Experiment:1

1. Lists, Links and Images

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

Note: It should have ordered list, unordered list, nested lists and order list in an unordered list and definition lists

Source Code: lists.html

```
<!DOCTYPE html>
<html>
<head>
   <title>HTML Lists </title>
</head>
<body>
   <h1>HTML Lists</h1>
   <!-- Ordered List -->
   <h2>1. Ordered List (Numbered)</h2>
   Steps to create a simple website:
   <01>
      Create an HTML file
      Add a head and body section
      Write content using tags
      Save and open in browser
   <!-- Unordered List -->
   <h2>2. Unordered List (Bulleted)</h2>
   Web Technologies :
   HTML
      CSS
      JavaScript
   <!-- Nested List -->
   <h2>3. Nested List (List inside List)</h2>
   <l
      Frontend Technologies
          <l
```

```
HTML
        CSS
        JavaScript
     Backend Technologies
     <l
        Java
        Python
        PHP
     <!-- Ordered inside Unordered -->
<h2>4. Mixed List (Ordered inside Unordered)</h2>
<l
  Frontend Technologies
     HTML
        CSS
        JavaScript
     Backend Technologies
     Java
        Python
        PHP
     <!-- Definition List -->
<h2>5. Definition List (Term - Meaning)</h2>
<d1>
  <dt>HTML</dt>
  <dd>Hyper Text Markup Language</dd>
```

```
<dt>CSS</dt>
            <dd>Cascading Style Sheets</dd>
            <dt>JS</dt>
            <dd>JavaScript</dd>
      </dl>
</body>
</html>
Output:
                                  C 127.0.0.1:5000/lists/lists.html
              HTML Lists
              1. Ordered List (Numbered)
              Steps to create a simple website:

    Create an HTML file
    Add a head and body section
    Write content using tags
    Save and open in browser

              2. Unordered List (Bulleted)
              Web Technologies :
                  HTMLCSSJavaScript
              3. Nested List (List inside List)

    Frontend Technologies
    HTML
    CSS
    JavaScript
    Backend Technologies

                        o Java
o Python
o PHP
              4. Mixed List (Ordered inside Unordered)

Frontend Technologies
1. HTML
2. CSS
3. JavaScript
Backend Technologies
1. Java
2. Python
3. PHP
              5. Definition List (Term - Meaning)
              HTML
Hyper Text Markup Language
              CSS
Cascading Style Sheets
```

Figure 1: HTML Lists

b) Write a HTML Program, to explain the working of hyperlinks using <a> tag and href, target attributes

Source Code: hyperlinks.html

JavaScript

← → C (i) 127.0.0.1:5000/hyperlinks/hyperlinks.html

Click the links below to visit different websites:

- 1. Google
- 2. Hacker Rank
- 3. KITS

Figure 2: Hyperlinks

c) Create a html document that has your image and your friends image with specific height and width. Also when clicked on the images it should navigate to their respective profiles

Source Code: profile images.html

 </body> </html> Output:

← → C ① 127.0.0.1:5000/images/profile_images.html

My Profile



Friend's Profile



Figure 3: Profile Page

Source Code: my profile.html

<!DOCTYPE html> <html> <head> <title>My Profile</title> </head>

```
<body>
   <h1>My Profile</h1>
   <img src="my_image.jpg" alt="My Image" width="200" height="200">
   Name: Ravi
   Role: Web Developer
   Location: India
   <a href="profile_images.html">Back to Home</a>
</body>
</html>
Output:
```

→ C ① 127.0.0.1:5000/images/my_profile.html

My Profile



Name: Ravi

Role: Web Developer

Location: India

Back to Home

Figure 4: My Profile

Source Code: friend profile.html <!DOCTYPE html> <html> <head> <title>Friend's Profile</title> </head> <body>

Friend's Profile



Name: Mahesh

Role: Software Engineer

Location: Hyderabad

Back to Home

Figure 5: Friend Profile

d) 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 fullsized version of the image. Create an image gallery using this technique.

Source Code: image_gallary.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Thumbnail Image Gallery</title>
<body>
    <h1>Image Gallery using Thumbnails</h1>
    <!-- Thumbnail 1 -->
    <a href="1.jpg" target="_blank">
        <img src="1.jpg" alt="Image 1" width="100" height="100">
    </a>
    <!-- Thumbnail 2 -->
    <a href="2.jpg" target="_blank">
        <img src="2.jpg" alt="Image 2" width="100" height="100">
    </a>
    <!-- Thumbnail 3 -->
    <a href="3.jpg" target="_blank">
        <img src="3.jpg" alt="Image 3" width="100" height="100">
    </a>
    <!-- Thumbnail 4 -->
    <a href="4.jpg" target=" blank">
        <img src="4.jpg" alt="Image 4" width="100" height="100">
    </a>
</body>
</html>
Output:
```

← → C ① 127.0.0.1:5000/images/image_gallery.html

Image Gallery using Thumbnails



Figure 6: Image Gallery

Experiment 2:

2. HTML, Tables, Forms and Frames

a) Write a HTML program, to explain the working of tables. (use tags: ,,, and attributes: border, rowspan, colspan

Source Code: tables.html

```
<!DOCTYPE html>
<html>
<head>
 <title>HTML Table</title>
 <style>
   th {
     background-color: lightgray;
 </style>
</head>
<body>
 <caption><b>Students Marks Table </b></caption>
   Roll No
     Name
     Marks
   HTML
     CSS
     Java Script
   101
     Ravi
     85
     78
     92
   102
     Priya
     90
     88
     95
   103
     Ajay
     75
     80
     85
   </body>
</html>
Output:
```

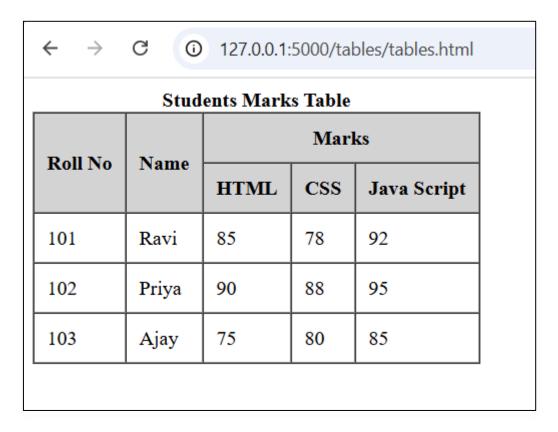


Figure 7: Students Data Table

b) 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.)

Source Code: timetable.html

```
<!DOCTYPE html>
<html>
<head>
   <title>Time Table</title>
   <style>
      th {
         background-color: lightgray;
   </style>
</head>
<body>
   <caption><strong>Weekly Timetable</strong></caption>
      <!-- Header Row -->
      Day
         8:00 - 9:00
         9:00 - 10:00
```

```
10:00 - 11:00
 11:00 - 12:00<br>(Break)
 12:00 - 1:00
 1:00 - 2:00
 2:00 - 3:00
<!-- Monday -->
Monday
 HTML
 C
 Java
 Break
 HTML
 C
 Java
<!-- Tuesday -->
Tuesday
 C
 HTML
 Java
 Java
 HTML
 C
<!-- Wednesday -->
Wednesday
 SOC Lab
 C
 Java
 HTML
<!-- Thursday -->
Thursday
 SOC Lab
 HTML
 C
 Java
<!-- Friday -->
Friday
 C
 HTML
 Java
 Java
 HTML
 C
<!-- Saturday -->
```

```
← → C ① 127.0.0.1:5000/tables/timetable.html
```

Weekly Timetable							
Day	8:00 - 9:00	9:00 - 10:00	10:00 - 11:00	11:00 - 12:00 (Break)	12:00 - 1:00	1:00 - 2:00	2:00 - 3:00
Monday	HTML	С	Java		HTML	С	Java
Tuesday	С	HTML	Java		Java	HTML	С
Wednesday	SOC Lab			Break	С	Java	HTML
Thursday	SOC Lab				HTML	С	Java
Friday	С	HTML	Java		Java	HTML	С
Saturday	Java Lab				Java	С	HTML

Figure 8: Time Table

c) Write a HTML Program, to explain the working of forms by designing Registration form.(Note: include text field, password field, number of field, date of birth field, checkboxes, radio buttons, list boxes using <Select> & <option> tags, <text area> and two buttons i. e: submit and reset. Use tables to provide a better view.

Source Code: registration form.html

```
<!-- Password -->
          <label for="password">Password:</label>
                <input type="password" id="password" name="password"
required>
          <!-- Age -->
          <label for="age">Age:</label>
             <input type="number" id="age" name="age" min="1" max="99"
value="" required>
          <!-- Date of Birth -->
          <label for="dob">Date of Birth:</label>
              <input type="date" id="dob" name="dob" required>
          <!-- Gender (Radio Buttons) -->
          Gender:
              >
                 <input type="radio" id="male" name="gender" value="Male"</pre>
required>
                  <label for="male">Male</label>
                        <input type="radio" id="female" name="gender"</pre>
value="Female" required>
                  <label for="female">Female</label>
              <!-- Hobbies (Checkboxes) -->
          Hobbies:
              >
                   <input type="checkbox" name="hobby" value="Reading">
Reading
                    <input type="checkbox" name="hobby" value="Sports">
Sports
                 <input type="checkbox" name="hobby" value="Music"> Music
              <!-- Course (Select Box) -->
              <label for="course">Select Course:</label>
              <select id="course" name="course" required>
                     <option value="">--Select your course--</option>
                     <option value="B.Tech">B.Tech</option>
                     <option value="M.Tech">M.Tech</option>
                     <option value="Ph.D">Ph.D</option>
                  </select>
              <!-- Address (Textarea) -->
```

```
<label for="address">Address:</label>
                <textarea id="address" name="address" rows="4"
cols="30"></textarea>
         <!-- Submit and Reset Buttons -->
         <input type="submit" value="Submit">
               <input type="reset" value="Reset">
            </form>
</body>
</html>
Output:
```

Figure 9: Registration Form

d) 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" attributes such that frames to be fixed).

Source Code: frames.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Frames</title>
    <style>
        body {
           margin: 0;
        .container {
            display: flex;
            height: 100vh;
   </style>
</head>
<body>
    <div class="container">
        <iframe src="image.html" width="33%"></iframe>
        <iframe src="paragraph.html" width="33%"></iframe>
        <iframe src="hyperlink.html" width="33%"></iframe>
        <div>
                Your browser does not support frames/iframes.
                Please update your browser
            </noframes>
</body>
```

```
</html>
Source Code: image.html
<!DOCTYPE html>
<html>
<head>
    <title>image Frame</title>
    <style>
        html,
        body {
            margin: 0;
            padding: 0;
            height: 100%;
            width: 100%;
        }
        img {
            height: 100%;
            width: 100%;
            object-fit: cover;
            display: block;
    </style>
</head>
<body>
    <img src="image1.jpg" alt="Image is not found">
</html>
Source Code: paragraph.html
<!DOCTYPE html>
<html>
<head>
    <title>Paragraph Frame</title>
</head>
<body style="font-size:18px; padding:10px;">
    This is a paragraph loaded in the second frame. It explains how we
use separate HTML files in iframes to create a multi-section layout using
HTML only.
</body>
</html>
Source Code: hyperlink.html
<!DOCTYPE html>
<html>
<head>
    <title>Hyperlink Frame</title>
</head>
<body style="text-align:center; padding:20px;">
    <a href="https://www.google.com" target="_blank">Click here to go to
Google</a>
</body>
</html>
Output:
```

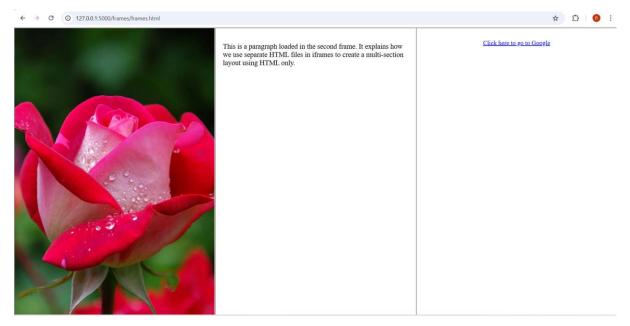


Figure 10: Frames-Image, Paragraph, Hyperlink

Experiment 3:

3. HTML 5 and Cascading, Style Sheets, Types of CSS

a) Write a HTML program that makes use of <article>, <aside>, <figure>, <figcaption>, <footer>, <header>, <main>, <nav>, <section>, <div>, tags
Source Code: html5 tags.html

```
<!DOCTYPE html>
<html>
<head>
  <title>HTML5 Tags</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      padding: 0;
    header, nav, main, section, article, aside, footer, div {
      padding: 10px;
      margin: 10px;
      border: 1px solid #ccc;
    }
    nav a {
      margin: 0 10px;
      text-decoration: none;
      color: blue;
    }
    .highlight {
      color: red;
      font-weight: bold;
  </style>
```

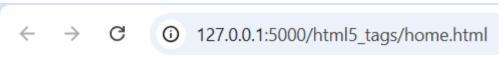
```
</head>
<body>
 <!-- Header -->
  <header>
    <h1 align="center">My Blog Website</h1>
    Welcome to my blog
  </header>
  <!-- Navigation -->
  <nav align="center">
    <a href="home.html" target="_blank">HOME</a>
   <a href="about.html" target="_blank">ABOUT US</a>
    <a href="article.html" target="_blank">ARTICLES</a>
    <a href="contact.html" target="_blank">CONTACT US</a>
  </nav>
  <!-- Main Content -->
  <main>
    <section>
     <h2>Technology</h2>
     <!-- Article -->
     <article>
        <h3>What is HTML5?</h3>
        HTML5 is the latest version of HyperText Markup Language used to
structure web pages.
       <!-- Figure and Figcaption -->
        <figure>
         <img src="html5 logo.png" width="100" height="100" alt="HTML5</pre>
Logo">
         <figcaption>Figure: HTML5 Official Logo</figcaption>
        </figure>
        <!-- Using span inside paragraph -->
        HTML5 includes semantic tags like
         <span class="highlight">&lt;article&gt;</span>
         <span class="highlight">&lt;section&gt;</span>.
       </article>
    </section>
    <!-- Aside -->
    <aside>
     <h4>Related Links</h4>
     <l
       <a href="https://www.w3schools.com/css/">CSS3 Tutorial</a>
                          href="https://www.w3schools.com/js/">JavaScript
Basics</a>
     </aside>
 </main>
  <!-- Div -->
    This content is inside a <span class="highlight">&lt;div&gt;</span>
tag.
  </div>
  <!-- Footer -->
  <footer>
```



Figure 11: HTML5 Tags

Source Code: home.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Home - My Blog</title>
</head>
<body>
    <h1>Welcome to My Blog</h1>
    This is the home page of my blog website.
</body>
</html>
Output:
```



Welcome to My Blog

This is the home page of my blog website.

Figure 12: Home Page

Source Code: about.html

```
<!DOCTYPE html>
<html>
<head>
    <title>About - My Blog</title>
</head>
<body>
    <h1>About Us</h1>
    This blog is created to share web development knowledge.
</body>
</html>
```

Output:



About Us

This blog is created to share web development knowledge.

Figure 13: About Us Page

Source Code: article.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Article - My Blog</title>
</head>
<body>
    <h1>What is HTML5?</h1>
    HTML5 is the latest version of HTML used for structuring webpages.
</body>
</html>
Output:
```



What is HTML5?

Source Code: contact.html

HTML5 is the latest version of HTML used for structuring webpages.

Figure 14: Article Page

Contact Us

Source Code: media.html

Email: contact@myblog.com

Figure 15: Contact Us Page

b) Write a HTML program, to embed audio and video into HTML web page

c) 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

Source Code: types of css.html

Output:

and value)

```
<!DOCTYPE html>
<html>
<head>
    <title>CSS Styles</title>
    <!-- External Style -->
    <link rel="stylesheet" type="text/css" href="styles.css">
    <!-- Internal Style -->
    <style>
        /* Selector: h2, Property: color, Value: blue */
        h2 {
            color: blue;
            font-family: Arial, sans-serif;
        /* Selector: .internal-class, Property: background-color, Value:
lightyellow */
        .internal-class {
            background-color: lightyellow;
            padding: 10px;
            border: 2px solid orange;
            width:600px;
    </style>
</head>
<body>
    <!-- Inline Style -->
    <h1 style="color: red;">
        Inline Style
```

```
</h1>
   <!-- Internal Style -->
   This paragraph uses internal CSS with a class selector.
   <!-- External Style -->
   This paragraph uses external CSS from styles.css.
   </body>
</html>
Source Code: styles.css
/* Selector: .external-class, Property: background-color, Value: lightgreen
*/
.external-class {
   background-color: lightgreen;
   font-size: 18px;
   padding: 8px;
   border: 2px solid green;
   width:600px;
Output:
```

Experiment 4:

4. Selector forms

- a) Write a program to apply different types of selector forms
- 1. Simple selector(element, id, class, group, universal)
- 2. Combinator selector(descendant, child, adjacent sibling, general sibling)
- 3. Pseudo-class selector
- 4. Pseudo-element selector
- 5. Attribute selector

Source Code: selectors.html

```
/* 2. Combinator Selectors */
   div p { color: red; }
                                 /* descendant */
   div > span { color: purple; }
                                 /* child */
   h2 + p { background: lightgray; } /* adjacent sibling */
   h3 ~ ul { border: 1px solid black;} /* general sibling */
   /* 3. Pseudo-class Selector */
   a:hover { color: orange; }
   /* 4. Pseudo-element Selector */
  p::first-letter {
     font-size: 24px;
     color: brown;
   /* 5. Attribute Selector */
   button[id="button"] {
     background-color: blue;
     color: white;
   }
 </style>
</head>
<body>
 <h1>Simple Selector</h1>
 <h2 id="special">ID Selector</h2>
 This is a paragraph with a class selector
 <div>
   Descendant selector inside a div
   <span>Child selector span inside div</span>
 <!--Select the first <p> element that comes immediately after an <h2>. -
->
 <h2>Heading</h2>
 This paragraph will get lightgray background
 This paragraph will NOT get it 
 <!-- Select all <ul> elements that come after an <h2> (not just the first
one). -->
 <h3>Heading</h3>
 First list
 Second list
 <a href="#">Hover over this link</a>
 <!-- all paragraph First Letter is brown -->
 Hello world
 <button type="button" id="button" >Click Me</button>
</body>
</html>
Output:
```

Experiment 5:

5. CSS with Color, Background, Font, Text and CSS Box Model

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

b) Write a CSS rule that places a background image halfway down the page, tiling it horizontally. The image should remain in place when the user scrolls up or down Source Code: css color bg.html

```
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <title>CSS Color, Background</title>
 <style>
   /* a. Different ways to apply color */
   h1 { color: red; }
                                 /* named color */
   h2 { color: #00ff00; }
                                /* hex code */
   h3 { color: rgb(0, 0, 255); } /* RGB */
   p { color: rgba(255, 165, 0, 0.5);} /* RGBA with opacity */
   /* b. Background image */
   body {
     background-image: url("https://www.w3schools.com/css/img_tree.png");
     }
 </style>
</head>
<body>
 <!-- Colors -->
 <h1>Color : Named Color (Red)</h1>
 <h2>Color : Hex (#00ff00)</h2>
 <h3>Color : RGB (0,0,255)</h3>
 Color : RGBA with opacity
</body>
</html>
Output:
```

- 5. CSS with Font, Text and CSS Box Model
- c) 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
- d) Write a program, to explain the importance of CSS Box model using
- i. Content ii. Border iii. Margin iv. padding

Source Code: css font text box.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>CSS Font, Text and CSS Box Model</title>
    <style>
```

```
/* a. Font & Text properties */
    .text-demo {
    font-size: 20px;
    font-weight: bold;
    font-style: italic;
    text-decoration: underline;
    text-transform: uppercase;
    text-align: justify;
    color: blue;
    background: yellow;
    display: inline-block; /* shrink width to content */
    padding: 5px 10px;
                           /* optional: space inside background */
   /* b. CSS Box Model */
    .box {
                             /* space outside */
      margin: 20px;
      border: 3px solid black; /* border */
      padding: 15px; /* space inside */
      width: 200px;
                           /* content area */
      background: #f0e68c;
    }
  </style>
</head>
<body>
  <!-- Font & Text -->
  <div class="text-demo">
    This is CSS Font and Text Demonstration
  </div>
  <!-- Box Model -->
  <div class="box">
    This is a Box Model (content + padding + border + margin).
  </div>
</body>
</html>
Output:
```

Experiment 6:

6. Applying JavaScript - internal and external, I/O, Type Conversion

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

Source Code: js internal external.html

Embed internal and external JavaScript

Run Internal JS Run External JS

Figure 16: HTML Page – Embed Internal and External JavaScript



Figure 17: Output of Internal JavaScript



Figure 18: Output of External JavaScript

b) Write a program to explain the different ways for displaying output-

Source Code: js output methods.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Display output in JavaScript</title>
    <script>
        // 1. Using alert()
        function showAlert() {
            alert("This is displayed using alert()");
       // 2. Using console.log()
       function showConsole() {
            console.log("This is displayed
                                                in the console
                                                                     using
console.log()");
       // 3. Using document.write()
       function showDocumentWrite() {
            document.write("This is displayed using
                                                          document.write()
<br>");
        // 4. Using innerHTML
       function showInnerHTML() {
            document.getElementById("outputDiv").innerHTML = "This
                                                                        is
displayed using innerHTML";
    </script>
</head>
<body>
    <h1>Different Ways to Display Output</h1>
    <button onclick="showAlert()">Alert</button>
    <button onclick="showConsole()">Console.log</button>
    <button onclick="showDocumentWrite()">Document.write</button>
    <button onclick="showInnerHTML()">InnerHTML</button>
    <div id="outputDiv" style="margin-top:20px; color:blue;"></div>
</body>
</html>
Output:
```

c) Write a program to explain the different ways for taking input

Source Code: js input methods.html

```
}
        // 2. Using input field and button
        function takeInputField() {
   let age = document.getElementById("age").value;
             alert("Your age is " + age );
    </script>
</head>
<body>
    <h1>Different Ways to Take Input</h1>
    <!-- Button for prompt() -->
    <button onclick="takePrompt()">Input using prompt()</button>
    <br><br><br>>
    <!-- Input field and button -->
    <input type="number" id="age" placeholder="Enter your age">
    <button onclick="takeInputField()">Input using input field</button>
</body>
</html>
Output:
```