FRONT END DEVELOPMENT FRAMEWORKS
Week-4

Aim: **To Implement HTML5 and CSS Positioning with Responsive Design**
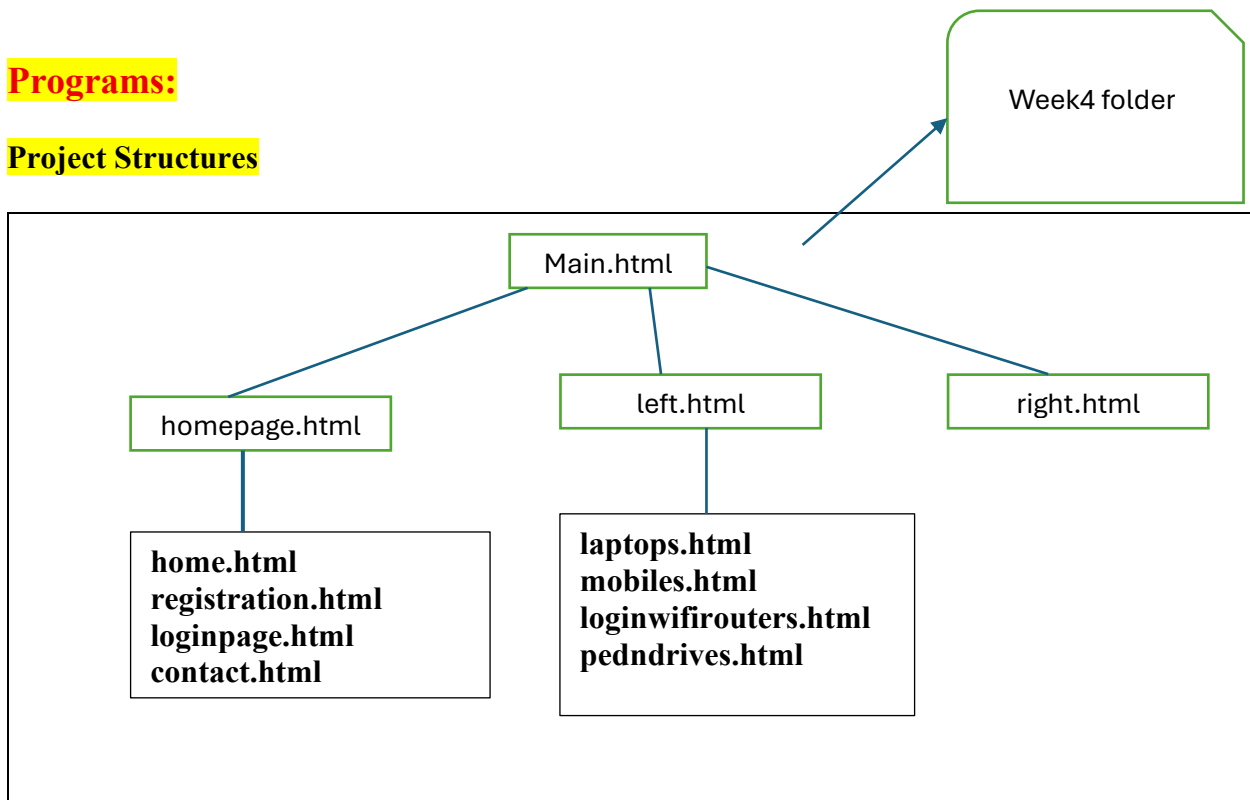
Description:

This project presents a responsive product webpage built using semantic HTML5 elements and modern CSS3 features. It includes a fixed top navigation bar using CSS positioning to ensure seamless access to all sections during scrolling. The layout is structured with <header>, <nav>, <section>, and <footer> tags for clarity and accessibility. A featured product slideshow is implemented using CSS keyframe animations, offering a smooth, auto-playing visual showcase of top products like laptops, mobiles, routers, and pen drives. The design is fully responsive, with CSS media queries adapting the layout for various screen sizes, ensuring optimal viewing on both desktop and mobile devices. The final output is tested across devices and browsers for performance, usability, and cross-platform compatibility.
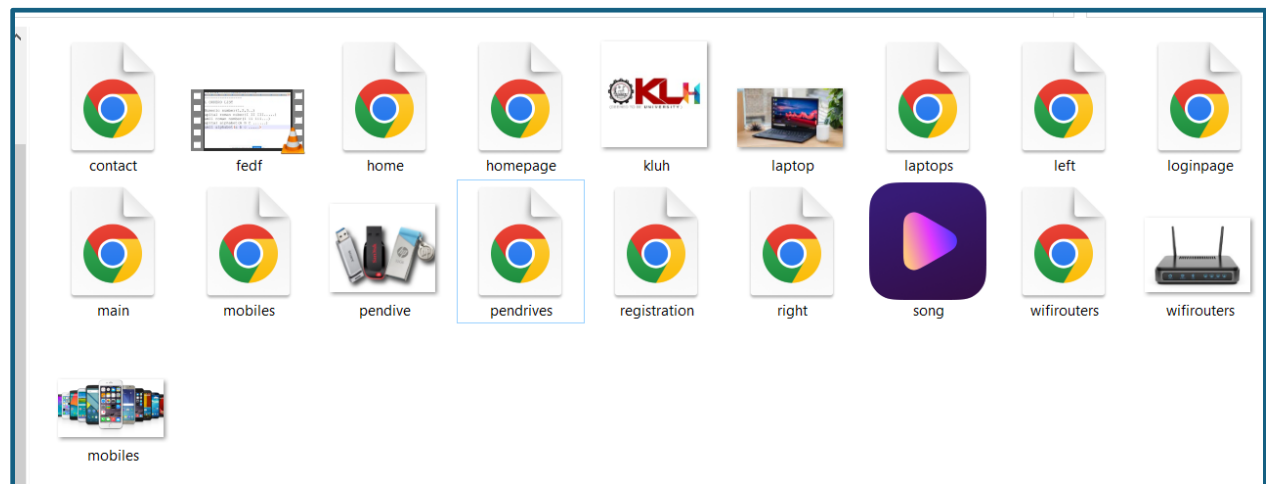
Tasks:

1. **Create the basic structure** of the webpage using semantic HTML5 elements:
   o `<header>`, `<nav>`, `<section>`, and `<footer>`.
2. **Implement CSS positioning:**
   o Use `fixed` positioning for the navigation bar to keep it pinned to the top during scrolling.
   o Use `relative`, `absolute`, or other positioning techniques as necessary to achieve layout goals.
3. **Create a featured product slideshow**:
   o Use CSS transitions or keyframe animations to create an auto-playing or manually controlled slideshow.
4. **Make the layout responsive**:
   o Apply CSS media queries to adjust styles for different screen sizes (especially for mobile view).
5. **Test and validate**:
   o Preview the webpage in both mobile and desktop views to ensure functionality and responsiveness.
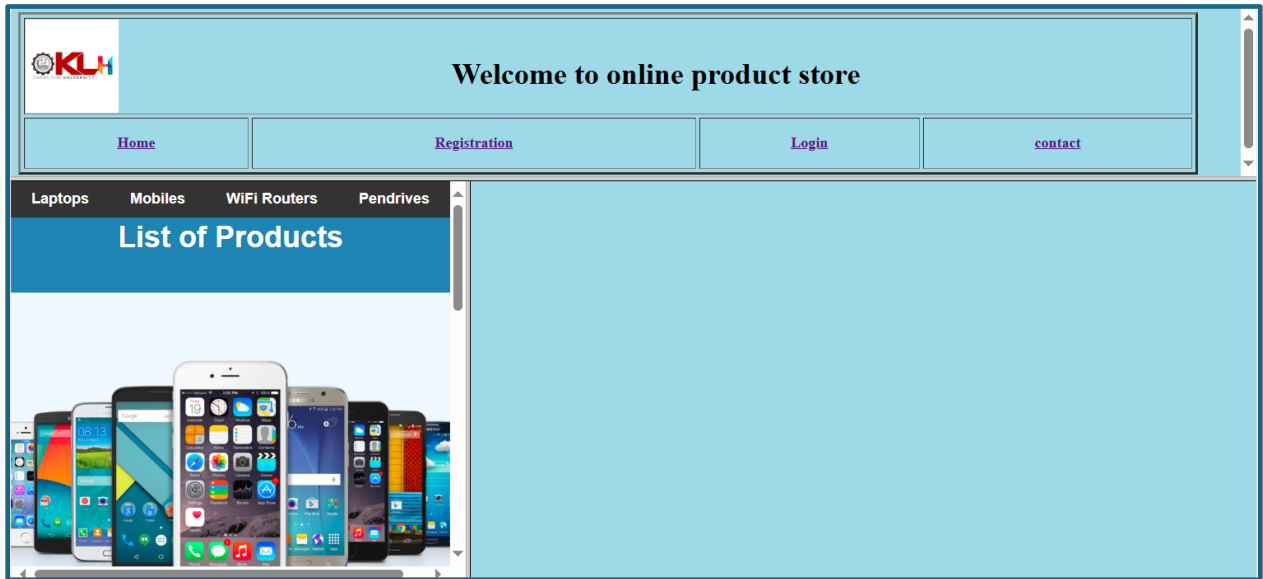
Project Structures

Week4 folder

Main.html

homepage.html   left.html   right.html

home.html
registration.html
loginpage.html
contact.html

laptops.html
mobiles.html
loginwifirouters.html
pedndrives.html

Example:

```html
<frameset rows="30%,*">
<frame src="homepage.html">
<frameset cols="15%,*">
<frame src="left.html">
<frame src="right.html" name="empty">
</frameset>
</frameset>
```

```html
<html>
<body bgcolor="lightblue">

<table border="3" height="175" width="1275"
        cellspacing="4">
<tr>
<th colspan="5" height="100">
<img src="kluh.png" height="100"
   width="100" align="left" align="middle" >
               
<h1>Welcome to online product store</h1>
</th>
</tr>
<tr>
<th><a href="home.html" target="empty">Home</a>
</th>
```

```
<th><a href="registration.html" target="empty">Registration </a>
</th>
<th><a href="loginpage.html" target="empty">
            Login</a></th>
<th><a href="contact.html" target="empty">contact</a></th>
</tr>
</table>
</body>
</html>
```
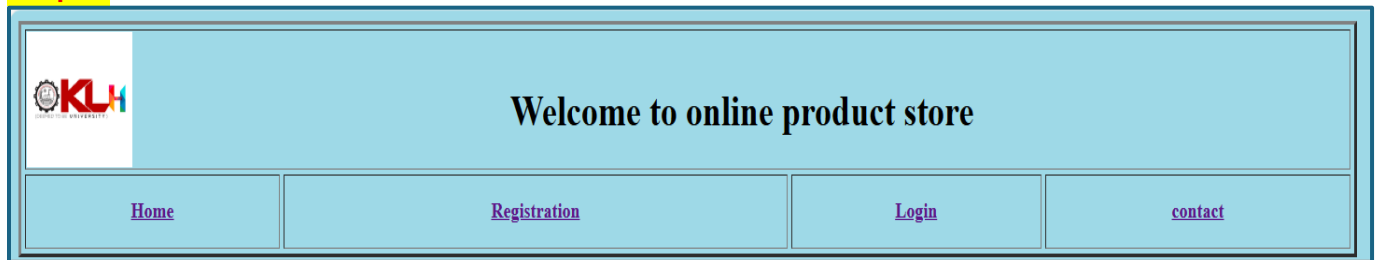
Welcome to online product store

| Home | Registration | Login | contact |

home.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Media Player Page</title>
  <style>
    body {
      background-color: lightblue;
      font-family: Arial, sans-serif;
      text-align: center;
    }
    header, nav, section, footer {
      padding: 20px;
      margin: 10px;
    }
    nav a {
      margin: 0 15px;
      text-decoration: none;
      color: darkblue;
      font-weight: bold;
    }
  </style>
</head>
<body>
```
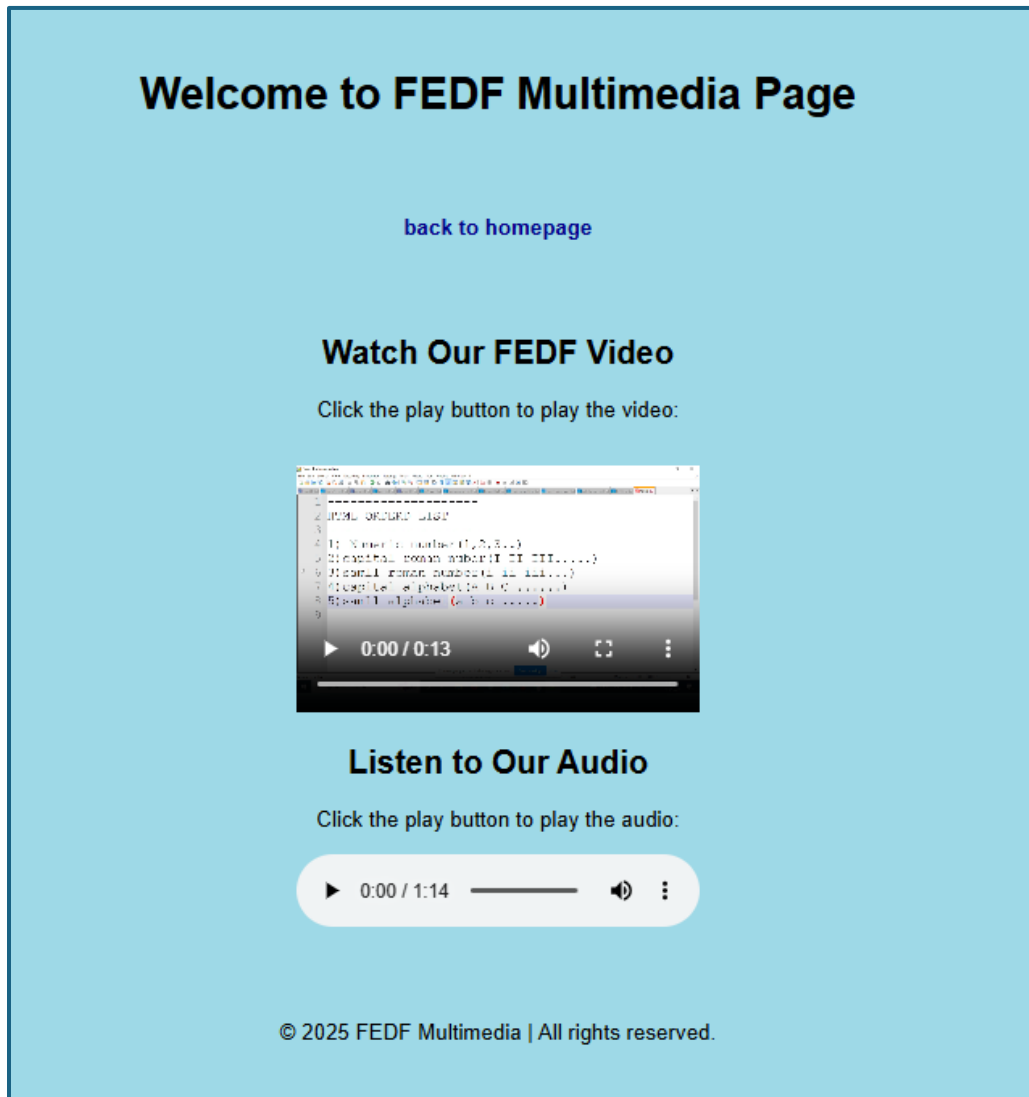
```html
<header>
 <h1>Welcome to FEDF Multimedia Page</h1>
</header>
<nav>
 <a href="home.html">back to homepage</a>
  </nav>
<section>
 <h2>Watch Our FEDF Video</h2>
 <p>Click the play button to play the video:</p>
 <video width="300" height="200" controls autoplay>
   <source src="fedf.mp4" type="video/mp4">
   Your browser does not support the video tag.
 </video>
 <h2>Listen to Our Audio</h2>
 <p>Click the play button to play the audio:</p>
 <audio controls>
   <source src="song.ogg" type="audio/ogg">
   Your browser does not support the audio tag.
 </audio>
</section>
<footer>
 <p>&copy; 2025 FEDF Multimedia | All rights reserved.</p>
</footer>
</body>
</html>
```

Welcome to FEDF Multimedia Page

back to homepage

Watch Our FEDF Video

Click the play button to play the video:

▶ 0:00 / 0:13   🔊   ⛶   ⋮

Listen to Our Audio

Click the play button to play the audio:

▶ 0:00 / 1:14 ———————— 🔊 ⋮

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registration.html

```
<!DOCTYPE html>
<html>
<head>
 <title>Registration</title>
 <script>
   function registerUser() {
     const username = document.getElementById("username").value.trim();
     const password = document.getElementById("password").value;

     if (username === "" || password === "") {
       alert("Please enter both username and password.");
```
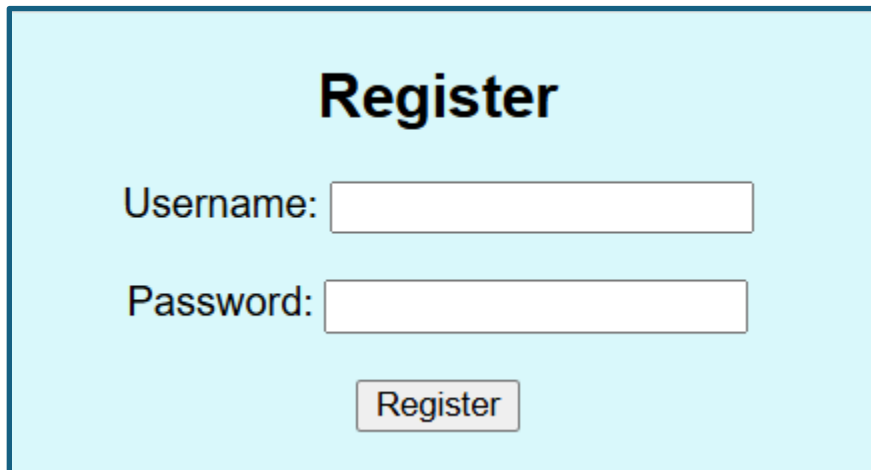
```
      return false;
    }

    if (password.length < 6) {
      alert("Password must be at least 6 characters.");
      return false;
    }

    localStorage.setItem("username", username);
    localStorage.setItem("password", password);
    alert("Registration successful! Proceed to login.");
    return true;
    }
  </script>
</head>
<body style="background-color: #e0f7fa; font-family: Arial;">
  <center>
    <h2>Register</h2>
    <form onsubmit="return registerUser();" action="login.html">
      <label>Username:</label>
      <input type="text" id="username"><br><br>
      <label>Password:</label>
      <input type="password" id="password"><br><br>
      <input type="submit" value="Register">
    </form>
  </center>
</body>
</html>
```

<mark>Output:</mark>

```html
<!DOCTYPE html>
<html>
<head>
 <title>Login</title>
 <script>
  function loginUser() {
    const username = document.getElementById("username").value.trim();
    const password = document.getElementById("password").value;

    const storedUsername = localStorage.getItem("username");
    const storedPassword = localStorage.getItem("password");

    if (username === "" || password === "") {
      alert("Enter both username and password.");
      return false;
    }

    if (username === storedUsername && password === storedPassword) {
      alert("Login successful!");
      return true;
    } else {
      alert("Invalid credentials. Try again.");
      return false;
    }
  }
 </script>
</head>
<body style="background-color: #fce4ec; font-family: Arial;">
 <center>
   <h2>Login</h2>
   <form onsubmit="return loginUser();">
    <label>Username:</label>
    <input type="text" id="username"><br><br>
    <label>Password:</label>
    <input type="password" id="password"><br><br>
    <input type="submit" value="Login">
   </form>
 </center>
</body>
</html>
```

```
<!DOCTYPE html>
<html>
<head>
 <title>Front End Development Framework</title>
</head>
<body>
<center>
 <table border="3" width="500" height="175" cellpadding="10" >
  <tr>
   <th colspan="2">Front End Development Framework Course Cordinator</th>
  </tr>
  <tr>
   <td><strong>Name of the  Faculty</strong></td>
   <td>Dr. Y Subbarayudu</td>
  </tr>
  <tr>
   <td><strong>Highest Qualification</strong></td>
   <td>Post Doctorate (University of London, UK)and Ph.D (JNTUA,Inida)</td>
  </tr>
  <tr>
   <td><strong>Experience in Years</strong></td>
   <td>14 years</td>
  </tr>
  <tr>
   <td><strong>Designation</strong></td>
   <td>Assistant Professor</td>
  </tr>
  <tr>
   <td><strong>University Name & Address</strong></td>
   <td>K L University, Bachupally, Hyderabad</td>
  </tr>
```

```html
   <tr>
     <td><strong>Phone Number</strong></td>
     <td>9059930490</td>
   </tr>
   <tr>
     <td><strong>Email ID</strong></td>
     <td>drysubbarayudu@gmail.com</td>
   </tr>
 </table>
 </center>
</body>
</html>
```

Front End Development Framework Course Cordinator	
Name of the Faculty	Dr. Y Subbarayudu
Highest Qualification	Post Doctorate (University of London, UK)and Ph.D (JNTUA,Inida)
Experience in Years	14 years
Designation	Assistant Professor
University Name & Address	K L University, Bachupally, Hyderabad
Phone Number	9059930490
Email ID	drysubbarayudu@gmail.com

left.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <title>Online Product Store</title>
 <style>
   body {
     font-family: Arial, sans-serif;
     margin: 0;
     padding: 0;
     background-color: #f0f8ff;
   }
```

```css
header {
  background-color: #4682b4;
  color: white;
  padding: 20px;
  text-align: center;
}

nav {
  position: fixed;
  top: 0;
  width: 100%;
  background-color: #333;
  padding: 10px 0;
  z-index: 1000;
  text-align: center;
}

nav a {
  color: white;
  margin: 0 20px;
  text-decoration: none;
  font-weight: bold;
}

nav a:hover {
  text-decoration: underline;
}

/* Slideshow styles */
.slideshow-container {
  max-width: 100%;
  height: 300px;
  position: relative;
  overflow: hidden;
  margin-top: 70px;
}

.slide {
  width: 100%;
  height: 100%;
  position: absolute;
  opacity: 0;
  animation: fade 16s infinite;
}
```

```css
.slide img {
  width: 100%;
  height: 100%;
  object-fit: cover;
}

.slide:nth-child(1) { animation-delay: 0s; }
.slide:nth-child(2) { animation-delay: 4s; }
.slide:nth-child(3) { animation-delay: 8s; }
.slide:nth-child(4) { animation-delay: 12s; }

@keyframes fade {
  0% { opacity: 0; }
  5% { opacity: 1; }
  25% { opacity: 1; }
  30% { opacity: 0; }
  100% { opacity: 0; }
}

section {
  padding: 40px 20px;
  margin: 20px;
  background-color: #e0ffff;
  border: 1px solid #ccc;
  border-radius: 5px;
}

footer {
  background-color: #4682b4;
  color: white;
  text-align: center;
  padding: 15px;
  position: relative;
  bottom: 0;
  width: 100%;
}
</style>
</head>
<body>

<nav>
  <a href="#laptops">Laptops</a>
  <a href="#mobiles">Mobiles</a>
  <a href="#routers">WiFi Routers</a>
  <a href="#pendrives">Pendrives</a>
</nav>
```

```html
<header>
  <h1>List of Products</h1>
</header>

<!-- Slideshow -->
<div class="slideshow-container">
  <div class="slide"><img src="laptop.jfif" alt="Laptops"></div>
  <div class="slide"><img src="mobiles.png" alt="Mobiles"></div>
  <div class="slide"><img src="wifirouters.jpg" alt="WiFi Routers"></div>
  <div class="slide"><img src="pendrive.png" alt="Pendrives"></div>
</div>

<section id="laptops">
  <a href="laptops.html" target="empty">Laptops</a>
  <p>Explore the latest and top-performing laptops in India.</p>
</section>

<section id="mobiles">
  <a href="mobiles.html" target="empty">Mobiles</a>
  <p>Check out the best mobile phones available in the Indian market.</p>
</section>

<section id="routers">
  <a href="wifirouters.html" target="empty">WiFi Routers</a>
  <p>Browse our collection of high-speed WiFi routers.</p>
</section>

<section id="pendrives">
  <a href="pendrives.html" target="empty">Pendrives</a>
  <p>Affordable and reliable USB flash drives of all capacities.</p>
</section>

<footer>
  <p>&copy; 2025 Online Product Store | Contact: drysubbarayudu@gmail.com</p>
</footer>

</body>
</html>
```
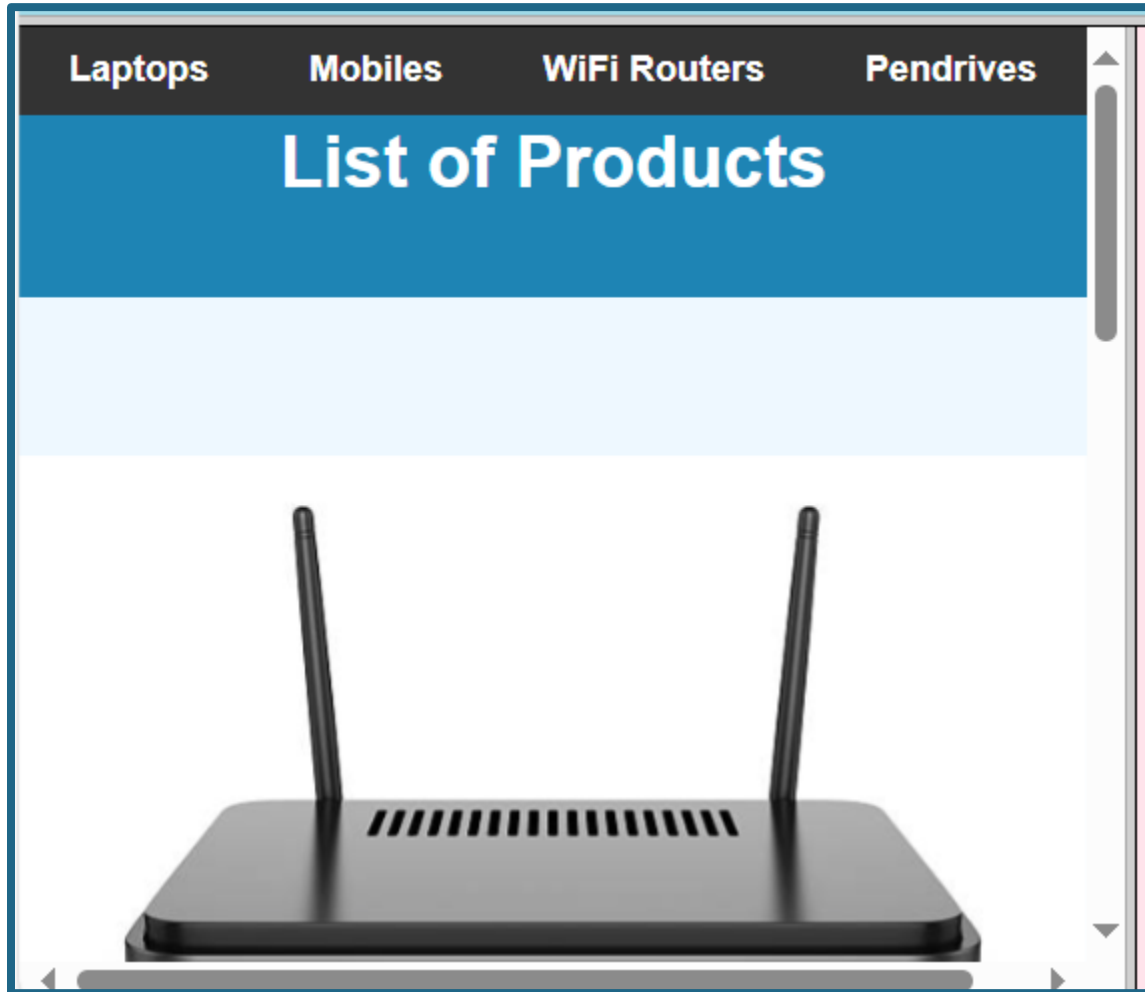
```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Top 10 Laptops in India</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #f2f2f2;
      margin: 20px;
    }
    h1 {
```

```
      text-align: center;
      color: #333;
    }
    table {
      width: 90%;
      margin: auto;
      border-collapse: collapse;
      background-color: white;
      box-shadow: 0 0 10px rgba(0,0,0,0.1);
    }
    th, td {
      padding: 12px;
      border: 1px solid #ccc;
      text-align: left;
    }
    th {
      background-color: #4CAF50;
      color: white;
    }
    tr:hover {
      background-color: #f5f5f5;
    }
    caption {
      caption-side: bottom;
      padding: 10px;
      font-size: 0.9em;
      color: #666;
    }
  </style>
</head>
<body>

  <h1>Top 10 Laptops in India (2025)</h1>

  <table>
   <tr>
     <th>Rank</th>
     <th>Laptop Model</th>
     <th>Processor</th>
     <th>RAM</th>
     <th>Price (Approx)</th>
   </tr>
   <tr>
     <td>1</td>
     <td>Apple MacBook Air M2</td>
     <td>Apple M2</td>
```

```html
  <td>8GB</td>
  <td>₹1,10,000</td>
</tr>
<tr>
  <td>2</td>
  <td>HP Spectre x360</td>
  <td>Intel i7 13th Gen</td>
  <td>16GB</td>
  <td>₹1,25,000</td>
</tr>
<tr>
  <td>3</td>
  <td>Dell XPS 13</td>
  <td>Intel i7 12th Gen</td>
  <td>16GB</td>
  <td>₹1,20,000</td>
</tr>
<tr>
  <td>4</td>
  <td>Lenovo Yoga Slim 7 Pro</td>
  <td>AMD Ryzen 7</td>
  <td>16GB</td>
  <td>₹89,000</td>
</tr>
<tr>
  <td>5</td>
  <td>ASUS ROG Zephyrus G14</td>
  <td>AMD Ryzen 9</td>
  <td>16GB</td>
  <td>₹1,45,000</td>
</tr>
<tr>
  <td>6</td>
  <td>Acer Swift Go 14</td>
  <td>Intel i5 13th Gen</td>
  <td>16GB</td>
  <td>₹67,000</td>
</tr>
<tr>
  <td>7</td>
  <td>Microsoft Surface Laptop 5</td>
  <td>Intel i5 12th Gen</td>
  <td>8GB</td>
  <td>₹1,05,000</td>
</tr>
<tr>
```

```html
    <td>8</td>
    <td>Lenovo Legion 5 Pro</td>
    <td>AMD Ryzen 7</td>
    <td>16GB</td>
    <td>₹1,35,000</td>
  </tr>
  <tr>
    <td>9</td>
    <td>ASUS Vivobook S15 OLED</td>
    <td>Intel i5 12th Gen</td>
    <td>16GB</td>
    <td>₹75,000</td>
  </tr>
  <tr>
    <td>10</td>
    <td>HP Pavilion Plus</td>
    <td>Intel i7 12th Gen</td>
    <td>16GB</td>
    <td>₹85,000</td>
  </tr>
 </table>

  <caption>Note: Prices are approximate and may vary based on location and
configuration.</caption>

</body>
</html>
```
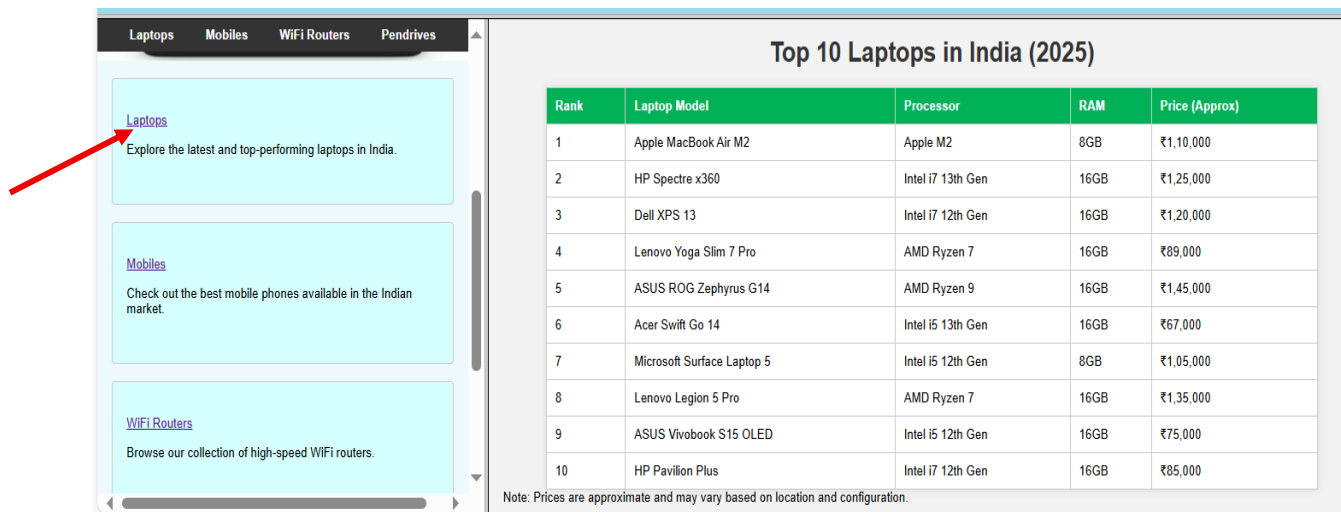
Rank	Laptop Model	Processor	RAM	Price (Approx)
1	Apple MacBook Air M2	Apple M2	8GB	₹1,10,000
2	HP Spectre x360	Intel i7 13th Gen	16GB	₹1,25,000
3	Dell XPS 13	Intel i7 12th Gen	16GB	₹1,20,000
4	Lenovo Yoga Slim 7 Pro	AMD Ryzen 7	16GB	₹89,000
5	ASUS ROG Zephyrus G14	AMD Ryzen 9	16GB	₹1,45,000
6	Acer Swift Go 14	Intel i5 13th Gen	16GB	₹67,000
7	Microsoft Surface Laptop 5	Intel i5 12th Gen	8GB	₹1,05,000
8	Lenovo Legion 5 Pro	AMD Ryzen 7	16GB	₹1,35,000
9	ASUS Vivobook S15 OLED	Intel i5 12th Gen	16GB	₹75,000
10	HP Pavilion Plus	Intel i7 12th Gen	16GB	₹85,000

Top 10 Laptops in India (2025)

Note: Prices are approximate and may vary based on location and configuration.

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Top 10 Mobile Phones in India</title>
  <style>
    body {
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
      background-color: #eef1f5;
      margin: 0;
      padding: 20px;
    }
    h1 {
      text-align: center;
      color: #333;
      margin-bottom: 30px;
    }
    table {
      width: 90%;
      margin: auto;
      border-collapse: collapse;
      background-color: #fff;
      box-shadow: 0 0 15px rgba(0, 0, 0, 0.1);
    }
    th, td {
      padding: 12px 16px;
      border: 1px solid #ccc;
      text-align: left;
    }
    th {
      background-color: #007BFF;
      color: white;
    }
    tr:hover {
      background-color: #f1f1f1;
    }
    caption {
      margin-top: 10px;
      text-align: center;
      font-size: 0.9em;
      color: #555;
    }
  </style>
</head>
```

```html
<body>

  <h1>Top 10 Mobile Phones in India (2025)</h1>

  <table>
    <tr>
      <th>Rank</th>
      <th>Mobile Model</th>
      <th>Processor</th>
      <th>RAM</th>
      <th>Price (Approx)</th>
    </tr>
    <tr>
      <td>1</td>
      <td>Apple iPhone 15 Pro Max</td>
      <td>A17 Pro</td>
      <td>8GB</td>
      <td>₹1,59,900</td>
    </tr>
    <tr>
      <td>2</td>
      <td>Samsung Galaxy S24 Ultra</td>
      <td>Snapdragon 8 Gen 3</td>
      <td>12GB</td>
      <td>₹1,34,999</td>
    </tr>
    <tr>
      <td>3</td>
      <td>OnePlus 12</td>
      <td>Snapdragon 8 Gen 3</td>
      <td>16GB</td>
      <td>₹64,999</td>
    </tr>
    <tr>
      <td>4</td>
      <td>Google Pixel 8 Pro</td>
      <td>Google Tensor G3</td>
      <td>12GB</td>
      <td>₹98,999</td>
    </tr>
    <tr>
      <td>5</td>
      <td>Xiaomi 14 Ultra</td>
      <td>Snapdragon 8 Gen 3</td>
      <td>16GB</td>
      <td>₹89,999</td>
```

```html
      </tr>
      <tr>
        <td>6</td>
        <td>iQOO 12</td>
        <td>Snapdragon 8 Gen 3</td>
        <td>12GB</td>
        <td>₹52,999</td>
      </tr>
      <tr>
        <td>7</td>
        <td>Vivo X100 Pro</td>
        <td>MediaTek Dimensity 9300</td>
        <td>16GB</td>
        <td>₹89,999</td>
      </tr>
      <tr>
        <td>8</td>
        <td>Realme GT 6</td>
        <td>Snapdragon 8s Gen 3</td>
        <td>12GB</td>
        <td>₹41,999</td>
      </tr>
      <tr>
        <td>9</td>
        <td>Motorola Edge 50 Ultra</td>
        <td>Snapdragon 8 Gen 2</td>
        <td>12GB</td>
        <td>₹59,999</td>
      </tr>
      <tr>
        <td>10</td>
        <td>Nothing Phone (2)</td>
        <td>Snapdragon 8+ Gen 1</td>
        <td>12GB</td>
        <td>₹44,999</td>
      </tr>
    </table>
    <caption>Note: Prices may vary based on availability, variant, and region.</caption>
  </body>
</html>
```

Laptops   Mobiles   WiFi Routers   Pendrives

Mobiles
Check out the best mobile phones available in the Indian market.

WiFi Routers
Browse our collection of high-speed WiFi routers.

Pendrives
Affordable and reliable USB flash drives of all capacities.

Top 10 Mobile Phones in India (2025)

Rank	Mobile Model	Processor	RAM	Price (Approx)
1	Apple iPhone 15 Pro Max	A17 Pro	8GB	₹1,59,900
2	Samsung Galaxy S24 Ultra	Snapdragon 8 Gen 3	12GB	₹1,34,999
3	OnePlus 12	Snapdragon 8 Gen 3	16GB	₹64,999
4	Google Pixel 8 Pro	Google Tensor G3	12GB	₹98,999
5	Xiaomi 14 Ultra	Snapdragon 8 Gen 3	16GB	₹89,999
6	iQOO 12	Snapdragon 8 Gen 3	12GB	₹52,999
7	Vivo X100 Pro	MediaTek Dimensity 9300	16GB	₹89,999
8	Realme GT 6	Snapdragon 8s Gen 3	12GB	₹41,999
9	Motorola Edge 50 Ultra	Snapdragon 8 Gen 2	12GB	₹59,999

wifirouters.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Top 10 Wi-Fi Routers in India (2025)</title>
  <style>
    body {
      font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
      background-color: #f5f9ff;
      margin: 0;
      padding: 20px;
    }

    h1 {
      text-align: center;
      color: #222;
      margin-bottom: 30px;
    }

    table {
      width: 90%;
      margin: auto;
      border-collapse: collapse;
      background-color: #fff;
      box-shadow: 0 0 15px rgba(0, 0, 0, 0.1);
    }
```

```
    th, td {
      padding: 14px 16px;
      border: 1px solid #ccc;
      text-align: left;
    }

    th {
      background-color: #2c7be5;
      color: white;
    }

    tr:hover {
      background-color: #f1f1f1;
    }

    caption {
      margin-top: 12px;
      text-align: center;
      font-size: 0.9em;
      color: #555;
    }
  </style>
</head>
<body>

  <h1>Top 10 Wi-Fi Routers in India (2025)</h1>

  <table>
    <tr>
      <th>Rank</th>
      <th>Router Model</th>
      <th>Speed</th>
      <th>Type</th>
      <th>Approx Price</th>
    </tr>
    <tr>
      <td>1</td>
      <td>TP-Link Archer AX11000</td>
      <td>Up to 10756 Mbps</td>
      <td>Tri-Band Wi-Fi 6</td>
      <td>₹25,999</td>
    </tr>
    <tr>
      <td>2</td>
      <td>ASUS RT-AX88U Pro</td>
      <td>Up to 6000 Mbps</td>
```

```
   <td>Dual-Band Wi-Fi 6</td>
   <td>₹21,499</td>
 </tr>
 <tr>
   <td>3</td>
   <td>Netgear Nighthawk RAX50</td>
   <td>Up to 5400 Mbps</td>
   <td>Dual-Band Wi-Fi 6</td>
   <td>₹17,999</td>
 </tr>
 <tr>
   <td>4</td>
   <td>TP-Link Deco X60 (2 Pack)</td>
   <td>Up to 3000 Mbps</td>
   <td>Mesh Wi-Fi 6</td>
   <td>₹14,999</td>
 </tr>
 <tr>
   <td>5</td>
   <td>ASUS ROG Rapture GT-AX6000</td>
   <td>Up to 6000 Mbps</td>
   <td>Gaming Wi-Fi 6</td>
   <td>₹23,999</td>
 </tr>
 <tr>
   <td>6</td>
   <td>D-Link DIR-X5460</td>
   <td>Up to 5400 Mbps</td>
   <td>Dual-Band Wi-Fi 6</td>
   <td>₹16,499</td>
 </tr>
 <tr>
   <td>7</td>
   <td>Linksys Velop AX4200</td>
   <td>Up to 4200 Mbps</td>
   <td>Mesh Wi-Fi 6</td>
   <td>₹18,999</td>
 </tr>
 <tr>
   <td>8</td>
   <td>Netgear Orbi RBK752</td>
   <td>Up to 4200 Mbps</td>
   <td>Mesh Wi-Fi 6</td>
   <td>₹22,999</td>
 </tr>
 <tr>
```

```
      <td>9</td>
      <td>TP-Link Archer AX73</td>
      <td>Up to 5400 Mbps</td>
      <td>Dual-Band Wi-Fi 6</td>
      <td>₹12,999</td>
    </tr>
    <tr>
      <td>10</td>
      <td>Tenda RX3</td>
      <td>Up to 1200 Mbps</td>
      <td>Wi-Fi 6</td>
      <td>₹3,499</td>
    </tr>
  </table>
  <caption>Note: Prices may vary depending on location and seller promotions.</caption>
</body>
</html>
```

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Top 10 Pen Drives in India (2025)</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #fefefe;
      margin: 0;
      padding: 20px;
```

```css
    }

    h1 {
      text-align: center;
      color: #2d2d2d;
      margin-bottom: 30px;
    }

    table {
      width: 90%;
      margin: auto;
      border-collapse: collapse;
      background-color: #fff;
      box-shadow: 0 0 12px rgba(0, 0, 0, 0.1);
    }

    th, td {
      padding: 14px 16px;
      border: 1px solid #ccc;
      text-align: left;
    }

    th {
      background-color: #333;
      color: white;
    }

    tr:hover {
      background-color: #f1f1f1;
    }

    caption {
      margin-top: 12px;
      text-align: center;
      font-size: 0.9em;
      color: #777;
    }
  </style>
</head>
<body>

  <h1>Top 10 Pen Drives in India (2025)</h1>

  <table>
    <tr>
      <th>Rank</th>
```

```
  <th>Pen Drive Model</th>
  <th>Capacity</th>
  <th>USB Type</th>
  <th>Approx Price</th>
</tr>
<tr>
  <td>1</td>
  <td>SanDisk Ultra Dual Drive Luxe</td>
  <td>128GB</td>
  <td>USB 3.1 + Type-C</td>
  <td>₹999</td>
</tr>
<tr>
  <td>2</td>
  <td>Samsung BAR Plus</td>
  <td>64GB</td>
  <td>USB 3.1</td>
  <td>₹899</td>
</tr>
<tr>
  <td>3</td>
  <td>HP x740w</td>
  <td>64GB</td>
  <td>USB 3.1</td>
  <td>₹649</td>
</tr>
<tr>
  <td>4</td>
  <td>SanDisk Ultra Flair</td>
  <td>128GB</td>
  <td>USB 3.0</td>
  <td>₹999</td>
</tr>
<tr>
  <td>5</td>
  <td>Kingston DataTraveler Exodia</td>
  <td>64GB</td>
  <td>USB 3.2</td>
  <td>₹549</td>
</tr>
<tr>
  <td>6</td>
  <td>Transcend JetFlash 790</td>
  <td>128GB</td>
  <td>USB 3.1</td>
  <td>₹1,099</td>
```

```
    </tr>
    <tr>
      <td>7</td>
      <td>SanDisk iXpand Mini</td>
      <td>64GB</td>
      <td>USB 3.0 + Lightning</td>
      <td>₹2,199</td>
    </tr>
    <tr>
      <td>8</td>
      <td>HP v236w</td>
      <td>64GB</td>
      <td>USB 2.0</td>
      <td>₹499</td>
    </tr>
    <tr>
      <td>9</td>
      <td>Strontium Nitro Plus</td>
      <td>128GB</td>
      <td>USB 3.0</td>
      <td>₹999</td>
    </tr>
    <tr>
      <td>10</td>
      <td>ADATA UV128</td>
      <td>64GB</td>
      <td>USB 3.2</td>
      <td>₹649</td>
    </tr>
  </table>

  <caption>Note: Prices are approximate and may vary by seller or location.</caption>

</body>
</html>
```

Top 10 Pen Drives in India (2025)

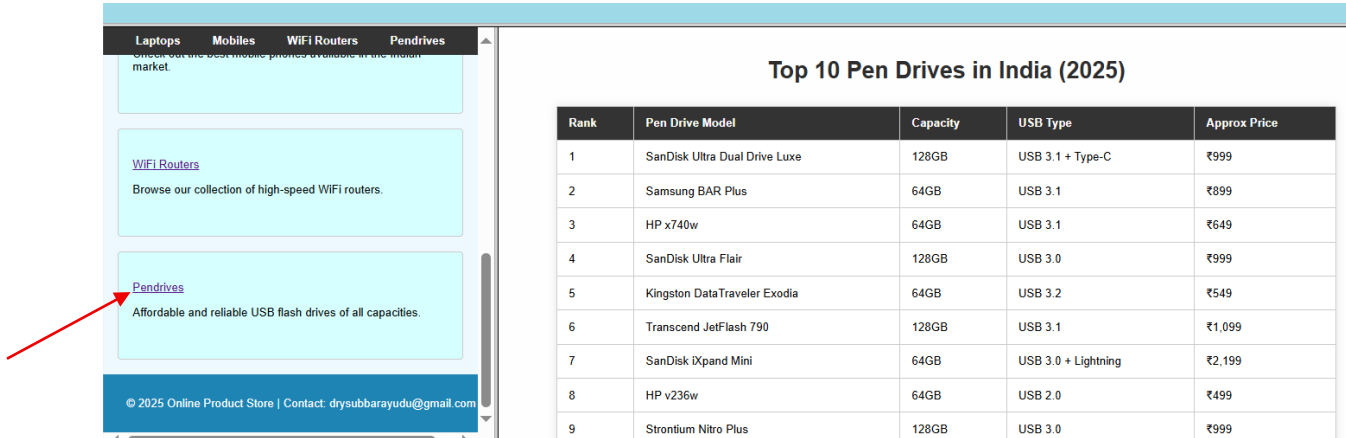| Rank	Pen Drive Model	Capacity	USB Type	Approx Price
1	SanDisk Ultra Dual Drive Luxe	128GB	USB 3.1 + Type-C	₹999
2	Samsung BAR Plus	64GB	USB 3.1	₹899
3	HP x740w	64GB	USB 3.1	₹649
4	SanDisk Ultra Flair	128GB	USB 3.0	₹999
5	Kingston DataTraveler Exodia	64GB	USB 3.2	₹549
6	Transcend JetFlash 790	128GB	USB 3.1	₹1,099
7	SanDisk iXpand Mini	64GB	USB 3.0 + Lightning	₹2,199
8	HP v236w	64GB	USB 2.0	₹499
9	Strontium Nitro Plus	128GB	USB 3.0	₹999

Results:

The student has demonstrated a strong understanding of key web development concepts including the use of semantic HTML5 elements such as <header>, <nav>, <section>, and <footer> to improve the structure and accessibility of webpages. They effectively explained how position: fixed keeps the navigation bar visible during scrolling, enhancing user experience. The differences between position: relative and position: absolute were clearly identified, showing an understanding of element positioning in CSS. They also accurately described how keyframe animations and the animation property enable auto-playing slideshows. Finally, the student correctly explained how CSS media queries adapt the layout to various screen sizes, making the webpage responsive. Overall, their responses reflect a solid grasp of both layout techniques and responsive design principles.

Viva questions and solutions:

1. What is the purpose of using semantic HTML5 elements like <header>, <nav>, <section>, and <footer> in a webpage?
Answer:
Semantic HTML5 elements provide meaningful structure to a webpage by clearly defining each part of the content.
- <header> defines the top section of the page, usually containing the title or logo.
- <nav> contains the navigation links.
- <section> organizes content into logical blocks.
- <footer> typically holds copyright, contact, or additional links.
  These elements improve readability, accessibility (especially for screen readers), and SEO (Search Engine Optimization).

2. How does the position: fixed property affect the navigation bar, and when should it be used?
Answer:
The position: fixed CSS property positions an element relative to the viewport, meaning it stays in

place even when the user scrolls.

When applied to the navigation bar, it ensures that the menu is always visible at the top, enhancing usability and user experience.

It should be used when persistent navigation is needed, especially in long-scrolling pages or single-page applications.

3. What is the difference between position: relative and position: absolute in CSS layout design?

- **position: relative: The element is positioned relative to its normal/static position. It can be shifted using top, left, bottom, or right without affecting other elements.**
- **position: absolute: The element is positioned relative to the nearest positioned ancestor (non-static), or the viewport if no such ancestor exists. It is removed from the normal document flow, so other elements won't adjust around it.**

4. Which CSS property is used to create auto-playing slideshows using keyframes, and how does it work?

Answer:

The CSS animation property is used along with @keyframes to create auto-playing slideshows.

- **@keyframes defines the animation steps (e.g., opacity or transform changes).**
- **The animation property applies it to an element, allowing looping and timing control.**
  Example:

```
@keyframes slideShow {
  0% { opacity: 0; }
  25% { opacity: 1; }
  75% { opacity: 1; }
  100% { opacity: 0; }
}
.slide {
  animation: slideShow 8s infinite;
}
```

This enables smooth transitions between slides automatically.

5. How do CSS media queries help in making a webpage responsive across various device screen sizes?

Answer:

CSS media queries allow the application of different styles based on the device's screen size, orientation, or resolution.

They enable a responsive design, ensuring content adapts gracefully to desktops, tablets, and mobile phones.

Example:

```
@media (max-width: 600px) {
  nav {
    flex-direction: column;
  }
  section {
    padding: 10px;
  }
}
```

This ensures optimal usability and appearance on smaller screens without requiring separate mobile sites.