:sequence>
          </xsd:complexType>
        </xsd:element>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
</xsd:schema>
```

```
<xss:element>
<xss:sequence>
<xss:complexType>
<xss:element>
</xss:schema>
```

Output:

Library Catalog:

Book Title: Effective Java

Author: Vishnu

ISBN: 9870134685991

Publication Year: 2018

Genre: Programming

Availability: Available

Scenario-6: An online news website needs to display articles stored in XML format in a user-friendly HTML format. Each article includes a title, author, date, summary and content.

XML Data

Articles

Articles

```
<title>Breaking News</title>
```

```
<author>Vishnu</author>
```

```
<date>2024-09-11</date>
```

```
<summary>Summary of this article.</summary>
```

```
<content>Full content of the article</content>
```

```
</articles>
```

```
</articles>
```

XSLT Code:
<xsl:stylesheet>

<xsl:template>

<html>

<body>

<xsl:for-each>

<h2>

<title>LP</title>

<p>Breaking News</p>

LP

<p>Author: Vishnu</p>

<p>Date: 2024-09-11</p>

LP

<p>Summary: Summary of this article</p>

LP

<p>Content: Full content of the article</p>

LP

</body></html>

</xsl:for-each>

</xsl:template>

</xsl:stylesheet>

Output:

Breaking

By: Vishnu

Summary

Content:

XSLT Code:

```
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="1.0">
<xsl:template match="/articles">
<html>
<body>
<xsl:for-each select="article">
<h2><b><xsl:value-of select="title"/>
- <xsl:value-of select="date"/>
<h2></h2>
<p><i>By:<xsl:value-of select="author"/>
</i></p>
<p><i><xsl:value-of select="summary"/>
</i></p>
<p><xsl:value-of select="content"/>
</p>
</xsl:for-each>
</body>
</html>
</xsl:template>
</xsl:stylesheet>
```

Output:

Breaking News - 2024-09-11 10:12

By: Dishnu

Summary: (This is the) summary of the article.

Content: (This is the) full content of the article, providing detailed information.

Scenario-7: Write an XSLT file to transform the XML data into an HTML format.

XML Sample Data

```
<articles>
  <article>
    <title>Technology Advancements</title>
    <author>Dishnu</author>
    <date>2024-09-12</date>
    <summary>Explores the latest trends in technology.</summary>
    <content>From AI to blockchain, technology is evolving.</content>
  </article>
<articles>
```

XSLT Code

```
<xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="1.0">
  <xsl:template match="/articles">
    <html>
      <body>
        <xsl:for-each select="article">
          <h2><b><xsl:value-of select="title"/></b></h2>
          <xsl:value-of select="data"/>
          <hr/>
          <p><i>By:</i><xsl:value-of select="author"/></i></p>
          <hr/>
          <p><i><xsl:value-of select="summary"/></i></p>
        </xsl:for-each>
      </body>
    </html>
  </xsl:template>
</xsl:stylesheet>
```

<P><xsl:value-of select="title"/>

<xsl:for-each select="article">
<h2><xsl:value-of select="title"/></h2>
<hr/>
<p><i>By:</i><xsl:value-of select="author"/></i></p>
<hr/>
<p><i><xsl:value-of select="summary"/></i></p>
</xsl:for-each>
</body>
</html>
</xsl:template>
</xsl:stylesheet>

Output:

Technology Advancements
By: Dishnu
Summary: Explores the latest trends in technology.
Content: From AI to blockchain, technology is evolving.

```
<p><xsl:value-of select="content"/></p>
</xsl:for-each>
</body>
</html>
</xsl:template>
</xsl:stylesheet>
```

Output:

Technology Advancements - 2024-09-12

By: Dishnu

Summary: Explores the latest trends in technology

Content: From AI to blockchain, technology is
evolving.