ADITYA UNIVERSITY

CONTINUOUS INTERNAL EVALUATION

Roll No: **Academic Year:**

Name of the Student: **Semester:**

S.NO	NAME OF THE EXPERIMENT	Day-to-Day evaluation					Total	Faculty sign
		P1	P2	P3	P4	P5		
1	Write a HTML program, to explain the working of lists.							
2	.Write a HTML program, to explain the working of hyperlinks using tag and href, target Attributes.							
3	Create a HTML document that has your image and your friend's image with a specific height and width. Also when clicked on the images it should navigate to their respective profiles.							
4	Write a HTML program, in such a way that, rather than placing large images on a page, the preferred technique is to use thumbnails by setting the height and width parameters to something like to 100*100 pixels. Each thumbnail image is also a link to a full sized version of the image.							
5	Write a HTML program, to explain the working of tables.							
6	Write a HTML program, to explain the working of tables by preparing a timetable.							
7	Write a HTML program, to explain the working of forms by designing Registration form.							

8	Write a HTML program, to explain the working of frames, such that page is to be divided into 3 parts on either direction.							
9	Write a HTML program, that makes use of <article>, <aside>, <figure>, <figcaption>, <footer>, <header>, <main>, <nav>, <section>, , tags.							
10	Write a HTML program, to embed audio and video into HTML web page.							
11	Write a program to apply different types (or levels of styles or style specification formats) - inline, internal, external styles to HTML elements. (identify selector, property and value).							
12	Write a program to apply different types of selector forms							
13	Write a program to demonstrate the various ways you can reference a color in CSS							
14	Write a CSS rule that places a background image halfway down the page, tilting it horizontally. The image should remain in place when the user scrolls up or down.							
15	Write a program using the following terms related to CSS font and text:							
16	Write a program, to explain the importance of CSS Box model using							
17	Write a program to embed internal and external JavaScript in a web page.							
18	Write a program to explain the different ways for displaying output							

19	Write a program to explain the different ways for taking input.							
20	Create a webpage which uses prompt dialogue box to ask a voter for his name and age. Display the information in table format along with either the voter can vote or not.							

21	Write a program using document object properties and methods.							
22	Write a program using window object properties and methods.							
23	Write a program using array object properties and methods.							
24	Write a program using math object properties and methods.							
25	Write a program using string object properties							
26	Write a program using regex object properties and methods.							
27	Write a program using date object properties and methods.							
28	.Write a program to explain user-defined object by using properties, methods, accessors, constructors and display.							
29	Write a program which asks the user to enter three integers, obtains the numbers from the user and outputs HTML text that displays the larger number followed by the words “LARGER NUMBER” in an information message dialog. If the numbers are equal, output HTML text as “EQUAL NUMBERS”							
30	Write a program to display week days using switch case.							
31	Write a program to print 1 to 10 numbers using for, while and do-while loops							

32	Write a program to print data in object using for-in, for-each and for-of loops							
33	Design a appropriate function should be called to display i. Factorial of that number ii. Fibonacci series up to that number							
34	Design a HTML having a text box and four buttons named Factorial, Fibonacci, When a button is pressed an appropriate function should be called to display i. Factorial of that number							
35	Write a program to validate the following fields in a registration page							
36	Write a program to show the workflow of JavaScript code executable by creating web server in Node.js.							
37	Write a program to transfer data over http protocol using http module.							
38	Create a text file src.txt and add the following content to it. (HTML, CSS, Javascript, Typescript, MongoDB, Express.js, React.js, Node.js)							
39	Write a program to parse an URL using URL module.							
40	Write a program to create an user-defined module and show the workflow of Modularization of application using Node.js							
41	Write a program to understand simple and special types							
42	Write a program to understand function parameter and return types.							
43	Write a program to show the importance with Arrow function. Use optional, default and REST parameters.							

44	Write a program to understand the working of typescript with class, constructor, properties, methods and access specifiers.							
Day-to-Day evaluation Total								

Name of Lab: **Course Code:**

1. Write a HTML program, to explain the working of lists.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>HTML List Types</title>
</head>
<body>

   <h2>1. Ordered List</h2>
   <ol>
      <li>Start</li>
      <li>Process</li>
      <li>End</li>
   </ol>

   <h2>2. Unordered List</h2>
   <ul>
      <li>Red</li>
      <li>Green</li>
      <li>Blue</li>
   </ul>

   <h2>3. Nested List</h2>
   <ul>
      <li>Fruits
         <ul>
            <li>Apple</li>
            <li>Mango</li>
         </ul>
      </li>
      <li>Vegetables
         <ul>
            <li>Carrot</li>
```

```
            <li>Beans</li>
        </ul>
    </li>
</ul>

<h2>4. Ordered List in Unordered List</h2>
<ul>
    <li>Registration Steps
        <ol>
            <li>Open site</li>
            <li>Fill form</li>
            <li>Submit</li>
        </ol>
    </li>
</ul>

<h2>5. Definition List</h2>
<dl>
    <dt>HTML</dt>
    <dd>Markup language for web pages</dd>
    <dt>CSS</dt>
    <dd>Style sheet language</dd>
</dl>

</body>
</html>
```

Output:

---

1. Ordered List

1. Start
2. Process
3. End

2. Unordered List

- Red
- Green
- Blue

3. Nested List

- Fruits
  - Apple
  - Mango
- Vegetables
  - Carrot
  - Beans

4. Ordered List in Unordered List

- Registration Steps
  1. Open site
  2. Fill form
  3. Submit

5. Definition List

HTML
: Markup language for web pages

CSS
: Style sheet language

2. Write a HTML program, to explain the working of hyperlinks using <a> tag and href, target Attributes.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Hyperlink Demo</title>
</head>
<body>

   <!-- Text Hyperlink -->
   <h2>1. Text Link</h2>
   <p>
      Visit our official website:
      <a href="https://www.aec.edu.in/" target="_blank">AEC Official
Website</a>
   </p>

   <!-- Image Hyperlink -->
   <h2>2. Image Link</h2>
   <p>
      Click the image to open the AEC Gallery:
      <br>
      <a href="https://www.aec.edu.in/?p=Gallery" target="_blank">
         <img src="University_Logo.jpg" alt="AEC Logo"
width="200">
      </a>
   </p>

</body>
</html>
```

Output:

---

1. Text Link

Visit our official website: AEC Official Website

2. Image Link

Click the image to open the AEC Gallery:

3. Create a HTML document that has your image and your friend's image with a specific height and width. Also when clicked on the images it should navigate to their respective profiles

Program:

```
<!DOCTYPE html>
<html>
<head>
    <title>Profile Images</title>
    <style> body { text-
        align: center; font-
        family: Arial;
        margin-top: 50px;
        }
    </style>
</head>
<body>

    <h2>My Profile</h2>
    <a href="https://www.linkedin.com/in/Anjali/" target="_blank">
        <img src="my_image.jpg" alt="My Image">
    </a>

    <h2>My Friend's Profile</h2>
    <a href="https://www.linkedin.com/in/Uma-b02594265/" target="_blank">
        <img src="friend_image.jpg" alt="Friend's Image"> </a>
</body>
</html>
```

Output:

My Profile

My Friend's Profile

4. To create an image gallery using thumbnail images (100×100 pixels), where each image links to its full-sized version.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Thumbnail Gallery</title>
   <style> body { background: linear-gradient(to right,
      #e0f7fa, #fff); font-family: sans-serif; text-align:
      center;
         padding: 40px;
      }
   </style>
</head>
<body>

   <h2>Thumbnail Image Gallery</h2>

   <a href="image1.jpg" target="_blank">
      <img src="CO.jpg" alt="Image 1">
   </a>
   <a href="image2.jpg" target="_blank">
      <img src="W3.jpg" alt="Image 2">
   </a>
   <a href="image3.jpg" target="_blank">
      <img src="Greekforgreeks.jpg" alt="Image 3"> </a>

</body>
</html>
```

Output:

Thumbnail Image Gallery

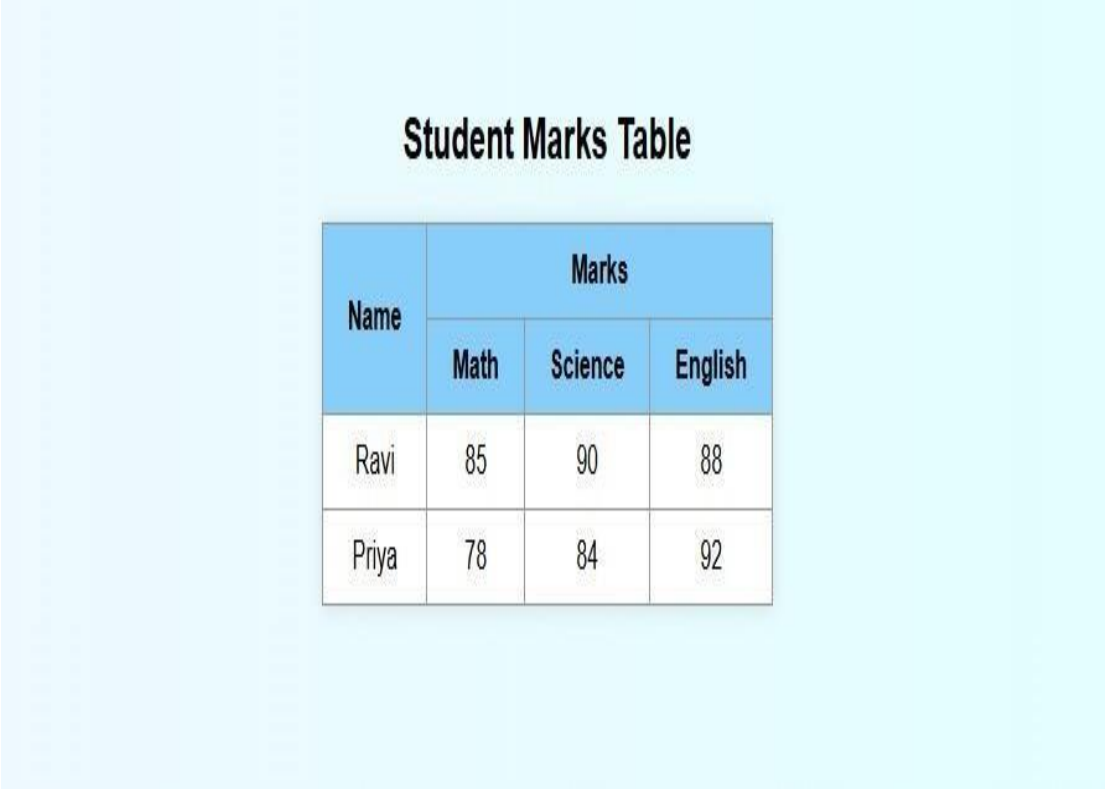
5. Write a HTML program, to explain the working of tables. (use tags: <table>, <tr>, <th>, <td> and attributes: border, rowspan, colspan)

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>HTML Table Demo</title>
   <style> body { background: linear-gradient(to right,
      #f0f8ff, #e0ffff); font-family: Arial, sans-serif; text-
      align: center; padding-top: 50px;
      } table { margin: auto;
      border-collapse: collapse;
      background-color: #fff;
         box-shadow: 0 0 10px rgba(0,0,0,0.1);
      }
      th, td { border: 1px solid
         #999;
         padding: 10px 20px;
      }
      th {
         background-color: #87cefa;
      }
   </style>
</head>
<body>

   <h2>Student Marks Table</h2>
   <table>
      <tr>
         <th rowspan="2">Name</th>
         <th colspan="3">Marks</th>
      </tr>
      <tr>
```

```
            <th>Math</th>
            <th>Science</th>
            <th>English</th>
        </tr>
        <tr>
            <td>Ravi</td>
            <td>85</td>
            <td>90</td>
            <td>88</td>
        </tr>
        <tr>
            <td>Priya</td>
            <td>78</td>
            <td>84</td>
            <td>92</td>
        </tr>
    </table>

</body>
</html>
```

Output:



Student Marks Table

Name	Marks		
	Math	Science	English
Ravi	85	90	88
Priya	78	84	92

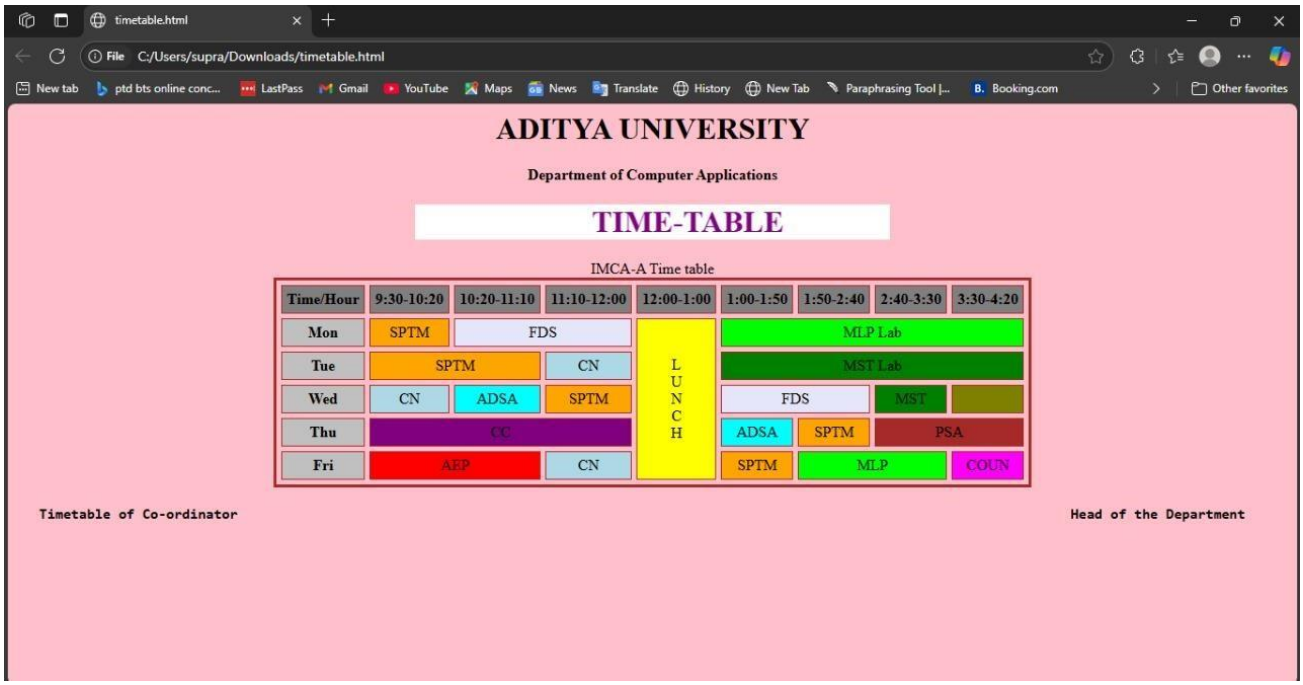
6. Write a HTML program, to explain the working of tables by preparing a timetable. (Note: Use <caption> tag to set the caption to the table & also use cell spacing, cell padding, border, rowspan, colspan etc.)

Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Time Table</title>
   <style> body { background: #f0f8ff; font-family: sans-serif;
text-align: center; } table { margin: auto; border-collapse: collapse;
width: 95%; } th, td { border: 2px solid #000; padding: 8px; }
caption { font-size: 20px; font-weight: bold; margin-bottom:
10px;    }    th    {    background:
        #ffe066; }
        .marquee { background: aqua; padding: 10px; font-size: 24px; }
        .footer { margin-top: 40px; width: 90%; display: flex; justify-
content: space-between; padding: 0 40px; } </style>
</head>
<body>
   <marquee                class="marquee"                behavior="alternate"
scrollamount="15">ADITYA UNIVERSITY</marquee>
    <hr>
    <table cellpadding="5" cellspacing="2">
        <caption>Department Of Computer Application</caption>
        <tr>
            <th rowspan="2">DAY</th>
            <th>1</th><th>2</th><th>3</th><th>4</th>
            <th>5</th><th>6</th><th>7</th><th>8</th>
        </tr>
        <tr>
            <th>9:30</th><th>10:20</th><th>11:10</th><th>12:00</th>
            <th>1:00</th><th>1:50</th><th>2:40</th><th>3:30</th>
        </tr>
```

```
        <tr>
            <th>MON</th><td>CN</td><td colspan="2">MST LAB</td>
            <td
rowspan="5">LUNCH</td><td>NSD</td><td>CN</td><td
colspan="2">AEP</td>
        </tr>
        <tr>
            <th>TUE</th><td
colspan="2">ADSA</td><td>MST</td><td>CN</td>
            <td colspan="2">MLP</td><td>NSD</td>
        </tr>
        <tr>
            <th>WED</th><td colspan="3">CC</td><td colspan="4">MLP
LAB</td>
        </tr>
        <tr>
            <th>THU</th><td>SPTM</td><td colspan="2">MST
LAB</td><td>NSD</td>
            <td>SPTM</td><td colspan="2">PSA</td>
        </tr>
        <tr>
            <th>FRI</th><td>SPTM</td><td
colspan="2">ADSA</td><td>NSD</td>
            <td>SPTM</td><td colspan="2">COUN</td>
        </tr>
    </table>
    <div class="footer">
        <h3>Dept. Time Table Coordinator</h3>
        <h3>Head Of The Department</h3>
    </div>

</body>
</html>
```

Output:


timetable.html
File C:/Users/supra/Downloads/timetable.html
New tab
ptd bts online conc...
LastPass
Gmail
YouTube
Maps
News
Translate
History
New Tab
Paraphrasing Tool |...
Booking.com
Other favorites
ADITYA UNIVERSITY
Department of Computer Applications
TIME-TABLE
IMCA-A Time table
Time/Hour
9:30-10:20
10:20-11:10
11:10-12:00
12:00-1:00
1:00-1:50
1:50-2:40
2:40-3:30
3:30-4:20
Mon
SPTM
FDS
LUNCH
MLP Lab
Tue
SPTM
CN
MST Lab
Wed
CN
ADSA
SPTM
FDS
MST
Thu
CC
ADSA
SPTM
PSA
Fri
AEP
CN
SPTM
MLP
COUN
Timetable of Co-ordinator
Head of the Department

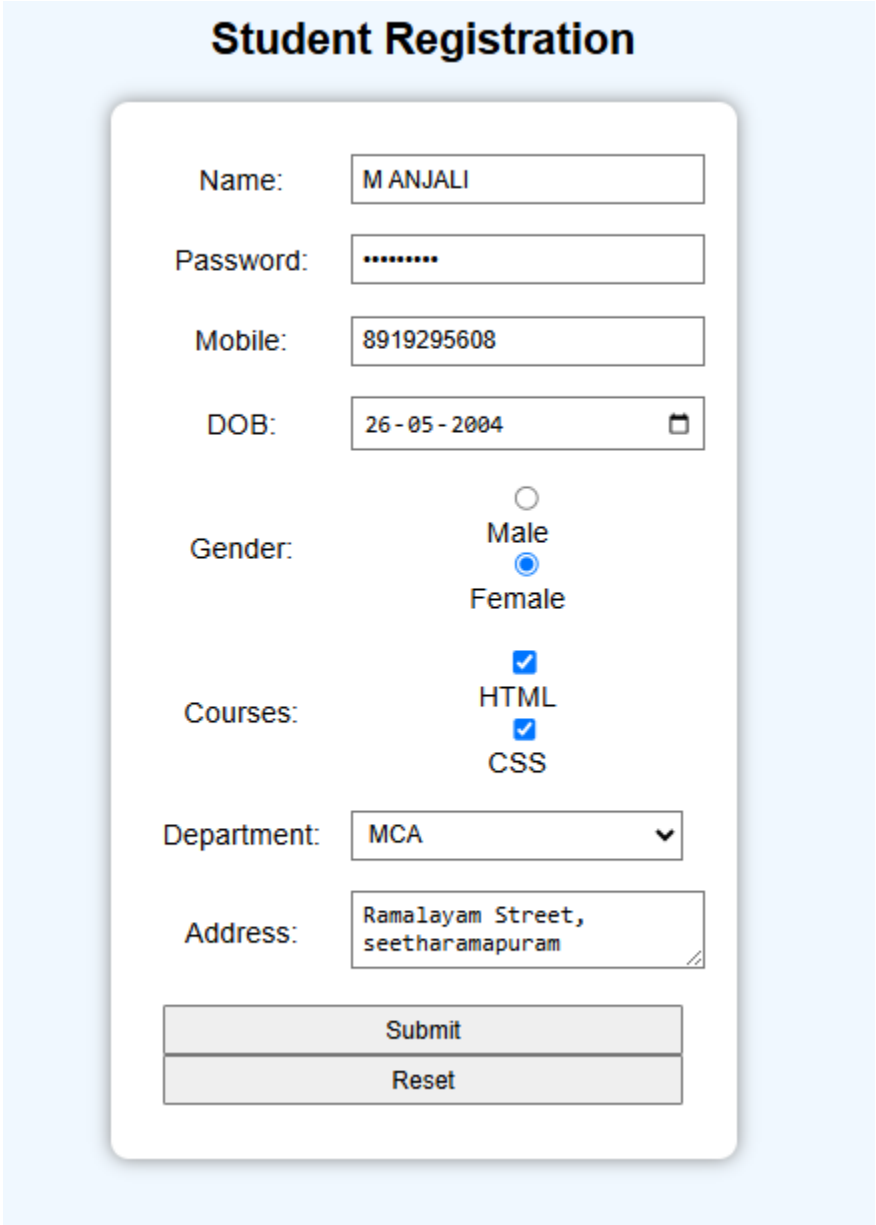
7. Write a HTML program, to explain the working of forms by designing Registration form.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Registration Form</title>
   <style> body
      {
         background:    #f0f8ff;
         font-family:        sans-
         serif;           text-align:
         center;
      } table
      {
         margin:            auto;
         padding:         20px;
         background:     #fff;
         border-radius:
         10px;
         box-shadow: 0 0 10px #888;
      } td { padding: 8px;
      }
      input, select, textarea {
         width: 100%; padding:
         5px;
      }
   </style>
</head>
<body>

   <h2>Student Registration</h2>
   <form>
      <table>
```

```
        <tr><td>Name:</td><td><input type="text"
required></td></tr> <tr><td>Password:</td><td><input
type="password" required></td></tr>
        <tr><td>Mobile:</td><td><input type="number" required></td></tr>
        <tr><td>DOB:</td><td><input type="date" required></td></tr>
        <tr>
            <td>Gender:</td>
            <td><input type="radio" name="g"> Male <input type="radio"
name="g"> Female</td>
        </tr>
        <tr>
            <td>Courses:</td>
            <td><input type="checkbox"> HTML <input type="checkbox">
CSS</td>
        </tr>
        <tr>
            <td>Department:</td>
            <td>
                <select>
                    <option>MCA</option>
                    <option>BCA</option>
                    <option>B.Tech</option>
                </select>
            </td>
        </tr>
        <tr><td>Address:</td><td><textarea
rows="2"></textarea></td></tr>
        <tr>
            <td colspan="2">
                <input type="submit"> <input type="reset">
            </td>
        </tr>
    </table>
  </form>
</body></html>
```

Output:


Student Registration
Name:
M ANJALI
Password:
Mobile:
8919295608
DOB:
26-05-2004
Gender:
Male
Female
Courses:
HTML
CSS
Department:
MCA
Address:
Ramalayam Street,
seetharamapuram
Submit
Reset

8. Write a HTML program, to explain the working of frames, such that page is to be divided into 3 parts on either direction. (Note: first frame image, second frame paragraph, third frame hyperlink. And also make sure of using "no frame" attribute such that frames to be fixed).

Program:

index.html – Main frameset page

```
<!DOCTYPE html>
<html>
<head>
   <title>Frames Example</title>
</head>
<frameset cols="33%,34%,33%" frameborder="1" noresize>
   <frame src="image.html" noresize>
   <frame src="paragraph.html" noresize>
   <frame src="link.html" noresize>
   <noframes>
      <body>Your browser does not support frames.</body> </noframes>
</frameset> </html>
```

image.html

```
<!DOCTYPE html>
<html>
<body style="margin:0; text-align:center; background-color: lightblue;">
   <img src="my_image.jpg" alt="Image 1" style="width:90%;
margin:10px;">
   <img src="University_2nd.jpg" alt="Image 2" style="width:90%;
margin:10px;">
</body>
</html>
```

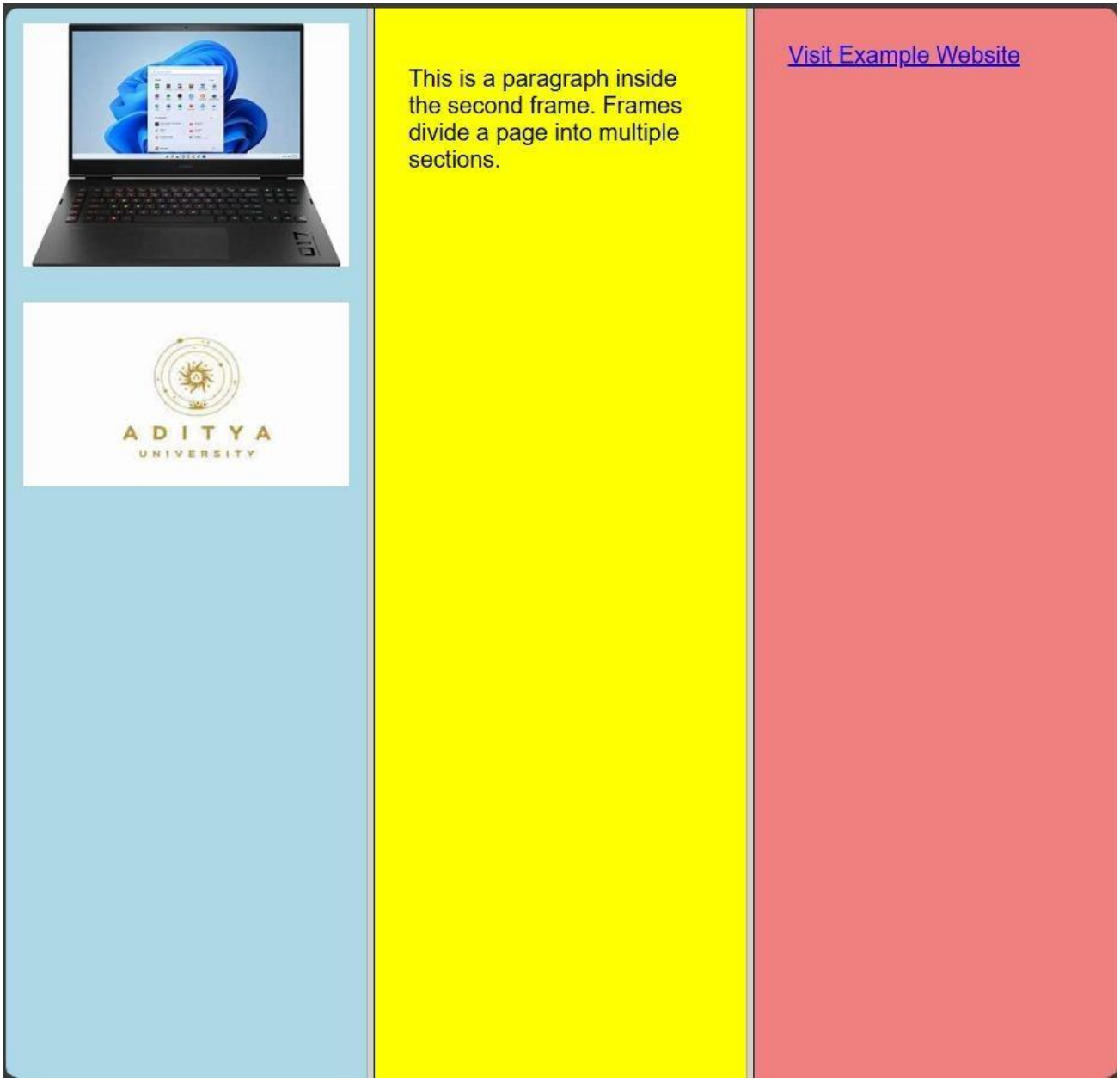
paragraph.html

```
<!DOCTYPE html>
<html>
<body style="font-family:sans-serif; padding:15px; background-color: chartreuse;">
    <p>This is a paragraph inside the second frame. Frames divide a page into multiple sections.</p>
</body>
</html>
```

link.html

```
<!DOCTYPE html>
<html>
<body style="font-family:sans-serif; padding:15px; background-color: lightcoral;">
    <a href="https://www.example.com" target="_blank">Visit Example Website</a>
</body>
</html>
```

Output:



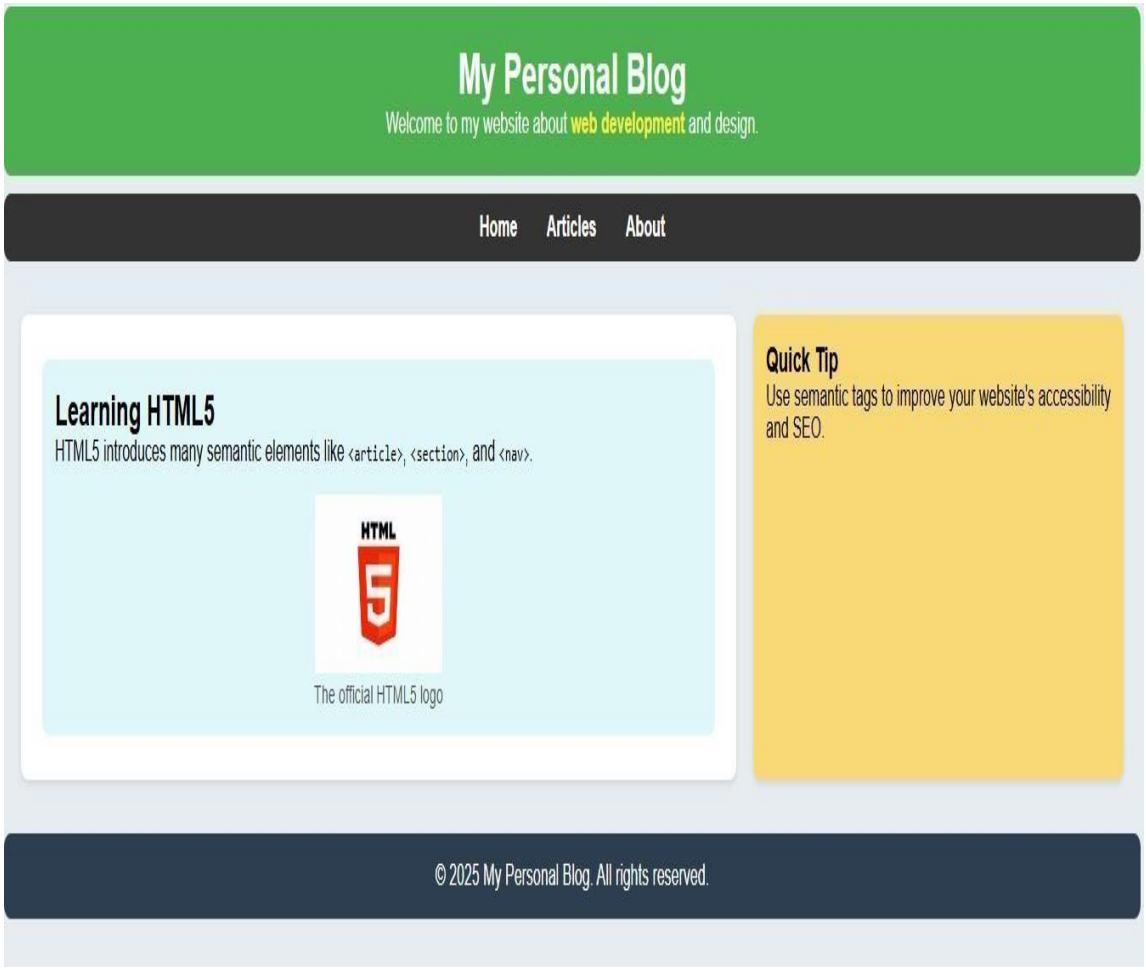
9. Write a HTML program, that makes use of <article>, <aside>, <figure>, <figcaption>, <footer>, <header>, <main>, <nav>, <section>, , tags.

Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>HTML5 Semantic Elements Example</title>
   <style>
      * {margin: 0; padding: 0; box-sizing: border-box;} body {font-
      family: Arial, sans-serif; background: #e6ecf0;} header, footer,
      nav, main, section, article, aside {margin: 10px;
border-radius: 8px;} header {background: #4CAF50; color: #fff;
      text-align: center;
padding: 20px;} nav {background: #333; text-align: center;
      padding: 10px;} nav a {color: #fff; margin: 0 15px; text-
      decoration: none; font-
weight: bold;} nav a:hover {color: #ffd700;} main
      {display: flex; flex-wrap: wrap; padding: 10px;}
      section, aside {padding: 15px; box-shadow: 0 2px
      5px
rgba(0,0,0,0.1);}    section    {flex:    2;
      background: #fff;} aside {flex: 1;
      background: #f9d976;}
      article {background: #e0f7fa; padding: 15px; border-radius: 8px;}
      figure {text-align: center; margin-top: 15px;} figcaption {font-
      size: 0.9em; color: #555;} .highlight {color: #ffeb3b; font-weight:
      bold;} footer {background: #2c3e50; color: #fff; text-align: center;
padding: 15px;} </style>
</head>
<body>
   <header>
      <h1>My Personal Blog</h1>
      <p>Welcome to my website about <span class="highlight">web
development</span> and design.</p>
   </header>
   <nav>
      <a href="#">Home</a>
      <a href="#">Articles</a>
      <a href="#">About</a>
```

```
    </nav>
    <main>
        <section>
            <article>
                <h2>Learning HTML5</h2>
                <p>HTML5 introduces many semantic elements like
<code>&lt;article&gt;</code>, <code>&lt;section&gt;</code>, and
<code>&lt;nav&gt;</code>.</p>
                <figure>
                    <img src="html_logo.jpg" alt="HTML5 Logo"
width="150">
                    <figcaption>The official HTML5 logo</figcaption> </figure>
            </article>
        </section>
        <aside>
            <h3>Quick Tip</h3>
            <p>Use semantic tags to improve your website's accessibility and
SEO.</p>
        </aside>
    </main>
    <footer>
        <p>&copy; 2025 My Personal Blog. All rights reserved.</p> </footer>

</body></html>
```

Output:

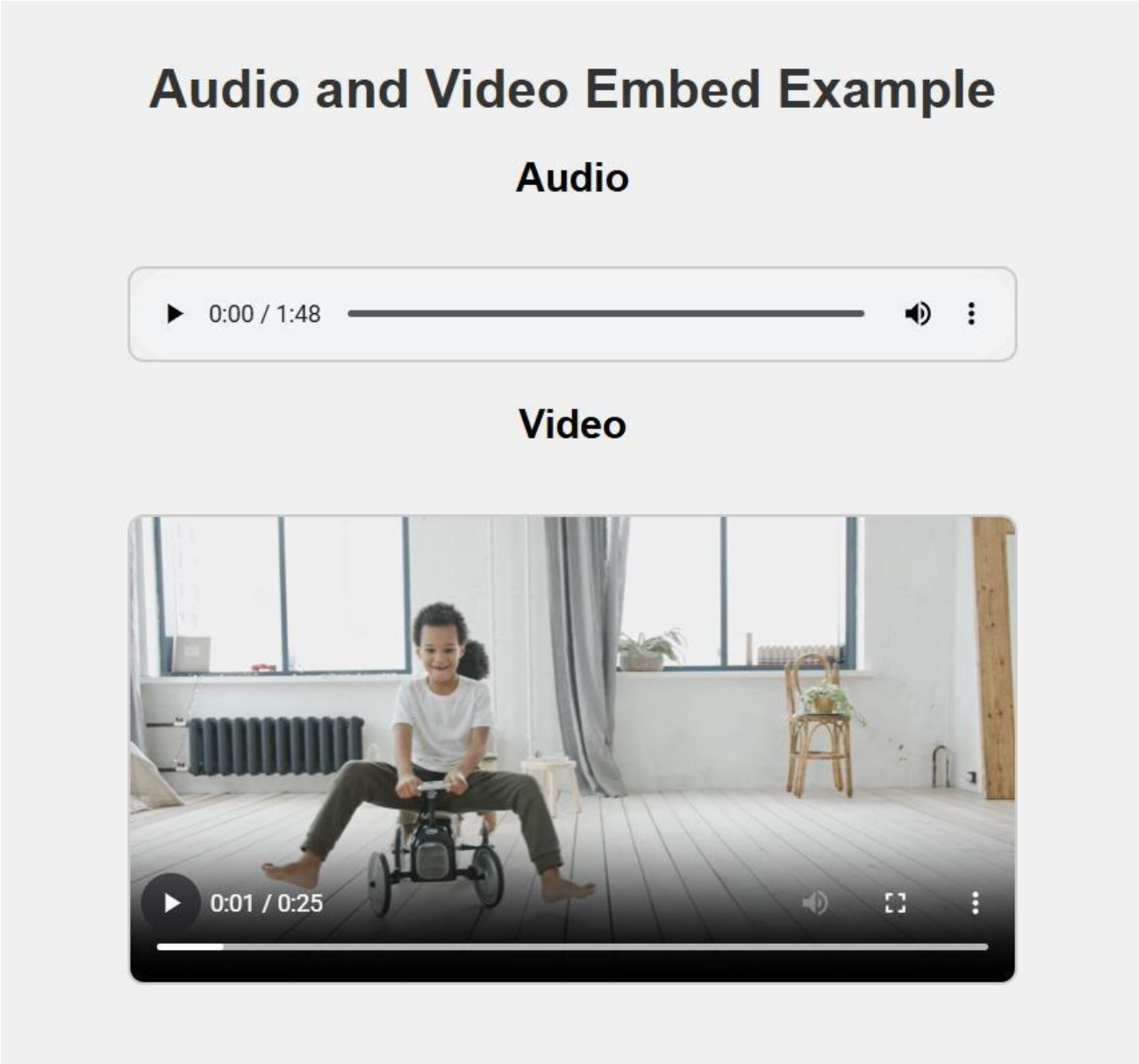


10. Write a HTML program, to embed audio and video into HTML web page Program:

```
<!DOCTYPE html>
<html lang="en">
```

```
<head>
   <meta charset="UTF-8">
   <title>Embed Audio and Video</title>
   <style> body { font-family: Arial, sans-serif; background-color:
      #f0f0f0;
text-align: center; padding: 40px; } h1
      { color: #333; }
      audio, video { margin-top: 20px; width: 80%; max-width: 600px;
border: 2px solid #ccc; border-radius: 10px; } </style>
</head>
<body>

   <h1>Audio and Video Embed Example</h1>

   <h2>Audio</h2>
   <audio controls>
      <source src="sample-audio.mp3" type="audio/mpeg"> Your
      browser does not support the audio element.
   </audio>

   <h2>Video</h2>
   <video controls>
      <source src="sample-video.mp4" type="video/mp4"> Your
      browser does not support the video tag.
   </video>

</body>
</html>
```

Output:



11. Write a program to apply different types (or levels of styles or style specification formats) - inline, internal, external styles to HTML elements. (identify selector, property and value).

Program:

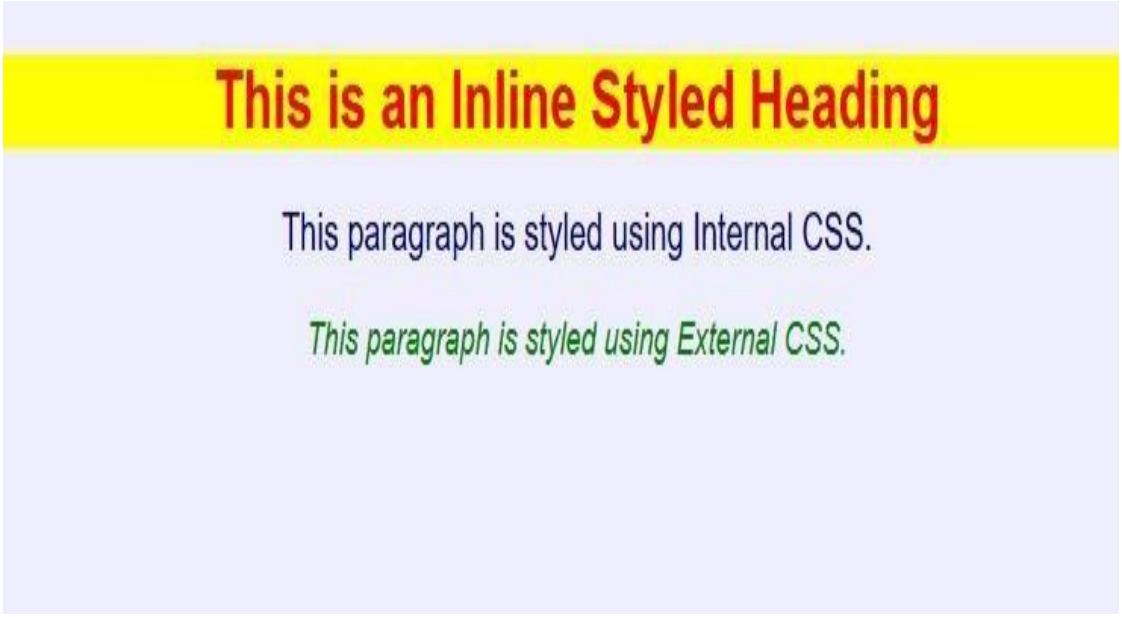
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>CSS Styling Example</title>

    <!-- Internal CSS -->
    <style> body { background-color: #eef; /* selector: body,
        property:
background-color, value: #eef */ font-family:
            Arial, sans-serif;
        }
        .internal-text { color: darkblue; /* selector: .internal-text, property:
            color, value:
darkblue  */  font-size:
            20px;
        }
    </style>

    <!-- Link to External CSS -->
    <link rel="stylesheet" href="style.css">
</head>
<body>

    <!-- Inline CSS -->
    <h1 style="color: red; background-color: yellow;">This is an Inline Styled
Heading</h1>

    <!-- Internal CSS -->
    <p class="internal-text">This paragraph is styled using Internal CSS.</p>

    <!-- External CSS -->
    <p class="external-text">This paragraph is styled using External CSS.</p>

</body>
```

```
</html>
```

style.css

```
/* selector: .external-text, property: color, value: green */
.external-text       {
   color:       green;
   font-style: italic;
   font-size: 18px;
}
```

Output:



12. Write a program to apply different types of selector forms i. Simple selector (element, id, class, group, universal) ii. Combinator selector (descendant, child, adjacent sibling, general sibling) iii. Pseudo-class selector iv. Pseudo-element selector v. Attribute selector

Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>CSS Selector Examples</title>
    <style>
        /* i. SIMPLE SELECTORS */

        /* Element selector */
        h1 { color: teal;
        }

        /* ID selector */
        #main-title { text-decoration:
            underline;
        }

        /* Class selector */
        .highlight { background-color:
            yellow;
        }
  /* Group selector */ h2,
        p {
            font-family: Arial, sans-serif;
        }

        /* Universal selector */
        *    {    margin:
            5px;
        }

        /* ii. COMBINATOR SELECTORS */

        /* Descendant selector */ div
        p {
```

```
    color: green;
}

/* Child selector */ ul
> li {
    font-weight: bold;
}

/* Adjacent sibling selector */ h3
+ p {
    color: darkorange;
}

/* General sibling selector */ h4
~ p {
    font-style: italic;
}
/* iii. PSEUDO-CLASS SELECTOR */ a:hover
{
    color: red; }

li:first-child {
    color: blue;
}

/* iv. PSEUDO-ELEMENT SELECTOR */
p::first-letter      {
    font-size: 24px;
    color: purple;
}

p::after {
    content: "  ";
}

/* v. ATTRIBUTE SELECTOR */
input[type="text"] {
```

```
        border: 2px solid blue;
      }

      a[target="_blank"] {
        background-color: #ddd;
      }
    </style>
</head>
<body>

    <h1 id="main-title">CSS Selector Demo</h1>

    <h2 class="highlight">Simple Selectors</h2>
    <p>This is a paragraph showing element and class selector.</p>

    <div>
      <p>This is inside a div — descendant selector.</p> </div>

    <ul>
      <li>First item (child selector)</li>
      <li>Second item</li>
    </ul>

    <h3>Sibling Selector Demo</h3>
    <p>This paragraph follows an h3 — adjacent sibling selector.</p>

    <h4>General Sibling Example</h4>
    <p>This follows h4 — general sibling selector.</p>
    <p>Another paragraph showing general sibling effect.</p>

    <a href="https://example.com" target="_blank">Hover me (pseudo- class
+ attribute selector)</a><br><br>

    <input type="text" placeholder="Type here (attribute selector)">

</body>
</html>
```

Output:

13. Write a program to demonstrate the various ways you can reference a color in CSS.

Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>CSS Color Reference Methods</title>
    <style>
        /* 1. Named Color */
        .named-color { color:
            blue;
        }

        /* 2. Hexadecimal Color */
        .hex-color { color:
            #FF5733;
        }

        /* 3. RGB Color */
        .rgb-color      {      color:
            rgb(255, 99, 71);
        }

        /* 4. RGBA Color (with transparency) */
        .rgba-color       {       color:
            rgba(255, 0, 0, 0.5);
        }
/* 5. HSL Color */
        .hsl-color   {   color:   hsl(120,
            100%, 25%);
        }

        /* 6. HSLA Color (with transparency) */
        .hsla-color { color: hsla(240, 100%,
            50%, 0.5);
        }
    </style>
</head>
<body style="font-family: sans-serif; line-height: 1.8;">
```

```
    <h2 class="named-color">1. Named Color: blue</h2>
    <h2 class="hex-color">2. Hexadecimal Color: #FF5733</h2>
    <h2 class="rgb-color">3. RGB Color: rgb(255, 99, 71)</h2>
    <h2 class="rgba-color">4. RGBA Color: rgba(255, 0, 0, 0.5)</h2>
    <h2 class="hsl-color">5. HSL Color: hsl(120, 100%, 25%)</h2>
    <h2 class="hsla-color">6. HSLA Color: hsla(240, 100%, 50%,
0.5)</h2>

</body>
</html>
```

Output:

1. Named Color: blue

2. Hexadecimal Color: #FF5733

3. RGB Color: rgb(255, 99, 71)

4. RGBA Color: rgba(255, 0, 0, 0.5)

5. HSL Color: hsl(120, 100%, 25%)

6. HSLA Color: hsla(240, 100%, 50%, 0.5)

14. Write a CSS rule that places a background image halfway down the page, tilting it horizontally. The image should remain in place when the user scrolls up or down.

Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Background Image Halfway Down</title>
   <style> body {
      margin: 0;
         font-family: Arial, sans-serif;
         height: 2000px; /* Add height to enable scrolling */
      }

      .bg-half { position:
         fixed;
         top: 50%;
         left: 0;
         width: 100%; height:
         300px;
         background-image: url("your-image.jpg"); /* Replace with your
image      */      background-repeat:      no-repeat;
         background-position: center; background-
         size: cover; transform: scaleX(-1); /* Flip
         horizontally */ z-index: -1;
         pointer-events: none; /* Allow interaction with page content */ }

  .content  {  padding:
         20px;
      }
   </style>
</head>
<body>
```

```
    <div class="bg-half"></div>

    <div class="content">
        <h1>Scroll Down</h1>
        <p>This is a demonstration of a background image placed halfway down the page, flipped horizontally, and fixed in place while scrolling.</p>
        <p>Keep scrolling to see the effect...</p>
    </div>

</body>
</html>
```

Output:

Scroll Down

This is a demonstration of a background image placed halfway down the page, flipped horizontally, and fixed in place while scrolling.

Keep scrolling to see the effect...

15. Write a program using the following terms related to CSS font and text:
i. font-size ii. font-weight iii. font-style iv. text-decoration v. text-transformation vi. text-alignment

Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>CSS Font & Text Styling Showcase</title>
   <style> body { font-family: 'Segoe UI', Tahoma, Geneva, Verdana,
      sans-serif; background: linear-gradient(to right, #e0f7fa,
      #fff3e0); margin: 0; padding: 40px; color: #333;
      }

      header {
         background-color: #00acc1;
         color:            white;
         padding:          20px;
         border-radius:
         10px;      text-align:
         center;
      }

      header h1 {
         font-size: 36px; /* i. font-size */ font-weight: 700;
         /* ii. font-weight */ font-style: italic; /* iii. font-
         style */ text-transform: uppercase; /* v. text-
         transform */ text-decoration: underline; /* iv. text-
         decoration */ margin: 0;
      }
      .content { background-color:
         #ffffffaa; padding: 25px;
         margin-top: 30px; border-
         radius: 12px;
```

```
        box-shadow: 0 4px 10px rgba(0,0,0,0.1);
    }

    p {
        font-size: 18px;
        line-height: 1.6;
        text-align: justify; /* vi. text-align */ text-
    transform: capitalize; /* v. text-transform */ }

    .highlight { font-
        weight: 600; font-
        style: oblique;
        color: #d84315;
        text-decoration: line-through;
    }

    footer {
        margin-top: 40px;
        text-align: center;
        font-size: 14px;
        color: #555;
        text-decoration: overline;
    }
  </style>
</head>
<body>

  <header>
    <h1>css text & font styling magic</h1> </header>
  <div class="content">
    <p>
      Welcome to the world of <span class="highlight">beautiful
typography</span> using CSS! With just a few lines of code, you can
transform ordinary text into a stunning design element.
Explore how text size, weight, style, alignment, decoration, and
      transformation can enhance your
content visually and semantically.
```

```
        </p>
    </div>

    <footer>
        © 2025 Text Styling by CSS – Practice Makes Perfect </footer>

</body>
</html>
```

Output:


CSS TEXT & FONT STYLING MAGIC
Welcome To The World Of Beautiful Typography Using CSS! With Just A Few Lines Of Code, You Can Transform Ordinary Text Into A Stunning Design Element. Explore How Text Size, Weight, Style, Alignment, Decoration, And Transformation Can Enhance Your Content Visually And Semantically.
© 2025 Text Styling by CSS – Practice Makes Perfect

16. Write a program, to explain the importance of CSS Box model using
i. Content ii. Border iii. Margin iv. padding

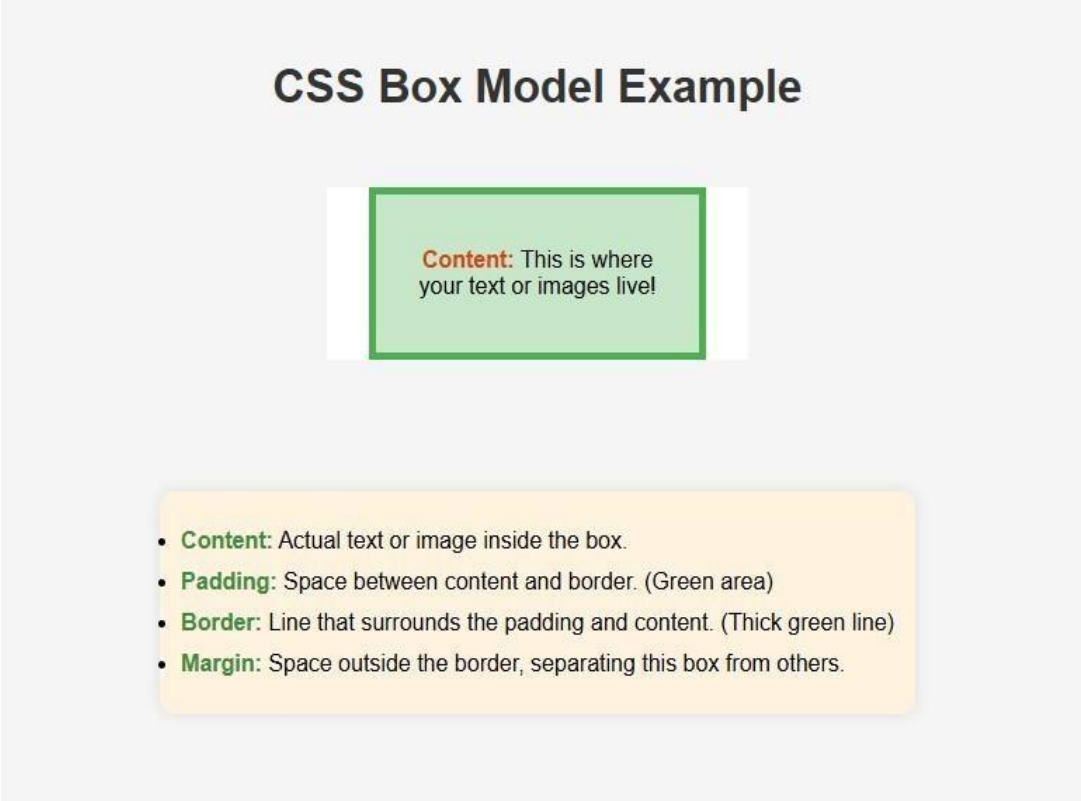
Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>CSS Box Model Demo</title>
    <style> body { font-family: Arial,
        sans-serif;    background-color:
        #f5f5f5;  padding:  40px;  text-
        align: center;
        }  h1  {  color:
        #333;
        }
        .box-model-container {
            margin: 50px auto; width:
            300px;
            background-color: #fff;
        }
        .box {
            margin: 30px;                    /* iv. Margin (outside spacing)
*/
            border: 5px solid #4caf50;     /* ii. Border */
            padding: 20px;                    /* iii. Padding (inside spacing)
*/
            background-color: #c8e6c9;     /* Content background */
            color: #000; }

        .box  span  {  font-
            weight:       bold;
            color: #d84315;
        }
```

```
        .legend { text-align:
            left; margin-top:
            40px; display: inline-
            block; background:
            #fff3e0; padding:
            15px; border-radius:
            10px;
            box-shadow: 0 0 10px rgba(0,0,0,0.1); }

        .legend li { margin:
            10px 0;
        }

        .legend li span {
            font-weight: bold;
            color: #388e3c;
        }
    </style>
</head>
<body>

    <h1>CSS Box Model Example</h1>

    <div class="box-model-container">
        <div class="box">
            <p><span>Content:</span> This is where your text or images
live!</p>
        </div>
    </div>
    <ul class="legend">
        <li><span>Content:</span> Actual text or image inside the box.</li>
        <li><span>Padding:</span> Space between content and border.
(Green area)</li>
        <li><span>Border:</span> Line that surrounds the padding and content.
(Thick green line)</li>
        <li><span>Margin:</span> Space outside the border, separating
this box from others.</li> </ul>
```

</body>
</html>

Output:


CSS Box Model Example
Content: This is where your text or images live!
Content: Actual text or image inside the box.
Padding: Space between content and border. (Green area)
Border: Line that surrounds the padding and content. (Thick green line)
Margin: Space outside the border, separating this box from others.

17. Write a program to embed internal and external JavaScript in a web page.

Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Internal and External JavaScript</title>
   <style> body { font-family: Arial,
      sans-serif;  text-align:  center;
      margin-top: 50px;
      }

      button { margin: 10px;
         padding: 10px 20px;
         font-size:       16px;
         cursor: pointer;
      }
   </style>
</head>
<body>

   <h1>JavaScript Integration Example</h1>

   <!-- Button to trigger internal JavaScript -->
   <button onclick="internalFunction()">Run Internal JS</button>

   <!-- Button to trigger external JavaScript -->
   <button onclick="externalFunction()">Run External JS</button>

   <!-- Internal JavaScript -->
   <script>
      function internalFunction() {
         alert("Hello from Internal JavaScript!");
      }
```

```
    </script>

    <!-- External JavaScript file -->
    <script src="script.js"></script>

</body>
</html>
```

External JavaScript File (script.js)

```
function externalFunction() {
    alert("Hello from External JavaScript!"); }
```

Output:


JavaScript Integration Example
Run Internal JS
Run External JS

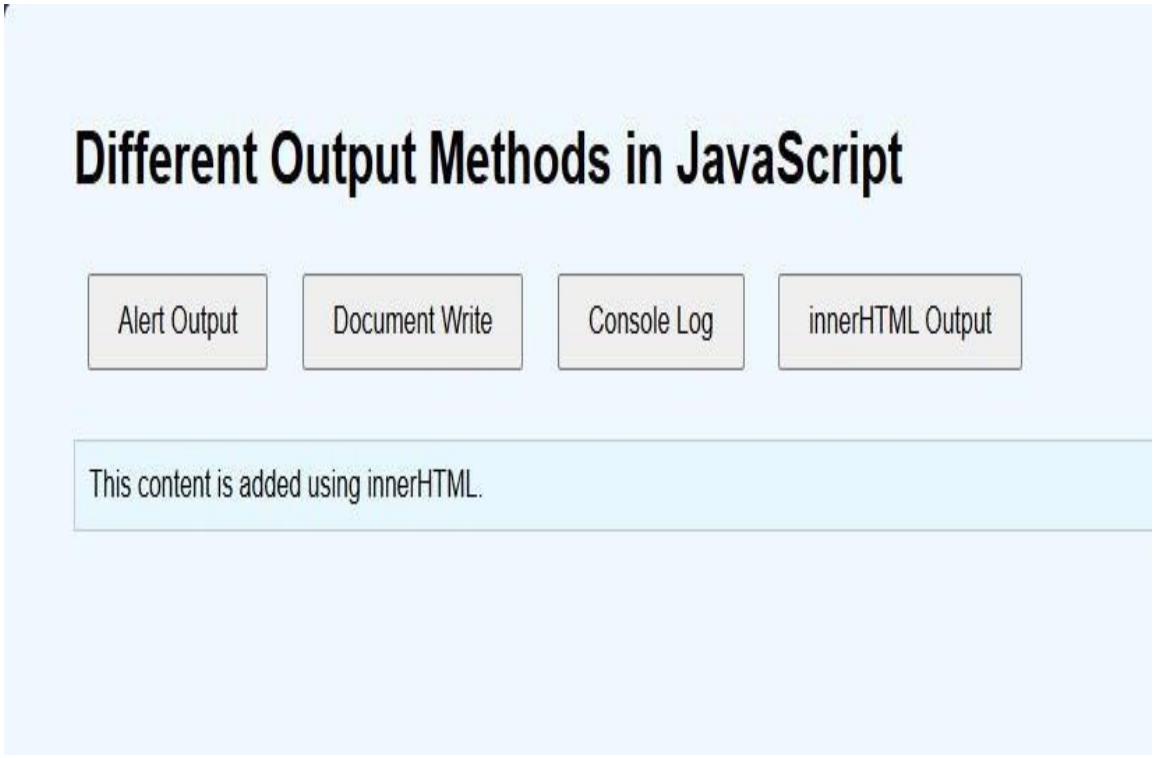
18. Write a program to explain the different ways for displaying output.

Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>JavaScript Output Methods</title>
    <style> body { font-family: Arial,
        sans-serif; margin: 50px;
            background-color: #f0f8ff;
        }

        button {
            padding: 10px 20px;
            margin: 10px; font-
            size: 16px; cursor:
            pointer;
        }

        #output { margin-top: 20px;
            padding: 10px; border: 1px
            solid #ccc; background-
            color: #e6f7ff;
        }
    </style>
</head>
<body>

    <h1>Different Output Methods in JavaScript</h1>

    <button onclick="showAlert()">Alert Output</button>
    <button onclick="writeDocument()">Document Write</button>
    <button onclick="writeConsole()">Console Log</button>
    <button onclick="writeInnerHTML()">innerHTML Output</button>
```

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

    <script> function showAlert() {
        alert("This is an alert box!");
        }

        function writeDocument() { document.write("This text is written
            using document.write().");
        }

        function writeConsole() { console.log("This message is
            logged in the console.");
        }

        function writeInnerHTML() {
            document.getElementById("output").innerHTML = "This
content is added using innerHTML.";
        }
    </script>

</body>
</html>
```

Output:


Different Output Methods in JavaScript
Alert Output
Document Write
Console Log
innerHTML Output
This content is added using innerHTML.

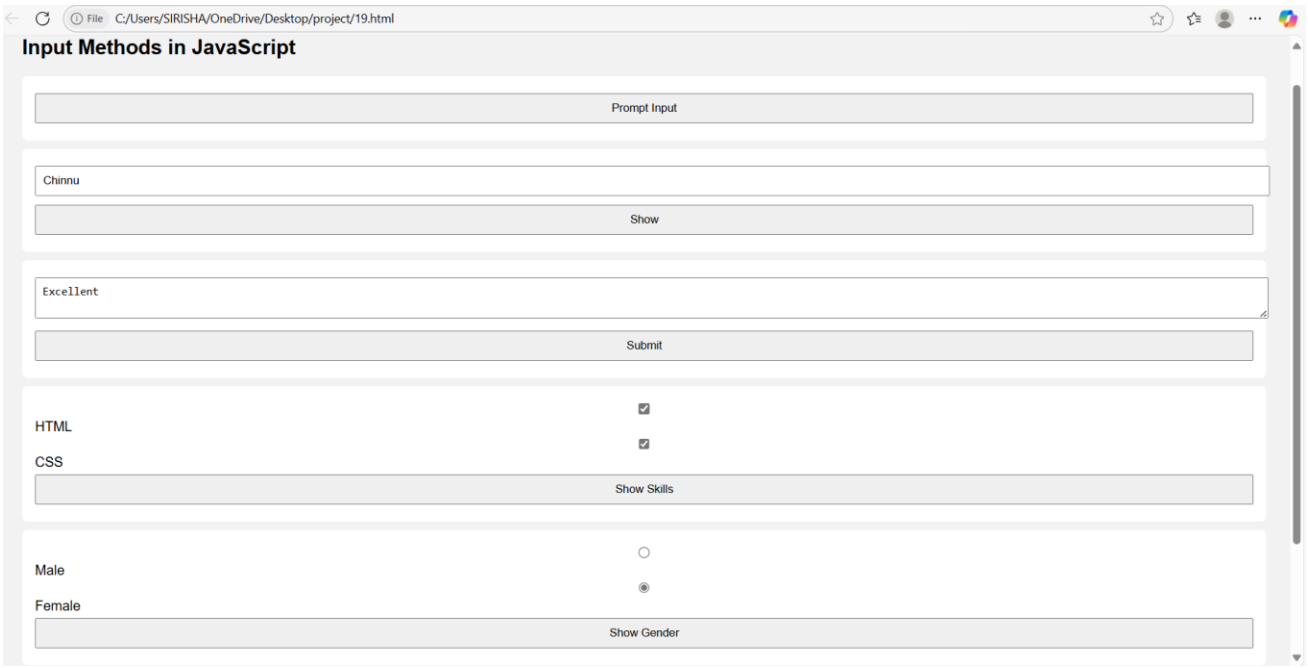
19. Write a program to explain the different ways for taking input.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Input Methods</title>
   <style> body { font-family: sans-serif; background: #f2f2f2;
      padding:
20px; } input, textarea, select, button { margin: 5px 0; width:
      100%;
padding: 8px; } div { background: #fff; padding: 15px; margin-
      bottom: 10px;
border-radius: 6px; } </style>
</head>
<body>

   <h2>Input Methods in JavaScript</h2>

   <div>
      <button onclick="let name=prompt('Your name?'); alert('Hi, ' +
name);">Prompt Input</button>
   </div>

   <div>
      <input type="text" id="txt" placeholder="Enter name">
      <button onclick="alert('Hello ' + txt.value)">Show</button> </div>
  <div>
      <textarea id="ta" placeholder="Your feedback..."></textarea>
      <button onclick="alert('Feedback: ' + ta.value)">Submit</button>
   </div>

   <div>
      <label><input type="checkbox" id="c1"> HTML</label>
      <label><input type="checkbox" id="c2"> CSS</label>
```

```
    <button onclick="alert('Skills: ' + (c1.checked?'HTML ':'') +
(c2.checked?'CSS':''))">Show Skills</button>
  </div>

  <div>
    <label><input type="radio" name="g" value="Male">
Male</label>
    <label><input type="radio" name="g" value="Female">
Female</label>
    <button onclick="alert('Gender: ' +
document.querySelector('input[name=g]:checked')?.value)">Show
Gender</button>
  </div>

  <div>
    <select id="country">

<option>India</option><option>USA</option><option>UK</option>
    </select>
    <button onclick="alert('Country: ' + country.value)">Select</button>
  </div>

</body>
</html>
```

Output:


File C:/Users/SIRISHA/OneDrive/Desktop/project/19.html
Input Methods in JavaScript
Prompt Input
Chinnu
Show
Excellent
Submit
HTML
CSS
Show Skills
Male
Female
Show Gender

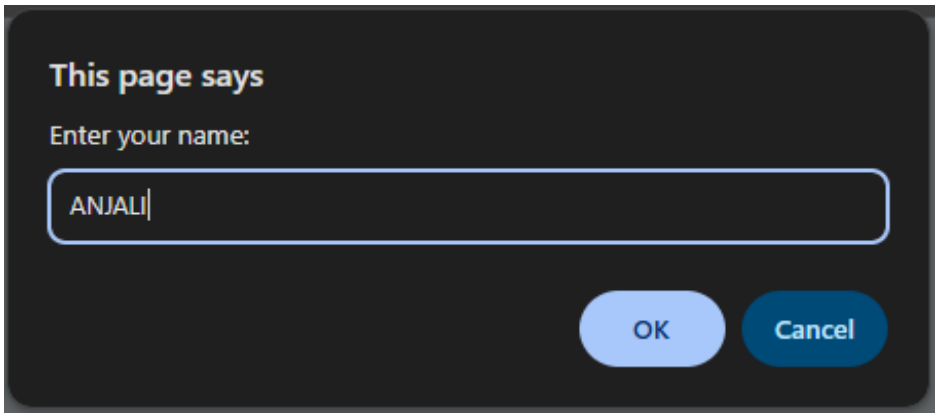
20. Create a web-page which uses prompt dialogue box to ask a voter for his name and age. Display the information in table format along with either the voter can vote or not.

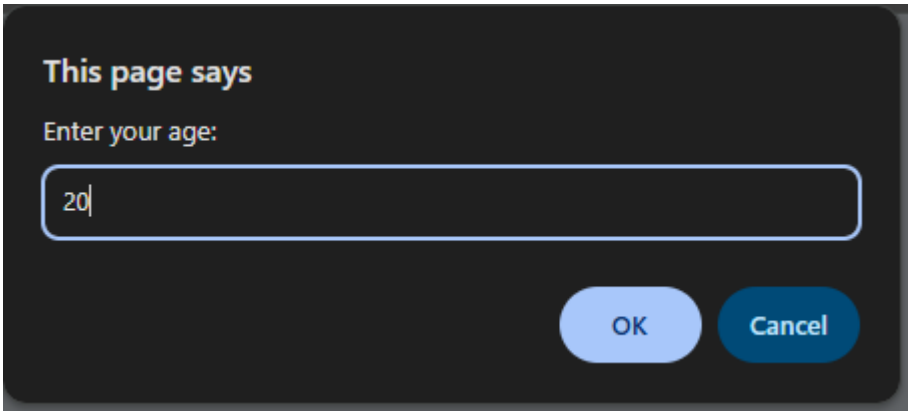
Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>Voter Eligibility</title>
   <style> body { font-family: Arial,
      sans-serif;              background:
      #f2f2f2;  padding:  40px;  text-
      align: center;
      } table
      {
         margin: 20px auto; border-collapse:
         collapse;
         width: 60%; background:
         #fff;
      }
      th, td { border: 1px solid
         #ccc;
         padding: 12px;
      }
      th {
         background-color: #4CAF50;
         color: white;
      }  td  {  font-weight:
      bold;
      }
   </style>
</head>
<body>

<h2>Voter Eligibility Check</h2>
```

```
<table id="resultTable" style="display:none;">
   <tr><th>Name</th><th>Age</th><th>Status</th></tr>
   <tr>
      <td id="nameCell"></td>
      <td id="ageCell"></td>
      <td id="statusCell"></td>
   </tr>
</table>

<script> let name = prompt("Enter your
   name:");
   let age = parseInt(prompt("Enter your age:"));

   if (name && !isNaN(age)) {
      document.getElementById("nameCell").innerText = name;
      document.getElementById("ageCell").innerText = age;
      document.getElementById("statusCell").innerText = (age >= 18) ?
"Eligible to Vote" : "Not Eligible";
      document.getElementById("resultTable").style.display = "table";
   } else { alert("Invalid input! Please reload and enter correct
   details."); }
</script>

</body>
</html>
```

Output:





Voter Eligibility Check

Name	Age	Status
ANJALI	20	Eligible to Vote

21. Write a program using document object properties and methods.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Document Object Demo</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>Document Object Demo</h2>
   <button onclick="showDetails()">Show Document
Details</button>
   <div id="output" style="margin-top: 20px; border: 1px solid
#ccc; padding: 10px;"></div>

   <script>              function
      showDetails() { let info
      = `
            <strong>Title:</strong> ${document.title}<br>
            <strong>URL:</strong> ${document.URL}<br>
            <strong>Last Modified:</strong>
${document.lastModified}<br>
           <strong>Domain:</strong> ${document.domain}<br>
            <strong>Body          Inner          HTML:</strong><br>
${document.body.innerHTML.slice(0, 100)}...
         `;
         document.getElementById("output").innerHTML      =      info;
         document.body.style.backgroundColor = "#f0f8ff"; // using
document.body
      }
   </script>
</body>
</html>
```

Output:

Document Object Demo

Show Document Details

Title: Document Object Demo
URL: http://127.0.0.1:5500/MERN_MANUAL/UNIT-3/5th.html
Last Modified: 05/18/2025 12:55:32
Domain: 127.0.0.1
Body Inner HTML:

Document Object Demo

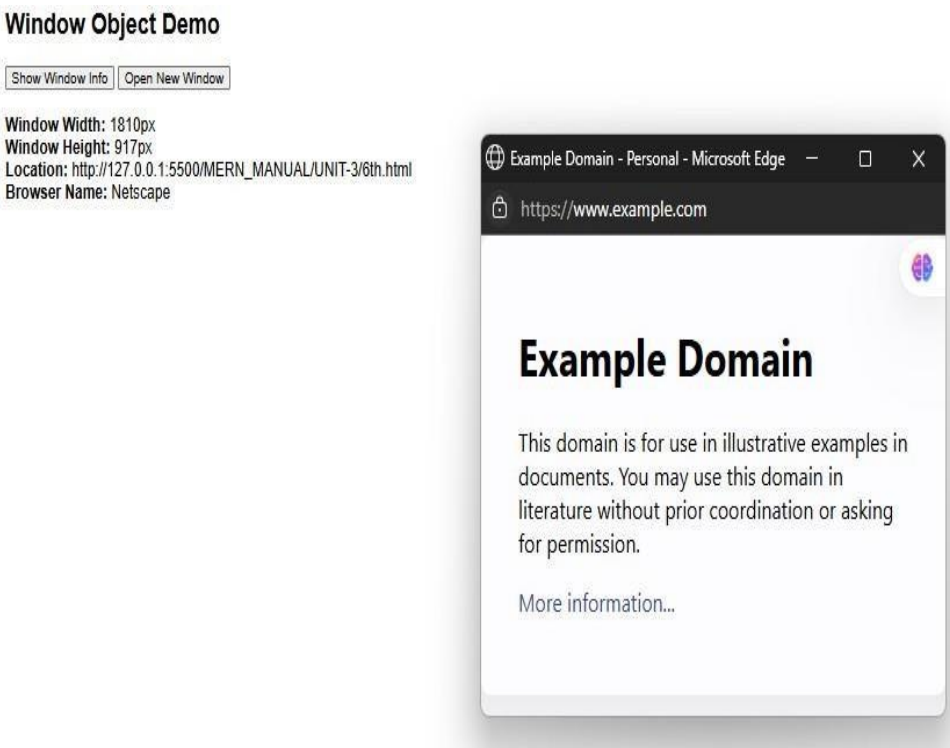
Show Document Details ...

22. Write a program using window object properties and methods.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Window Object Demo</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>Window Object Demo</h2>
   <button onclick="showInfo()">Show Window Info</button>
   <button onclick="openNewWindow()">Open New
Window</button>
   <div id="output" style="margin-top: 20px;"></div>
   <script>          function
      showInfo() { let info
      = `
            <strong>Window Width:</strong>
${window.innerWidth}px<br>
            <strong>Window Height:</strong>
${window.innerHeight}px<br>
           <strong>Location:</strong> ${window.location.href}<br>
            <strong>Browser Name:</strong>
${window.navigator.appName}
         `;
         document.getElementById("output").innerHTML = info;
      }

      function openNewWindow() {
         window.open("https://www.example.com", "_blank",
"width=400,height=300");
      }
   </script> </body>
</html>
```

Output:


Window Object Demo
Show Window Info
Open New Window
Window Width: 1810px
Window Height: 917px
Location: http://127.0.0.1:5500/MERN_MANUAL/UNIT-3/6th.html
Browser Name: Netscape
Example Domain - Personal - Microsoft Edge
https://www.example.com
Example Domain
This domain is for use in illustrative examples in documents. You may use this domain in literature without prior coordination or asking for permission.
More information...

23. Write a program using array object propertiesand methods.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Array Methods Demo</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>Array Object Demo</h2>
   <button onclick="showArrayInfo()">Show Array Info</button>
   <div id="output" style="margin-top: 20px;"></div>
   <script> function showArrayInfo() { let fruits =
      ["Apple", "Banana", "Cherry"];
         // Use of Array methods and properties
         fruits.push("Mango");                    // Add element
         let removed = fruits.pop();         // Remove last element
         fruits.unshift("Grapes");   // Add to beginning let joined
         = fruits.join(", "); // Join elements
let info = `
            <strong>Original Array:</strong> Apple, Banana,
  Cherry<br>
            <strong>After Push & Pop:</strong> ${fruits}<br>
            <strong>Removed Element:</strong> ${removed}<br>
            <strong>Joined:</strong> ${joined}<br>
            <strong>Length:</strong> ${fruits.length}<br>
            <strong>Sorted:</strong> ${fruits.sort().join(", ")}
         `;
         document.getElementById("output").innerHTML = info;
      }
   </script>
</body></html>
```

Output:

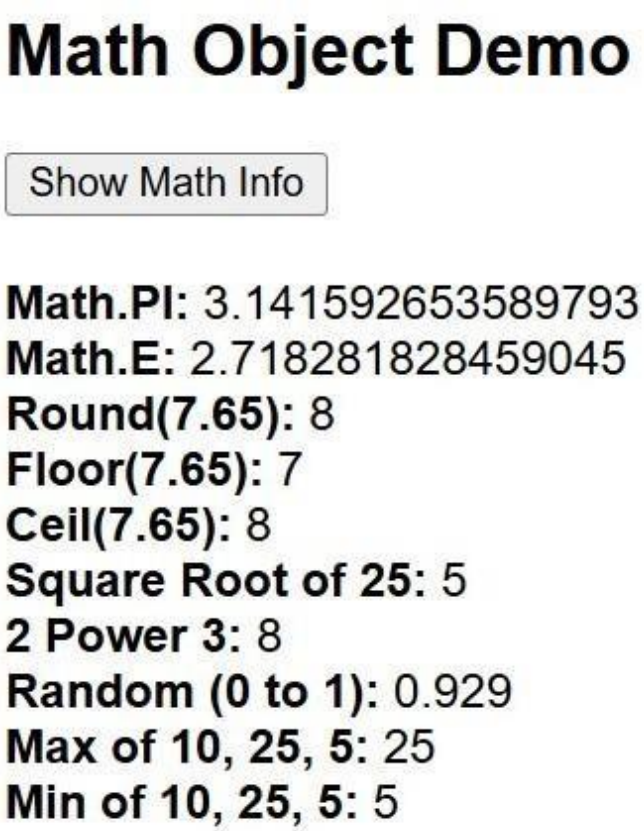

Array Object Demo
Show Array Info
Original Array: Apple, Banana, Cherry
After Push & Pop: Grapes,Apple,Banana,Cherry
Removed Element: Mango
Joined: Grapes, Apple, Banana, Cherry
Length: 4
Sorted: Apple, Banana, Cherry, Grapes

24. Write a program using math object properties and methods.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Math Object Demo</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>Math Object Demo</h2>
   <button onclick="showMathOperations()">Show Math
Info</button>
   <div id="output" style="margin-top: 20px;"></div>
   <script>                          function
      showMathOperations()    {    let
      number = 7.65;
         let info = `
            <strong>Math.PI:</strong> ${Math.PI}<br>
            <strong>Math.E:</strong> ${Math.E}<br>
            <strong>Round(${number}):</strong>
${Math.round(number)}<br>
            <strong>Floor(${number}):</strong>
${Math.floor(number)}<br>
            <strong>Ceil(${number}):</strong>
${Math.ceil(number)}<br>
            <strong>Square Root of 25:</strong> ${Math.sqrt(25)}<br>
            <strong>2 Power 3:</strong> ${Math.pow(2, 3)}<br>
            <strong>Random (0 to 1):</strong>
${Math.random().toFixed(3)}<br>
            <strong>Max of 10, 25, 5:</strong> ${Math.max(10, 25,
5)}<br>
            <strong>Min of 10, 25, 5:</strong> ${Math.min(10, 25, 5)} `;
   document.getElementById("output").innerHTML        =        info;}
   </script></body> </html>
```

Output:


Math Object Demo
Show Math Info
Math.PI: 3.141592653589793
Math.E: 2.718281828459045
Round(7.65): 8
Floor(7.65): 7
Ceil(7.65): 8
Square Root of 25: 5
2 Power 3: 8
Random (0 to 1): 0.929
Max of 10, 25, 5: 25
Min of 10, 25, 5: 5

25. Write a program using string object properties and methods.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>String Object Demo</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>String Object Demo</h2>
   <button onclick="showStringMethods()">Show String
Info</button>
   <div id="output" style="margin-top: 20px;"></div>
   <script>                        function
      showStringMethods() { let str =
      " Hello JavaScript! ";
         let info = `
            <strong>Original String:</strong> "${str}"<br>
            <strong>Length:</strong> ${str.length}<br>
            <strong>Trimmed:</strong> "${str.trim()}"<br>
            <strong>Uppercase:</strong> ${str.toUpperCase()}<br>
            <strong>Lowercase:</strong> ${str.toLowerCase()}<br>
            <strong>Substring (7, 17):</strong> ${str.substring(7,
17)}<br>
            <strong>Index of 'Java':</strong>
${str.indexOf("Java")}<br>
            <strong>Replace 'JavaScript' with 'HTML':</strong>
${str.replace("JavaScript", "HTML")}<br>
            <strong>Split by space:</strong> ${str.trim().split(" ")}`;
         document.getElementById("output").innerHTML = info;
      }
```

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

Output:


String Object Demo
Show String Info
Original String: " Hello JavaScript! "
Length: 19
Trimmed: "Hello JavaScript!"
Uppercase: HELLO JAVASCRIPT!
Lowercase: hello javascript!
Substring (7, 17): JavaScript
Index of 'Java': 7
Replace 'JavaScript' with 'HTML': Hello HTML!
Split by space: Hello,JavaScript!

26. Write a program using regex object properties and methods.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>RegExp Demo</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>RegExp Object Demo</h2>
   <button onclick="testRegex()">Run Regex Test</button>
   <div id="output" style="margin-top: 20px;"></div>

   <script> function testRegex() { const text = "The rain in Spain
      stays mainly in the plain."; const pattern = /ain/g;

         const result = `
            <strong>Original Text:</strong> ${text}<br>
            <strong>Pattern:</strong> /ain/g<br>
            <strong>Test 'Spain':</strong> ${/Spain/.test(text)}<br>
            <strong>Match all 'ain':</strong> ${text.match(pattern)}<br>
            <strong>First index of 'ain':</strong>
${text.search(/ain/)}<br>
            <strong>Replace 'ain' with '**':</strong>
${text.replace(pattern, "**")}<br>
         `;

         document.getElementById("output").innerHTML = result;
      }
   </script>
</body></html>
```

Output:

RegExp Object Demo

Run Regex Test

Original Text: The rain in Spain stays mainly in the plain.
Pattern: /ain/g
Test 'Spain': true
Match all 'ain': ain,ain,ain,ain
First index of 'ain': 5
Replace 'ain' with '':** The r** in Sp** stays m**ly in the pl**.

27. Write a program using date object properties and methods.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Date Object Demo</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>Date Object Demo</h2>
   <button onclick="showDateInfo()">Show Date Info</button>
   <div id="output" style="margin-top: 20px;"></div>

   <script>                function
      showDateInfo()   {   const
      now = new Date(); const
      output = `
            <strong>Full Date & Time:</strong> ${now} <br>
            <strong>Year:</strong> ${now.getFullYear()} <br>
            <strong>Month (0-11):</strong> ${now.getMonth()} <br>
            <strong>Date:</strong> ${now.getDate()} <br>
            <strong>Day (0-6):</strong> ${now.getDay()} <br>
            <strong>Hours:</strong> ${now.getHours()} <br>
            <strong>Minutes:</strong> ${now.getMinutes()} <br>
            <strong>Seconds:</strong> ${now.getSeconds()} <br>
            <strong>Milliseconds:</strong> ${now.getMilliseconds()}
<br>
            <strong>Time in ms since Jan 1, 1970:</strong>
${now.getTime()}
         `;
```

```
            document.getElementById("output").innerHTML = output;
        }
    </script>
</body>
</html>
```

Output:


Date Object Demo
Show Date Info
Full Date & Time: Sun May 18 2025 13:26:35 GMT+0530 (India Standard Time)
Year: 2025
Month (0-11): 4
Date: 18
Day (0-6): 0
Hours: 13
Minutes: 26
Seconds: 35
Milliseconds: 598
Time in ms since Jan 1, 1970: 1747554995598

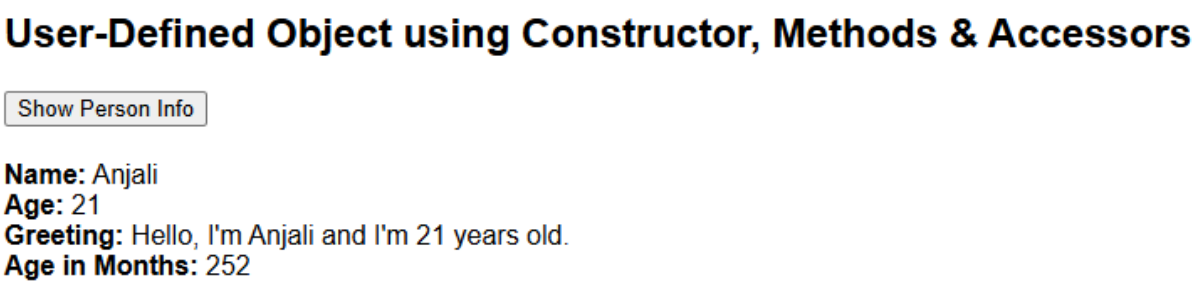
28. Write to explain user-defined object by using properties, methods, accessors, constructors and display.

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>User-Defined Object Example</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>
       User-Defined Object using Constructor, Methods & Accessors
   </h2>
   <button onclick="showPerson()">Show Person Info</button> <div
   id="info" style="margin-top: 20px;"></div>

   <script>
      // Constructor Function function
      Person(name, age) {
         this.name = name; this.age
         = age;

         // Method this.greet =
         function() {
            return `Hello, I'm ${this.name} and I'm ${this.age} years
old.`;
         };

         // Accessor - getter
         this.getAgeInMonths = function() { return
            this.age * 12;
         };
         // Accessor - setter
```

```
        this.setName = function(newName) {
            this.name = newName;
        };
    }

    // Create object using constructor const
    person1 = new Person("Anjali", 21);

    function showPerson() { //
        Modify name using setter
        person1.setName("Anjali");

        // Display data
        document.getElementById("info").innerHTML = `
            <strong>Name:</strong> ${person1.name} <br>
            <strong>Age:</strong> ${person1.age} <br>
            <strong>Greeting:</strong> ${person1.greet()} <br>
            <strong>Age in Months:</strong>
    ${person1.getAgeInMonths()}
        `;
    }
  </script>
</body>
</html>
```

Output:

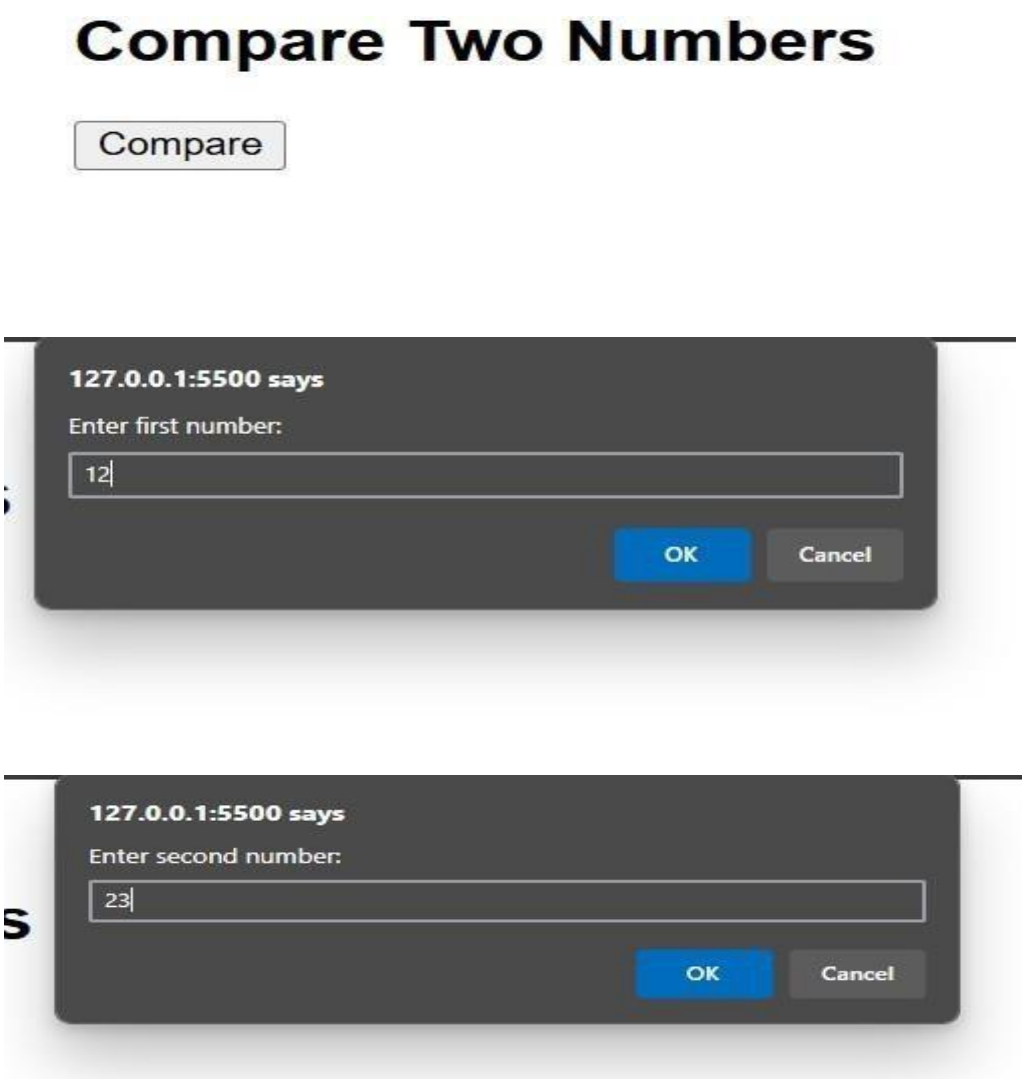

User-Defined Object using Constructor, Methods & Accessors
Show Person Info
Name: Anjali
Age: 21
Greeting: Hello, I'm Anjali and I'm 21 years old.
Age in Months: 252

29. Write a which asks the user to enter three integers, obtains the numbers from the user and outputs HTML text that displays the larger number followed by the words "LARGER NUMBER" in an information message dialog. If the numbers are equal, output HTML text as "EQUAL NUMBERS".

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Compare Two Numbers</title>
</head>
<body style="font-family: Arial; padding: 20px;">
   <h2>Compare Two Numbers</h2>
   <button onclick="compareNumbers()">Compare</button> <div
   id="result" style="margin-top: 20px; font-weight:
bold;"></div>
   <script> function compareNumbers() { let num1 =
      parseFloat(prompt("Enter first number:")); let num2 =
      parseFloat(prompt("Enter second number:")); let message = "";
         if (num1 > num2) {
            message = `${num1} - LARGER NUMBER`;
         } else if (num2 > num1) { message = `${num2} -
            LARGER NUMBER`;
         } else {
            message = "EQUAL NUMBERS";
         }
         alert(message); // Info dialog
         document.getElementById("result").innerHTML = message;
      }
   </script>
</body>
</html>
```

Output:


Compare Two Numbers
Compare
127.0.0.1:5500 says
Enter first number:
12
OK
Cancel
127.0.0.1:5500 says
Enter second number:
23
OK
Cancel

Compare Two Numbers

Compare

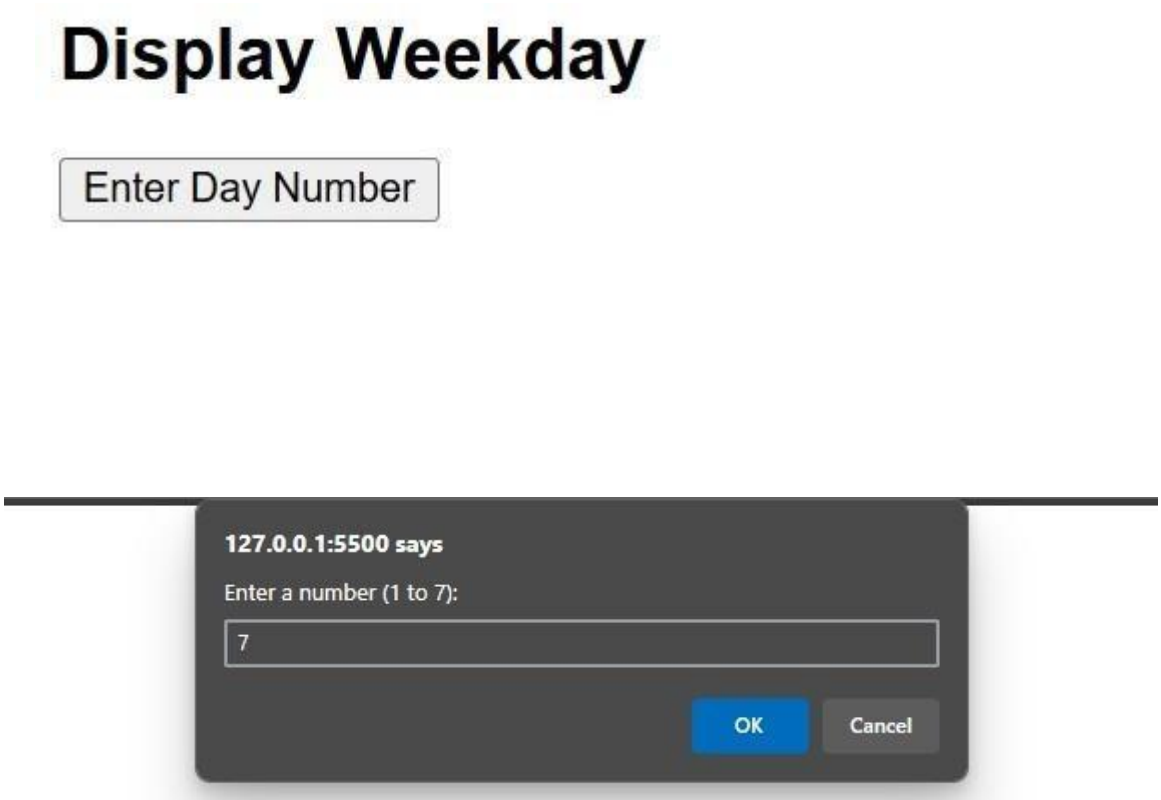
23 - LARGER NUMBER

30. Write a program to display week days using switch case.

Program:

```
<!DOCTYPE html>
<html>
<head>
    <title>Weekday Switch</title>
</head>
<body style="font-family: Arial; padding: 20px;">
    <h2>Display Weekday</h2>
   <button onclick="showWeekday()">Enter Day Number</button> <div
id="output" style="margin-top: 20px; font-size: 18px; color: darkblue;"></div>

    <script> function showWeekday() {
          let dayNum = parseInt(prompt("Enter a number (1 to 7):")); let dayName;
          switch(dayNum) {
             case 1: dayName = "Sunday"; break; case 2:
             dayName = "Monday"; break; case 3: dayName =
             "Tuesday"; break; case 4: dayName = "Wednesday";
             break; case 5: dayName = "Thursday"; break; case 6:
             dayName = "Friday"; break; case 7: dayName =
             "Saturday"; break;
             default: dayName = "Invalid input! Please enter a number from 1 to
7."; } alert(dayName);
                          document.getElementById("output").innerText = dayName;
       }
    </script>
</body>
</html>
```

Output:


Display Weekday
Enter Day Number
127.0.0.1:5500 says
Enter a number (1 to 7):
7
OK
Cancel

Display Weekday

Enter Day Number

Saturday

31. Write a to print 1 to 10 numbers using for, while and do-while loops.

Program:

```
<!DOCTYPE html>
<html>
<head>
    <title>Loops Example</title>
    <style> body { font-family: Arial; padding: 20px; } h2 {
        color: #2c3e50; }
        pre { background: #f4f4f4; padding: 10px; border-radius: 6px; } </style>
</head>
<body>
    <h2>Print 1 to 10 Using Different Loops</h2>
    <pre id="output"></pre>
    <script> let output = ""; output += "Using
        for loop:\n"; for (let i = 1; i <= 10; i++) {
        output += i + " ";}
       output += "\n\nUsing while loop:\n"; let j = 1;
       while (j <= 10) { output += j + " ";
          j++;}
       output += "\n\nUsing do-while loop:\n"; let k = 1;
       do { output += k + " "; k++;} while (k <= 10);
        document.getElementById("output").innerText = output; </script>
</body>
</html>
```

Output:

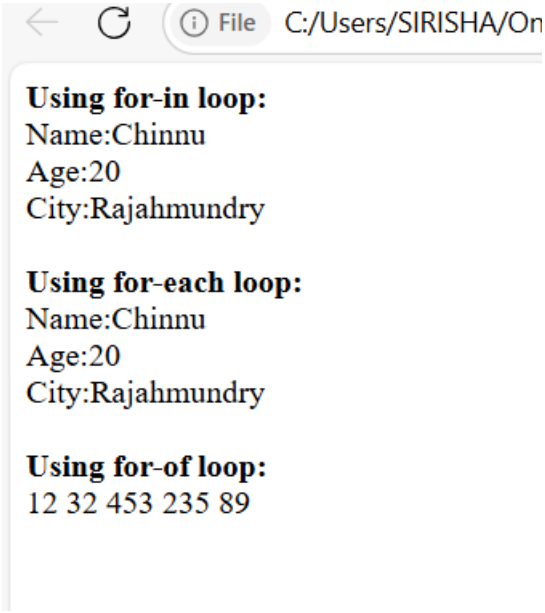

Print 1 to 10 Using Different Loops
Using for loop:
1 2 3 4 5 6 7 8 9 10
Using while loop:
1 2 3 4 5 6 7 8 9 10
Using do-while loop:
1 2 3 4 5 6 7 8 9 10

32. Write a program to print data in object using for-in, for-each and for-of loops

Program:

```
<!DOCTYPE html>
<html>
<body>
   <h3>Looping Through Object Data</h3>
   <pre id="output"></pre>

   <script> const person = { name: "Chinnu", age: 20, city:
      "Rajahmundry" }; let result = "For-in:\n"; // for-in loop (used with
      objects) for (let key in person) { result += `${key}:
      ${person[key]}\n`; }

      // Convert object to entries for forEach
      result += "\nforEach:\n";
      Object.entries(person).forEach(([key, value]) => { result
         += `${key}: ${value}\n`;
      });

      // for-of loop with Object.entries result
      += "\nFor-of:\n";
      for (let [key, value] of Object.entries(person)) { result
         += `${key}: ${value}\n`;
      }

      document.getElementById("output").innerText = result; </script>
</body>
</html>
```

Output:

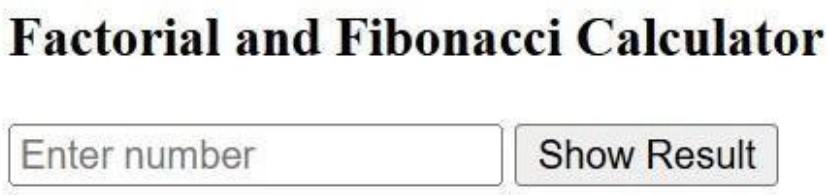

File
C:/Users/SIRISHA/On
Using for-in loop:
Name:Chinnu
Age:20
City:Rajahmundry
Using for-each loop:
Name:Chinnu
Age:20
City:Rajahmundry
Using for-of loop:
12 32 453 235 89

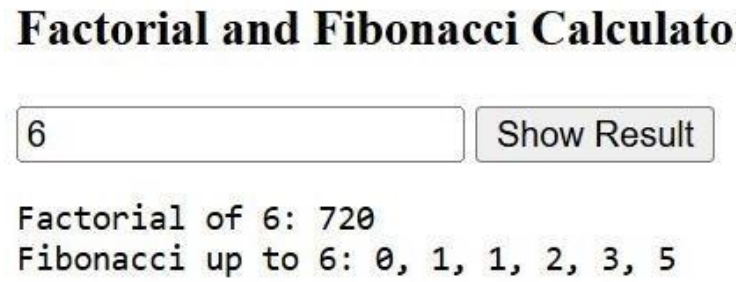
33. Design a appropriate function should be called to display i. Factorial of that number ii. Fibonacci series up to that number

Program:

```
<!DOCTYPE html>
<html>
<body>
    <h3>Factorial and Fibonacci Calculator</h3>
    <input type="number" id="num" placeholder="Enter number">
    <button onclick="calculate()">Show Result</button>
    <pre id="result"></pre>
    <script> function factorial(n) { if (n < 0)
        return "Not defined"; let f = 1; for (let i
        = 1; i <= n; i++) f *= i; return f; }
        function fibonacci(n) { let a = 0, b = 1, res = "0"; while (b <=
            n) [res, [a, b]] = [res + ", " + b, [b, a + b]]; return res;
        }
        function calculate() {
            const n = +document.getElementById("num").value;
            document.getElementById("result").innerText =
                    `Factorial of ${n}: ${factorial(n)}\nFibonacci up to ${n}:
${fibonacci(n)}`;
        }
    </script>
</body>
</html>
```

Output:


Factorial and Fibonacci Calculator
Enter number
Show Result


Factorial and Fibonacci Calculator
6
Show Result
Factorial of 6: 720
Fibonacci up to 6: 0, 1, 1, 2, 3, 5

34. Design a HTML having a text box and four buttons named Factorial, Fibonacci, When a button is pressed an appropriate function should be called to display i. Factorial of that number ii. Fibonacci series up to that number

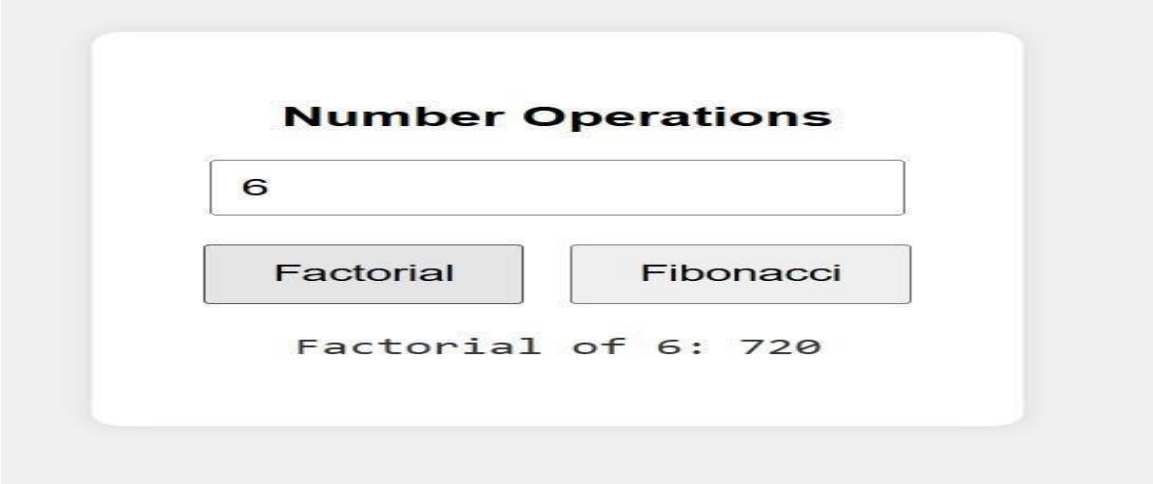
Program:

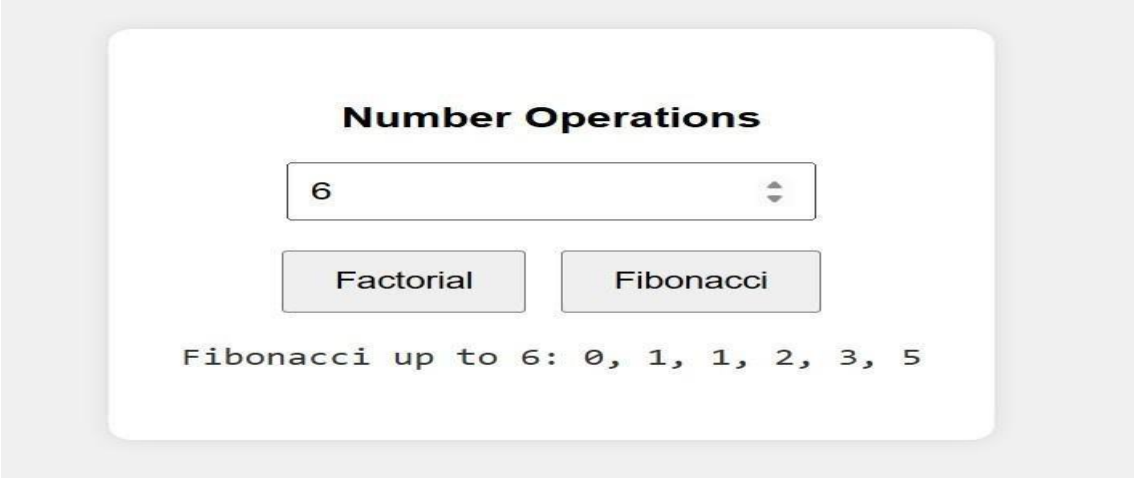
```
<!DOCTYPE html>
<html>
<head>
   <style>  body  {
      margin: 0;
         font-family: Arial, sans-serif;
         background: #f0f0f0; display:
         flex; height: 100vh; justify-
         content: center; align-items:
         center;
      }
      .container { background:
         white; padding: 30px;
         border-radius:  10px;
         text-align: center;
         box-shadow: 0 0 10px rgba(0,0,0,0.1);
      } input {
         padding:  8px;  width:
         200px;  margin-bottom:
         15px; font-size: 16px;
      } button {
         margin:  5px;  padding:
         10px  20px;  font-size:
         15px; cursor: pointer;
         } pre { margin-top:
         15px;  font-size:
         16px; color: #333;
         }
      </style>
```

```
</head>
<body>

<div class="container">
    <h3>Number Operations</h3>
    <input type="number" id="num" placeholder="Enter number"><br>
    <button onclick="showFactorial()">Factorial</button>
    <button onclick="showFibonacci()">Fibonacci</button>
    <pre id="result"></pre>
</div>
<script> function showFactorial() { let n =
    +document.getElementById("num").value, f = 1;
        for (let i = 1; i <= n; i++) f *= i;
        document.getElementById("result").innerText = `Factorial of
${n}: ${f}`; }
    function showFibonacci() { let n=
        +document.getElementById("num").value, a = 0, b = 1, s =
"0"; while (b <= n) [s, [a, b]] = [s + ", " + b, [b, a + b]];
        document.getElementById("result").innerText = `Fibonacci up to
${n}: ${s}`;
    }
</script>
</body>
</html>
```

Output:


Number Operations
Enter number
Factorial
Fibonacci


Number Operations
6
Factorial
Fibonacci
Factorial of 6: 720


Number Operations
6
Factorial
Fibonacci
Fibonacci up to 6: 0, 1, 1, 2, 3, 5

35. Write a program to validate the following fields in a registration page

i. Name (start with alphabet and followed by alphanumeric and the length should not be less than 6 characters) ii. Mobile (only numbers and length 10 digits) iii. E-mail (should contain format like xxxxxxx@xxxxxx.xxx)

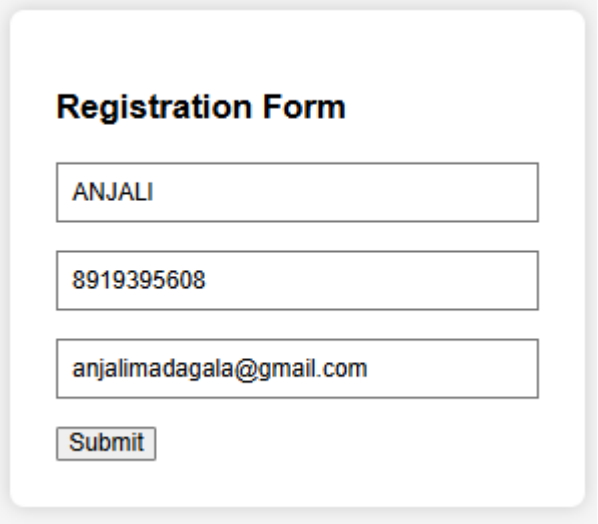
Program:

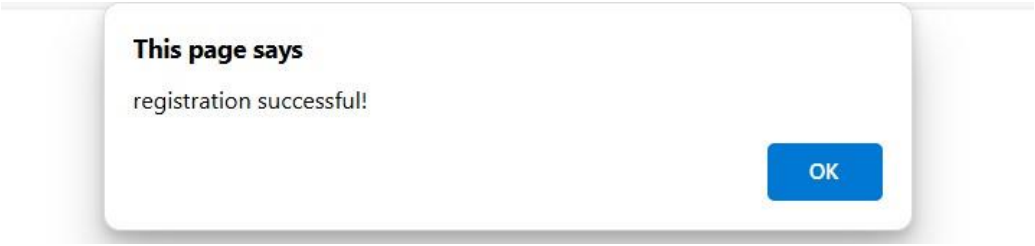
```
<!DOCTYPE html>
<html>
<head>
    <title>Registration Form</title>
    <style> body { font-family: Arial;
        display: flex; justify-content:
        center; align-items: center;
        height: 100vh; background:
        #f5f5f5;
        }
        .form-container {
            background: white;
            padding: 25px; border-
            radius: 8px;
            box-shadow: 0 0 10px #ccc;
        } input { display: block;
        margin-bottom: 15px;
        padding: 8px; width: 250px;
        }
        .error { color: red; font-
            size: 14px;
        }
    </style>
</head>
<body>
    <div class="form-container">
        <h3>Registration Form</h3>
        <input type="text" id="name" placeholder="Enter Name" />
```

```
    <input type="text" id="mobile" placeholder="Enter Mobile" />
    <input type="text" id="email" placeholder="Enter Email" />
    <button onclick="validate()">Submit</button>
    <div id="msg" class="error"></div>
  </div>
  <script>          function
    validate() {
      const name = document.getElementById("name").value.trim();
      const mobile =
document.getElementById("mobile").value.trim(); const email =
      document.getElementById("email").value.trim(); const msg =
      document.getElementById("msg"); const nameRegex = /^[A-Za-
      z][A-Za-z0-9]{5,}$/; const mobileRegex = /^\d{10}$/; const
      emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/; if
      (!nameRegex.test(name)) { msg.innerText = "Invalid Name: Start
      with letter, at least 6
characters.";
      } else if (!mobileRegex.test(mobile)) { msg.innerText = "Invalid
        Mobile: Must be exactly 10 digits.";
      } else if (!emailRegex.test(email)) { msg.innerText =
        "Invalid Email: Use format
name@example.com";
      } else { msg.style.color =
        "green";
        msg.innerText = "All fields are valid!"; }
    }
  </script>
</body>
</html>
```

Output:


Registration Form
Enter Name
Enter Mobile
Enter Email
Submit


Registration Form
ANJALI
8919395608
anjalimadagala@gmail.com
Submit


This page says
registration successful!
OK

36. Write a program to show the workflow of JavaScript code executable by creating web server in Node.js.

Program:

Step 1: server.js – Node.js Web Server

```
const http = require('http'); const fs
= require('fs');
const path = require('path');

http.createServer((req, res) => { if (req.url === '/') {
   fs.readFile(path.join(_dirname, 'index.html'), (err, data) => { if (err)
   { res.writeHead(500);
            res.end('Error loading HTML file');
         } else { res.writeHead(200, { 'Content-Type': 'text/html'
            }); res.end(data);
         }
      });
   }
}).listen(3000, () => console.log('Server running at
http://localhost:3000'));
```

Step 2: index.html – HTML + JavaScript Workflow

```
<!DOCTYPE html>
<html>
<head>
   <title>Node.js JavaScript Workflow</title>
</head>
<body style="text-align:center; font-family:sans-serif; margin-
top:50px;">
   <h2>JavaScript Executed via Node.js Server</h2>
   <button onclick="showMessage()">Click Me</button>
   <p id="output"></p>
```

```
    <script>                    function
        showMessage() {
            document.getElementById("output").textContent = "JavaScript
is working!";
        }
    </script>
</body>
</html>
```

How to Run:

- Make sure Node.js is installed.
- Save the above files (server.js, index.html) in the same folder.
- Open terminal and run:

```
node server.js
```

Visit http://localhost:3000 in your browser.

Output:

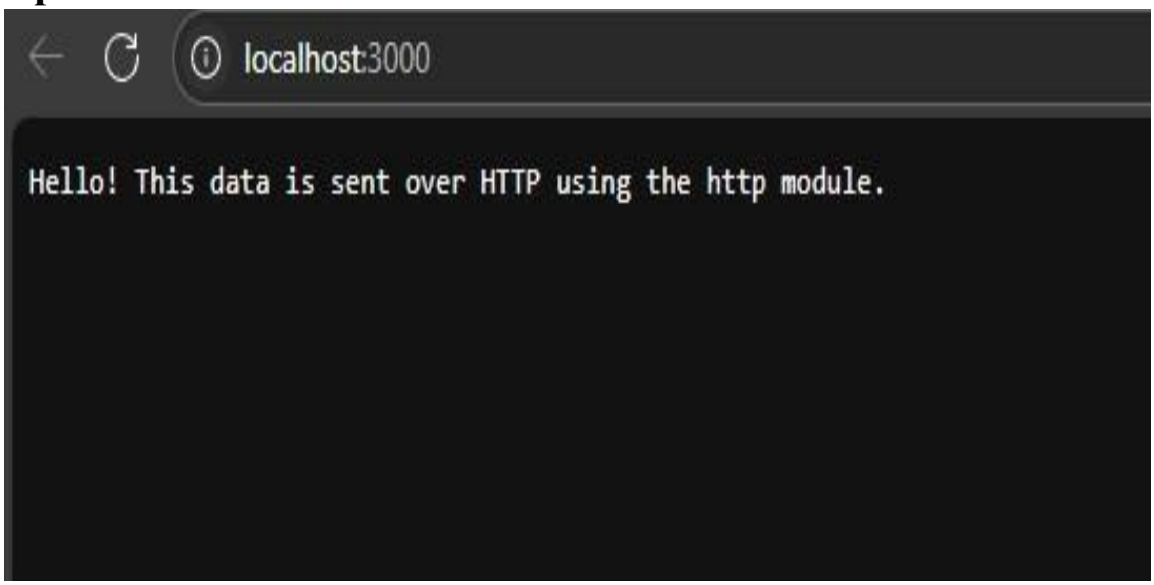

JavaScript Executed via Node.js Server
Click Me
JavaScript is working!

37. Write a program to transfer data over http protocol using http module.

Program:

```
// server.js

const http = require('http');


// Create an HTTP server const server = http.createServer((req, res) => {

res.writeHead(200, { 'Content-Type': 'text/plain' }); res.write('Hello! This data is sent over HTTP using the http module.'); res.end();

});


// Server listens on port 3000 server.listen(3000, () => {

console.log('Server running at http://localhost:3000');

});
```

Output:


localhost:3000
Hello! This data is sent over HTTP using the http module.

38. Create a text file src.txt and add the following content to it. (HTML, CSS, Javascript, Typescript, MongoDB, Express.js, React.js, Node.js)

Program:

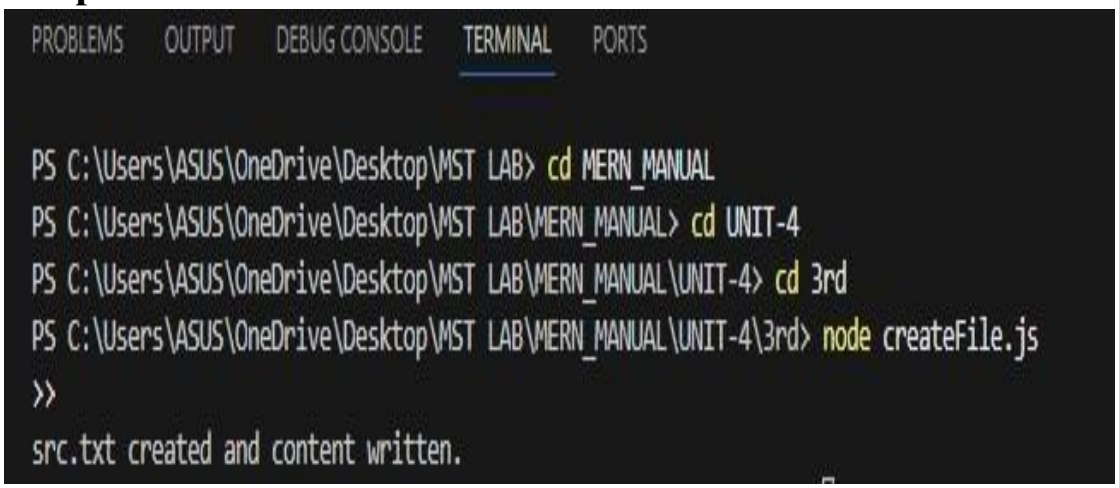
- **using Node.js to do it programmatically:**

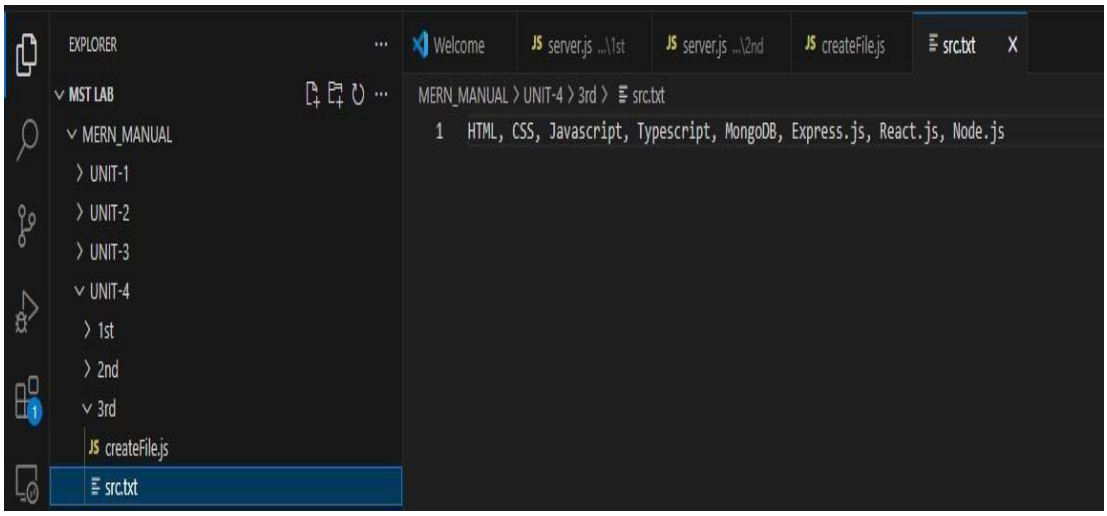
```
const fs = require('fs');

const content = 'HTML, CSS, Javascript, Typescript, MongoDB, Express.js, React.js, Node.js';

fs.writeFile('src.txt', content, (err) => { if (err) throw
  err; console.log('src.txt created and content
  written.');
});
```

- **Save the code in a file like createFile.js and run it with:**

```
node createFile.js
```

Output:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB> cd MERN_MANUAL
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB\MERN_MANUAL> cd UNIT-4
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB\MERN_MANUAL\UNIT-4> cd 3rd
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB\MERN_MANUAL\UNIT-4\3rd> node createFile.js
>>
src.txt created and content written.


EXPLORER
MST LAB
MERN_MANUAL
UNIT-1
UNIT-2
UNIT-3
UNIT-4
1st
2nd
3rd
createFile.js
src.txt
Welcome
server.js ...\1st
server.js ...\2nd
createFile.js
src.txt
MERN_MANUAL > UNIT-4 > 3rd > src.txt
1 HTML, CSS, Javascript, Typescript, MongoDB, Express.js, React.js, Node.js

39. Write a program to parse an URL using URL module.

Program:

```
// Import the URL module const

{ URL } = require('url');

// Given URL

const myURL =
'https://erp.adityauniversity.in/stu_studentProfile.htm';


// Parse the URL

const parsedUrl = new URL(myURL);


// Display components console.log('Full URL:', parsedUrl.href);

console.log('Protocol:', parsedUrl.protocol); console.log('Host:',

parsedUrl.host); console.log('Hostname:', parsedUrl.hostname);

console.log('Port:', parsedUrl.port || 'default');

console.log('Pathname:', parsedUrl.pathname); console.log('Search

(Query):', parsedUrl.search || 'none'); console.log('Search Params:',

parsedUrl.searchParams.get('') || 'null'); console.log('Hash

(Fragment):', parsedUrl.hash || 'none');
```

Output:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Filter
Code
[Running] node "c:\Users\ASUS\OneDrive\Desktop\MST LAB\MERN_MANUAL\UNIT-4\4th\server.js"
Full URL: https://erp.adityauniversity.in/stu_studentProfile.htm
Protocol: https:
Host: erp.adityauniversity.in
Hostname: erp.adityauniversity.in
Port: default
Pathname: /stu_studentProfile.htm
Search (Query): none
Search Params: null
Hash (Fragment): none

40. Write a to create an user-defined module and show the workflow of Modularization of application using Node.js

Program:

mathUtils.js – User-Defined Module //

Function to add two numbers function add(a,

b) { return a + b;

}

// Function to multiply two numbers

function multiply(a, b) { return a * b;

}

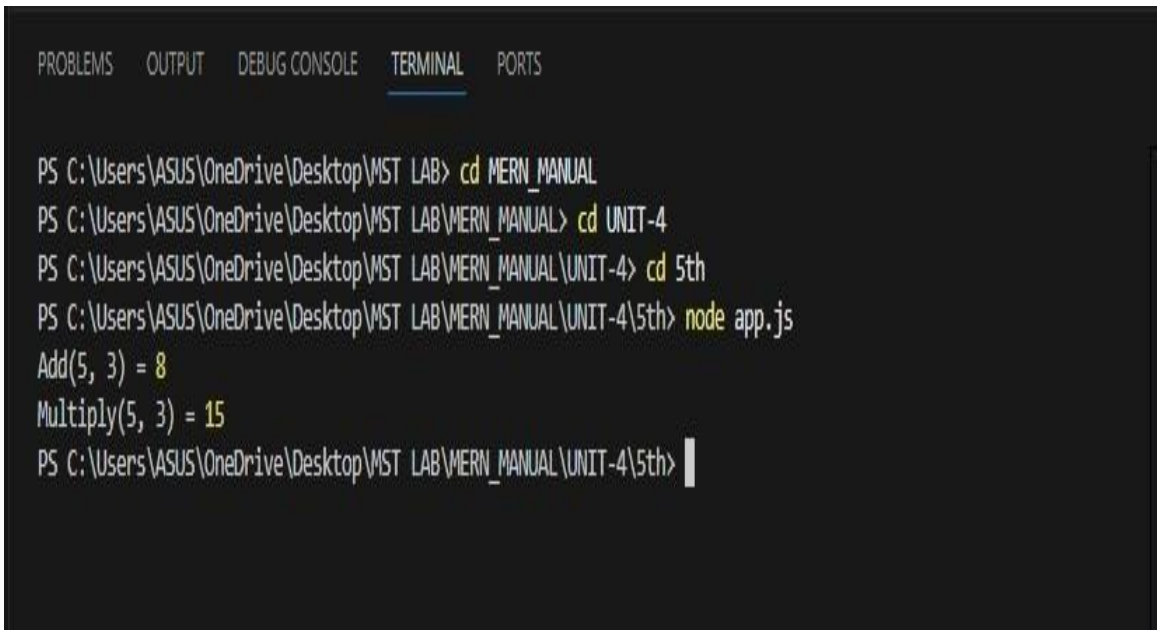
// Exporting functions module.exports = { add,

multiply };

app.js – Main Application Using the Module

```
// Importing the user-defined module
const math = require('./mathUtils');

// Using the functions
console.log("Add(5, 3) =", math.add(5, 3)); console.log("Multiply(5, 3) =", math.multiply(5, 3));
```

Output:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB> cd MERN_MANUAL
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB\MERN_MANUAL> cd UNIT-4
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB\MERN_MANUAL\UNIT-4> cd 5th
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB\MERN_MANUAL\UNIT-4\5th> node app.js
Add(5, 3) = 8
Multiply(5, 3) = 15
PS C:\Users\ASUS\OneDrive\Desktop\MST LAB\MERN_MANUAL\UNIT-4\5th>

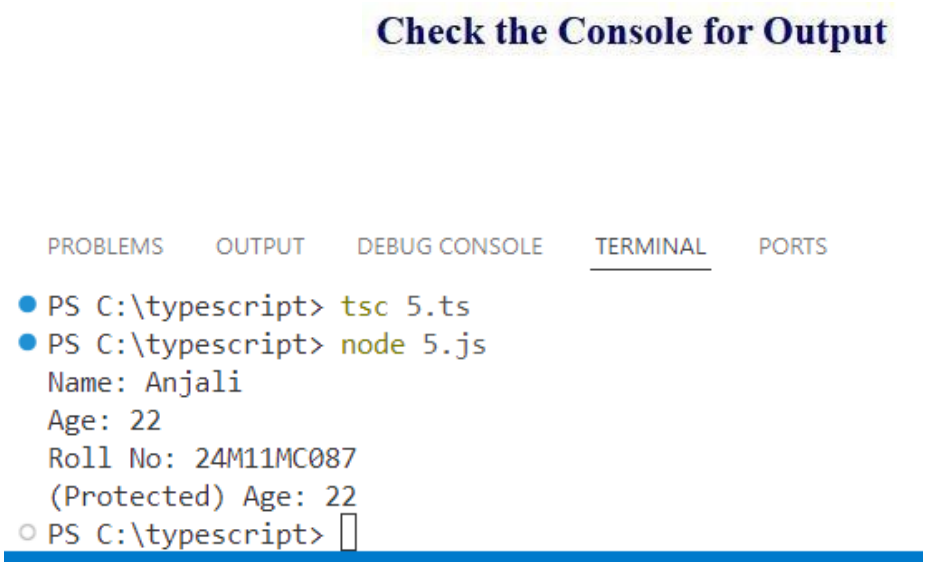
41. Write a program to understand simple and special types

Program:

```
<!DOCTYPE html>
<html>
<head>
   <title>Simple & Special Types in JavaScript</title>
</head>
<body>
   <h2 style="text-align:center;color:darkblue;">Check the Console for
Output</h2>

   <script>

      // Simple Types

      let name =

      "Anjali";

      let age = 21; let
      isStudent = true;
      let city; let empty
      = null;
      let id = Symbol("id");
      let bigNum = 12245678901224567890122 45n;

      console.group('%c  SIMPLE TYPES', 'color:green;font-
weight:bold;');

      console.log("%cname (String):", "color:purple;", name);
      console.log("%cage (Number):", "color:purple;", age);
      console.log("%cisStudent (Boolean):", "color:purple;",
      isStudent); console.log("%ccity (Undefined):", "color:purple;",
```

```
        city); console.log("%cempty (Null):", "color:purple;", empty);
        console.log("%cid (Symbol):", "color:purple;", id.toString());
        console.log("%cbigNum (BigInt):", "color:purple;", bigNum);
        console.groupEnd();

    // Special Types



        let person = { name: "Anjali", age: 21 }; let colors
        = ["red", "green", "blue"]; let greet = function ()
        { return "Hello!"; };
        let today = new Date();
        let pattern = /[a-z]+/;

        console.group('%c  SPECIAL TYPES', 'color:blue;font-
weight:bold;');

        console.log("%cperson     (Object):",     "color:teal;",     person);
        console.log("%ccolors     (Array):",      "color:teal;",     colors);
        console.log("%cgreet()    (Function):",   "color:teal;",     greet());
        console.log("%ctoday      (Date):",       "color:teal;",     today);
        console.log("%cpattern    (RegExp):",     "color:teal;",     pattern);
        console.groupEnd();
    </script>
</body>
</html>
```

Output:


Check the Console for Output
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\typescript> tsc 5.ts
PS C:\typescript> node 5.js
Name: Anjali
Age: 22
Roll No: 24M11MC087
(Protected) Age: 22
PS C:\typescript>

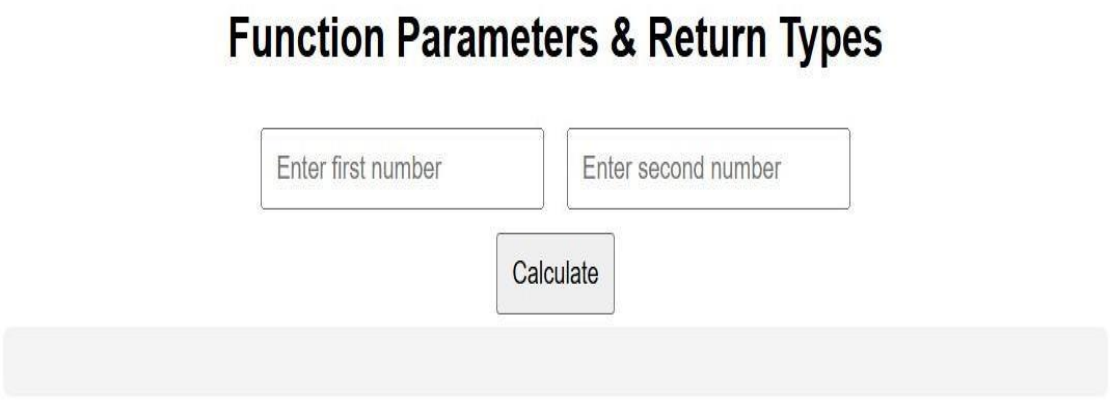
42. Write a program to understand function parameter and return types

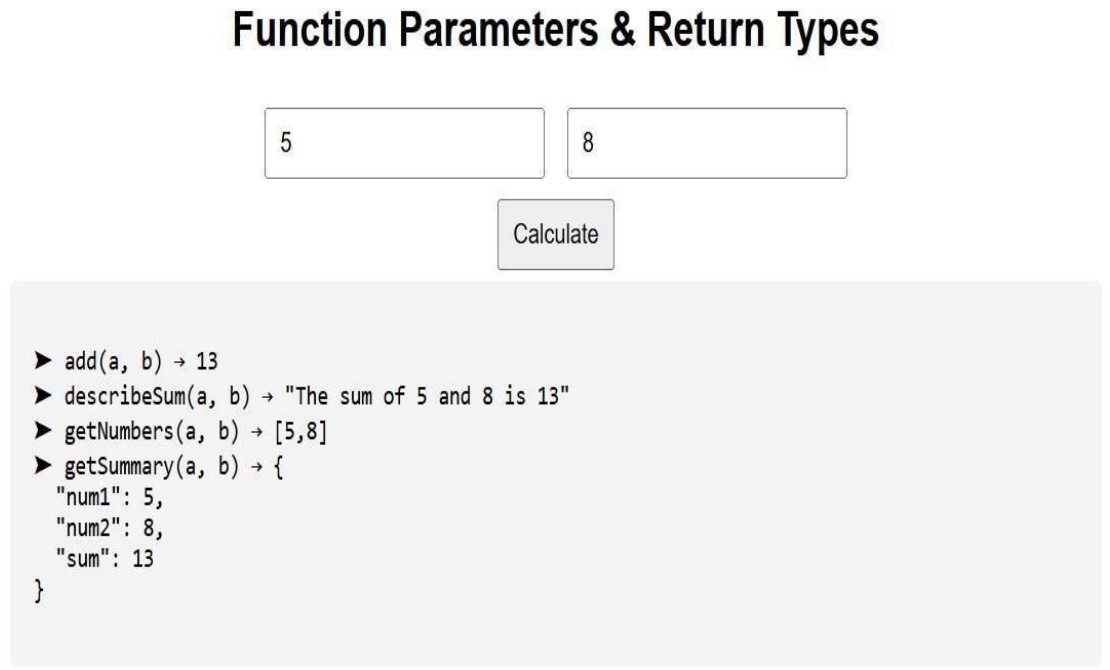
Program:

```
<!DOCTYPE html>
<html>
<head>
    <title>Function Parameters & Return Types</title>
    <style> body { font-family: Arial, sans-serif;
            padding: 20px; text-align: center;
        } input, button { padding: 8px;
        margin: 5px;
        } pre {
            background: #f4f4f4; padding:
            15px; border-radius: 5px; width:
            80%; margin: auto; text-align: left;
        }
    </style>
</head>
<body>
    <h2>Function Parameters & Return Types</h2>
    <input type="number" id="num1" placeholder="Enter first number">
    <input type="number" id="num2" placeholder="Enter second number">
    <br>
    <button onclick="showResults()">Calculate</button>
    <pre id="output"></pre>
    <script>
        // Function with parameters and return type - Number function
        add(a, b) { return a + b;
        }
        // Function with parameters and return type - String function
        describeSum(a, b) { return `The sum of ${a} and ${b} is ${a +
        b}`;
        }
```

```
    // Function with return type - Array function
    getNumbers(a, b) { return [a, b];
    }
    // Function with return type - Object function
    getSummary(a, b) { return {
        num1: a, num2: b,
        sum: a + b
      };
    }
      //    Main    function
    function showResults() {
      const a = parseInt(document.getElementById('num1').value); const b =
      parseInt(document.getElementById('num2').value); const output = `
> add(a, b) → ${add(a, b)}
> describeSum(a, b) → "${describeSum(a, b)}"
> getNumbers(a, b) → [${getNumbers(a, b)}]
> getSummary(a, b) → ${JSON.stringify(getSummary(a, b), null, 2)}
      `;
      document.getElementById("output").innerText = output; }
  </script>
</body>
</html>
```

Output:


Function Parameters & Return Types
Enter first number
Enter second number
Calculate

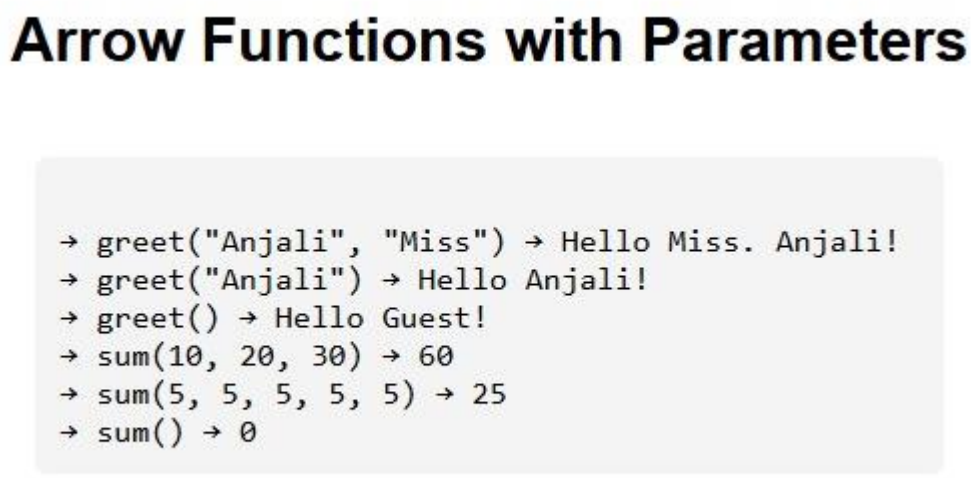

Function Parameters & Return Types
5
8
Calculate
▶ add(a, b) → 13
▶ describeSum(a, b) → "The sum of 5 and 8 is 13"
▶ getNumbers(a, b) → [5,8]
▶ getSummary(a, b) → {
"num1": 5,
"num2": 8,
"sum": 13
}

43. Write a program to show the importance with Arrow function. Use optional, default and REST parameters.

Program:

```
<!DOCTYPE html>
<html>
<head>
    <title>Arrow Function Demo</title>
    <style> body { font-family: Arial; text-align: center; padding: 20px; } pre {
        background: #f4f4f4; padding: 10px; border-radius: 5px;
display: inline-block; text-align: left; } </style>
</head>
<body>
    <h2>Arrow Functions with Parameters</h2>
    <pre id="output"></pre>
    <script>
        // Arrow function with default & optional parameter const greet = (name =
        "Guest", title) => `Hello ${title ? title + " " :
""}${name}!`;
        // Arrow function with REST parameter
        const sum = (...nums) => nums.reduce((a, b) => a + b, 0);
        // Display results const output = `
→ greet("Anjali", "Miss") → ${greet("Anjali", "Miss.")}
→ greet("Anjali") → ${greet("Anjali")}
→ greet() → ${greet()}
→ sum(10, 20, 30) → ${sum(10, 20, 30)}
→ sum(5, 5, 5, 5, 5) → ${sum(5, 5, 5, 5, 5)}
→ sum() → ${sum()}
        `;
        document.getElementById("output").innerText = output; </script>
</body>
</html>
```

Output:


Arrow Functions with Parameters
→ greet("Anjali", "Miss") → Hello Miss. Anjali!
→ greet("Anjali") → Hello Anjali!
→ greet() → Hello Guest!
→ sum(10, 20, 30) → 60
→ sum(5, 5, 5, 5, 5) → 25
→ sum() → 0

44. Write a program to understand the working of typescript with class, constructor, properties, methods and access specifiers.

To Run this TypeScript Code:

1.Install TypeScript (if not yet):

```
npm install -g typescript
```

2.Save the code in a file named main.ts

3.Compile to JavaScript:

```
tsc main.ts
```

4.Run it using Node.js:

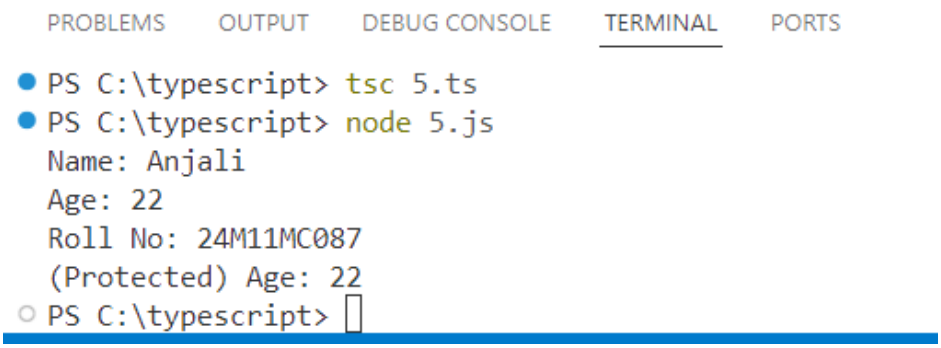
```
node main.js
```

Program:

```
class Student {
   // Properties with access specifiers public
   name: string; protected age: number;
   private rollNo: string;

   // Constructor
   constructor(name: string, age: number, rollNo: string) {
      this.name = name; this.age =
      age; this.rollNo = rollNo;
   }
```

```
    // Public Method public displayInfo(): void {
        console.log(`Name:     ${this.name}`);     console.log(`Age:
        ${this.age}`); console.log(`Roll No: ${this.rollNo}`);
    }

    // Private Method private secretMessage(): string {
        return "This is private!";
    }
}

// Inherited class
class GraduateStudent extends Student {
    constructor(name: string, age: number, rollNo: string) {
        super(name, age, rollNo);
    }

    showAge(): void {
        console.log(`(Protected) Age: ${this.age}`); }
}

// Creating object
const student1 = new GraduateStudent("Anjali", 22,
"24M11MC087");
student1.displayInfo(); student1.showAge();
```

Output:

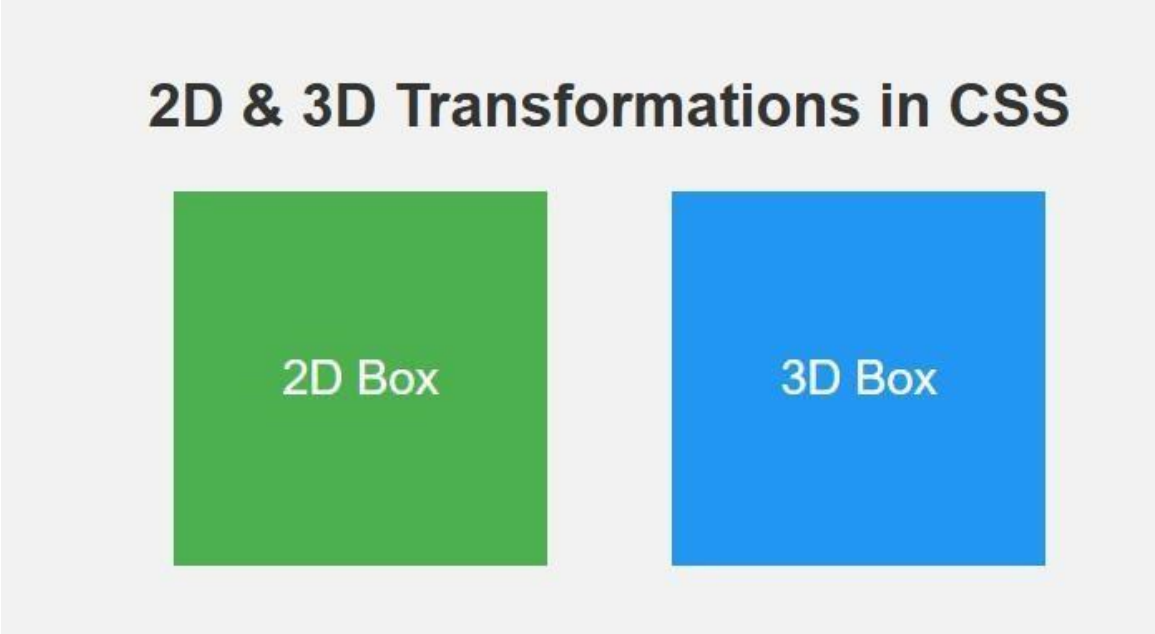

PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\typescript> tsc 5.ts
PS C:\typescript> node 5.js
Name: Anjali
Age: 22
Roll No: 24M11MC087
(Protected) Age: 22
PS C:\typescript>

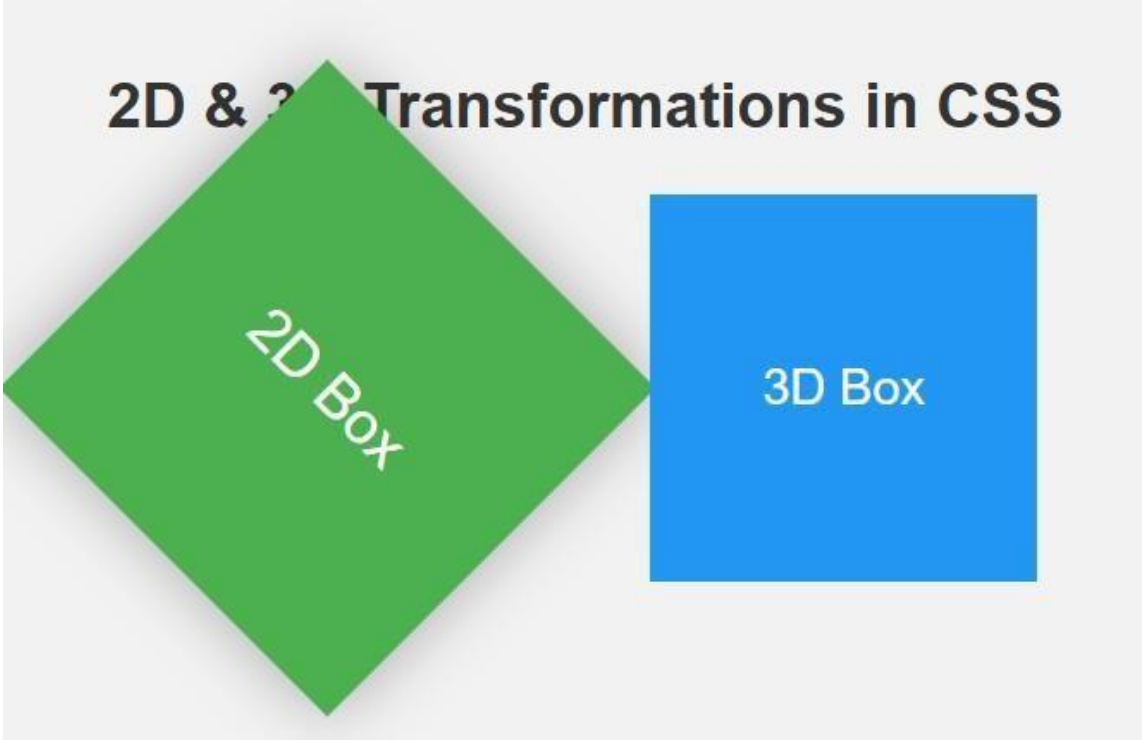
45. Write a CSS program,to apply 2D and 3D transformations in a web page Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>2D and 3D Transformations</title>
   <style> body { display: flex; flex-
      direction: column; align-items:
      center; justify-content: center;
      min-height: 100vh; background:
      #f2f2f2; font-family: sans-serif;
      }

      h2 {
         margin-bottom: 20px; color: #333;
      }

      .container { display:
         flex; gap: 50px;
      }

      .box { width: 150px; height: 150px;
         background: #4CAF50; color:
         white;
         display: flex; align-items: center; justify-content: center;
         font-size: 1.2rem; transition: all 0.5s ease; cursor:
         pointer;
      }

      .box:hover { box-shadow: 0 0 20px rgba(0,0,0,0.3);
      }

      /* 2D Transformation */
```

```
        .transform2d:hover { transform: rotate(45deg) scale(1.2);
        }

        /* 3D Transformation */
        .transform3d { perspective: 600px;
        }

        .transform3d:hover .inner { transform: rotateY(180deg);
        }

        .inner { width: 100%; height: 100%; background: #2196F3;
          display: flex; align-items: center; justify-content: center;
          transform-style: preserve-3d; transition: transform 0.8s;
        }
    </style>




</head>
<body>

    <h2>2D & 3D Transformations in CSS</h2>
    <div class="container">
                                        <div class="box transform2d">2D Box</div>

        <div class="box transform3d">
                            <div class="inner">3D Box</div>
        </div>
    </div>

</body>
</html>
```

Output:


2D & 3D Transformations in CSS
2D Box
3D Box


Transformations in CSS
2D Box
3D Box

46. Design a web page with page with new features of HTML file and CSS3.

Program:

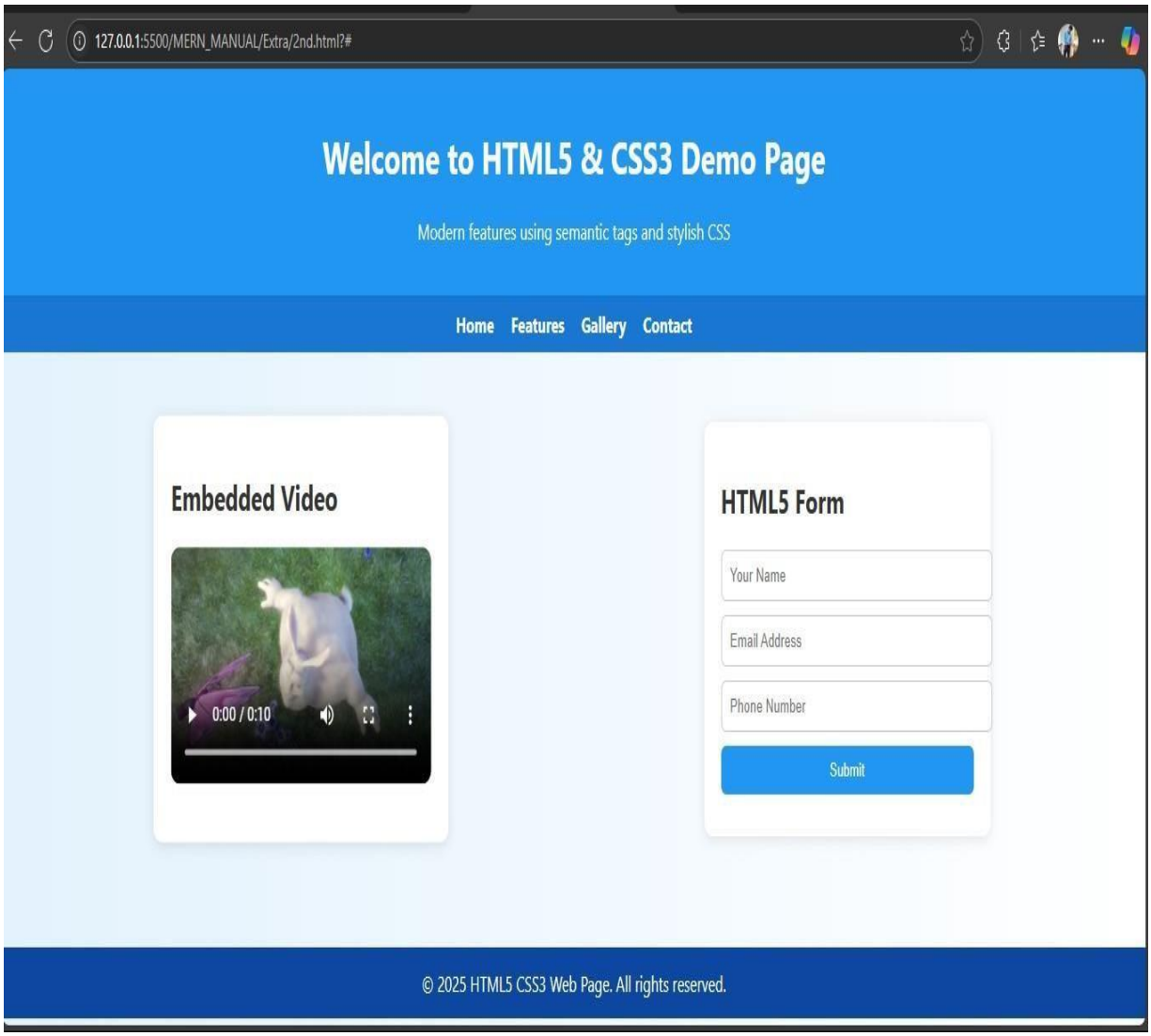
```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <title>HTML5 & CSS3 Modern Page</title>
   <style> body { margin: 0;
         font-family: 'Segoe UI', sans-serif; background: linear-
         gradient(to right, #e3f2fd, #fff); color: #333;
      }

      header {
         background: #2196F3; color:
         white; padding: 20px; text-align:
         center;
         box-shadow: 0 4px 10px rgba(0, 0, 0, 0.2); }

      nav {
         background: #1976D2; display:
         flex; justify-content: center;
         gap: 20px; padding: 10px;
      }

      nav a { color: white; text-
         decoration: none; font-weight:
         bold; transition: color 0.3s;
      }

      nav a:hover {
         color: #FFD700;
      }
```

```
main {
  display: flex; flex-wrap: wrap; justify-content: space-around;
  padding: 30px;
}

section, article {
  background: #fff; border-radius: 10px; padding: 20px; margin: 20px;
  box-shadow: 0 2px 10px rgba(0,0,0,0.1); width: 300px; transition:
  transform 0.3s;
}

section:hover, article:hover {
  transform: scale(1.03);
}

footer {
  text-align: center; background: #0D47A1; color: white;
  padding: 15px; margin-top: 30px;
}
video {
  width: 100%; border-radius: 10px;
}

form input, form button { display:
  block; width: 100%; margin: 10px
  0; padding: 10px; border-radius:
  6px; border: 1px solid #ccc;
}

form button { background: #2196F3;
  color: white; border: none; cursor:
  pointer;
}
```

```
        form button:hover {
            background: #1976D2;
        }
    </style>
</head>
<body>

    <header>
        <h1>Welcome to HTML5 & CSS3 Demo Page</h1>
        <p>Modern features using semantic tags and stylish CSS</p> </header>

    <nav>
        <a href="#">Home</a>
        <a href="#">Features</a>
        <a href="#">Gallery</a>
        <a href="#">Contact</a>
    </nav>

    <main>
        <section>
            <h2>Embedded Video</h2>
            <video controls>
                <source src="https://www.w3schools.com/html/mov_bbb.mp4"
type="video/mp4">
                Your browser does not support HTML5 video.
            </video>
        </section>

        <article>
            <h2>HTML5 Form</h2>
            <form>
                <input type="text" placeholder="Your Name" required>
                <input type="email" placeholder="Email Address" required>
                <input type="number" placeholder="Phone Number">
```

```
            <button type="submit">Submit</button>
        </form>
    </article>
</main>

<footer>
    &copy; 2025 HTML5 CSS3 Web Page. All rights reserved. </footer>

</body>
</html>
```

Output:


127.0.0.1:5500/MERN_MANUAL/Extra/2nd.html?#
Welcome to HTML5 & CSS3 Demo Page
Modern features using semantic tags and stylish CSS
Home Features Gallery Contact
Embedded Video
0:00 / 0:10
HTML5 Form
Your Name
Email Address
Phone Number
Submit
© 2025 HTML5 CSS3 Web Page. All rights reserved.

47. Design a to-do list application using javascript

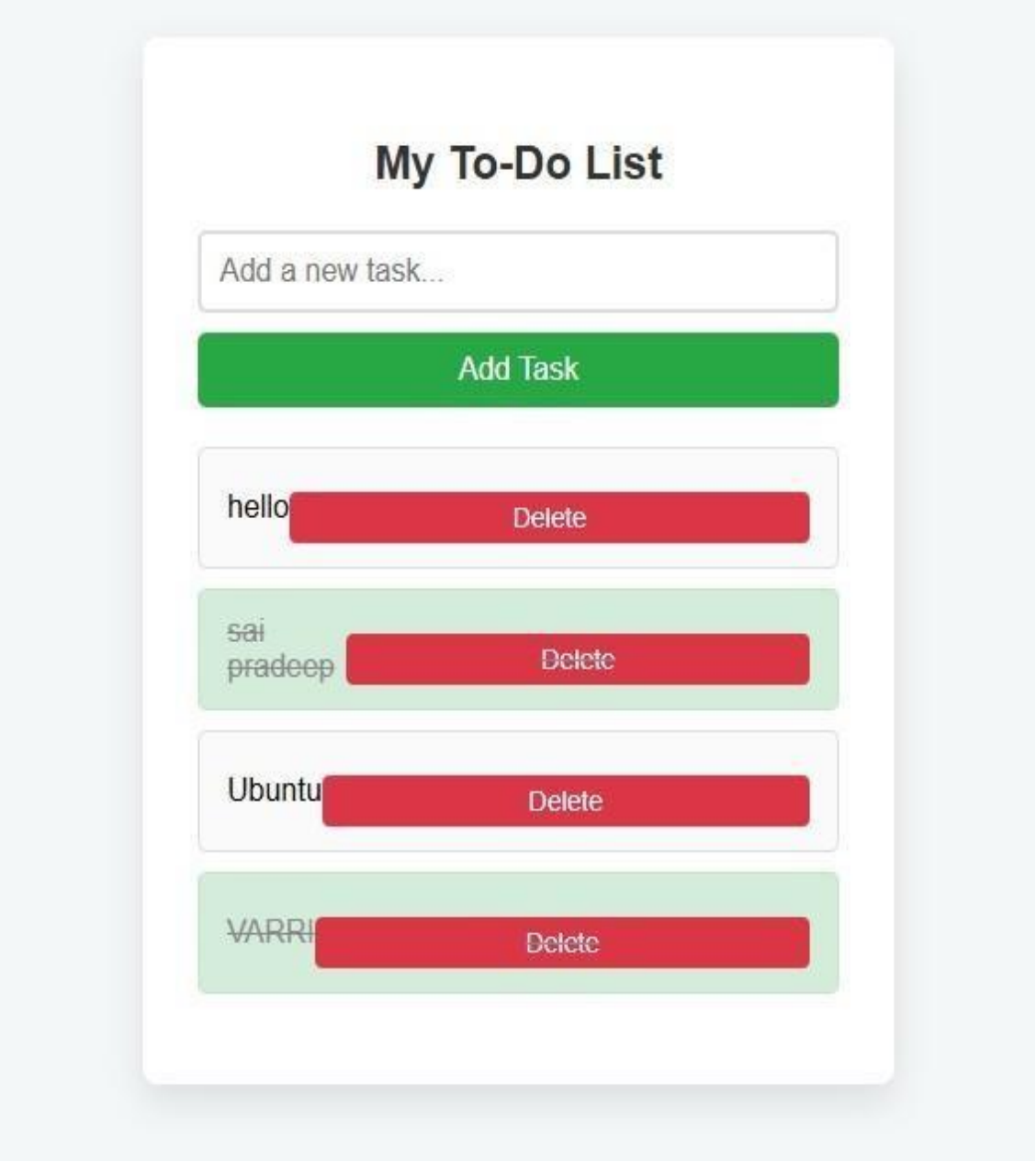
Program:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8" />
    <title>Simple To-Do List</title>
    <style> body {
            font-family: Arial, sans-serif; background: #f4f7f8;
            display: flex; justify-content: center;
            padding: 50px;
        }
        .todo-container { background: white; padding: 30px; border-radius:
            8px; box-shadow: 0 8px 20px rgba(0,0,0,0.1); width: 350px;
        } h2 {
            margin-bottom: 20px; text-align: center; color:
            #333;
        } input[type="text"] { width: 100%; padding: 10px;
        border: 2px solid #ddd; border-radius: 5px; font-size:
        16px; box-sizing: border-box;
} button {
    margin-top: 10px; width: 100%; background: #28a745; color: white; font-size:
    16px; padding: 10px; border: none; border-radius: 5px; cursor: pointer;
    transition: background 0.3s ease;
} button:hover {
    background: #218838;
} ul {
    list-style: none; padding-left: 0; margin-top: 20px;
}
li {
    background: #fafafa; margin-bottom: 10px; padding: 12px 15px; border-radius:
    5px; display: flex; justify-content: space-between; align-items: center; border:
    1px solid #ddd; transition: background 0.3s ease;
```

```
} li.completed { text-decoration: line-through; color: #888; background:
#d4edda; border-color: #c3e6cb;
      }
      li button {
         background: #dc3545; border: none;
         color: white; padding: 5px 10px; border-
         radius: 4px; cursor: pointer; font-size:
         14px;
         transition: background 0.3s ease;
      } li button:hover {
         background: #c82233;
      }
   </style>
</head>
<body>

   <div class="todo-container">
      <h2>My To-Do List</h2>
      <input type="text" id="taskInput" placeholder="Add a new task..." />
      <button onclick="addTask()">Add Task</button>
      <ul id="taskList"></ul>
   </div>

   <script> const taskInput = document.getElementById('taskInput'); const
      taskList = document.getElementById('taskList');

      function addTask() { const taskText =
         taskInput.value.trim(); if (taskText === '') { alert('Please
         enter a task!'); return;
         }
            // Create list item
            const li = document.createElement('li'); li.textContent = taskText;

            // Toggle completion on click li.addEventListener('click', () => {
               li.classList.toggle('completed');
```

```
        });

        // Create delete button
        const delBtn = document.createElement('button'); delBtn.textContent
        = 'Delete'; delBtn.onclick = (e) => {
          e.stopPropagation(); // prevent toggling complete
          taskList.removeChild(li);
        };

        li.appendChild(delBtn); taskList.appendChild(li);

        taskInput.value = ''; taskInput.focus();
      }

      // Optional: allow adding task by pressing Enter key
      taskInput.addEventListener('keypress', (e) => {
        if (e.key === 'Enter') addTask();
      });
    </script>
</body>
</html>
```

Output:


My To-Do List
Add a new task...
Add Task
hello
Delete
sai pradeep
Delete
Ubuntu
Delete
VARRI
Delete