RAGHU ENGINEERING COLLEGE

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II Year – I Semester	**BASIC WEB DESIGN LAB**	**L**	**T**	**P**	**C**
Course Code: 23	**(Common to CSM, CSD)**	**0**	**0**	**2**	**1**

Course Objectives:

The main objectives of the course is to

- Make use of HTML elements and their attributes for designing static web pages
- Build a web page by applying appropriate CSS styles to HTML elements
- Experiment with JavaScript to develop dynamic web pages and validate forms

EXPERIMENTS

1. Lists, Links and Images

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

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

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

c) 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.

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 full sized version of the image. Create an image gallery using this technique

2. HTML Tables, Forms and Frames

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

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.).

c) Write a HTML program, to explain the working of forms by designing Registration form. (Note: Include text field, password field, number field, date of birth field, checkboxes, radio buttons, list boxes using <select>&<option> tags, <text area> and two buttons ie: submit and reset.

Use tables to provide a better view).

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" attribute such that frames to be fixed).

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>, , tags.
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 and value).

4. Selector forms

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

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

a) Write a 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, tilting it horizontally. The image should remain in place when the user scrolls up or down.
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

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

a) Write a program to embed internal and external JavaScript in a web page.
b) Write a program to explain the different ways for displaying output.
c) Write a program to explain the different ways for taking input.
d) 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

7. JavaScript Pre-defined and User-defined Objects

a) Write a program using document object properties and methods.
b) Write a program using window object properties and methods.
c) Write a program using array object properties and methods.
d) Write a program using math object properties and methods.
e) Write a program using string object properties and methods.
f) Write a program using regex object properties and methods.

g) Write a program using date object properties and methods.

h) Write a program to explain user-defined object by using properties, methods, accessors, constructors and display.

8. JavaScript Conditional Statements and Loops

a) 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".
b) Write a program to display week days using switch case.
c) Write a program to print 1 to 10 numbers using for, while and do-while loops.
d) Write aprogram to print data in object using for-in, for-each and for-of loops
e) Develop a program to determine whether a given number is an 'ARMSTRONG NUMBER' or not. [Eg: 153 is an Armstrong number, since sum of the cube of the digits is equal to the number i.e.,13 + 53+ 33 = 153]
f) Write a program to display the denomination of the amount deposited in the bank in terms of 100's, 50's, 20's, 10's, 5's, 2's & 1's. (Eg: If deposited amount is Rs.163, the output should be 1-100's, 1-50's, 1- 10's, 1-2's & 1-1's)

9. Javascript Functions and Events

a) Design a appropriate function should be called to display
   i. Factorial of that number
   ii. Fibonacci series up to that number
   iii. Prime numbers up to that number
   iv. Is it palindrome or not
b) Design a HTML having a text box and four buttons named Factorial, Fibonacci, Prime, and Palindrome. 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
   iii. Prime numbers up to that number
   iv. Is it palindrome or not
c) 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)

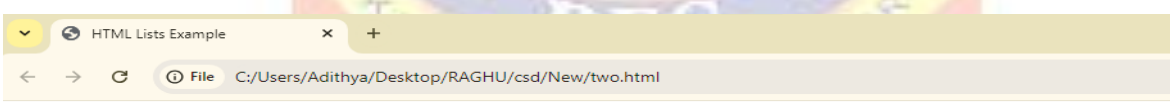
1.HTML example that includes an ordered list, unordered list, nested lists, an ordered list inside an unordered list, and definition lists

Source Code

```
<html >
<head>
   <title>HTML Lists Example</title>
</head>
<body>

                <!-- Ordered List -->

   <h2>Ordered List</h2>
   <ol>
      <li>CSD A</li>
      <li> CSD B</li>
      <li> CSD C</li>
   </ol>

   <!-- Unordered List -->

   <h2>Unordered List</h2>
   <ul>
      <li>CSM  A</li>
      <li> CSM B</li>
      <li> CSM C</li>
   </ul>


   <!-- Nested Lists -->

   <h2>Nested Lists</h2>
   <ul>
      <li>CSD

         <ul>
            <li> CSD  A </li>
            <li> CSD  B </li>
         </ul>
      </li>
      <li>CSM
         <ul>
            <li>CSM A</li>
            <li>CSM B </li>
         </ul>
      </li>
   </ul>
```

```
    <!-- Ordered List within an Unordered List -->

    <h2>Ordered List within an Unordered List</h2>
    <ul>
        <li>Unordered Item 1</li>
        <li>Unordered Item 2
            <ol>
                <li>Ordered Subitem 2.1</li>
                <li>Ordered Subitem 2.2</li>
            </ol>
        </li>
        <li>Unordered Item 3</li>
    </ul>

    <!-- Definition List -->

    <h2>Definition List</h2>
    <dl>
        <dt>HTML</dt>
        <dd>A markup language for creating web pages.</dd>

        <dt>CSS</dt>
        <dd>A style sheet language used for describing the presentation of a document written in HTML.</dd>

        <dt>JavaScript</dt>
        <dd>A programming language commonly used to create interactive effects within web browsers.</dd>
    </dl>

</body>
</html>
```

OUTPUT:



Ordered List

1. CSD A
2. CSD B
3. CSD C

Unordered List

- CSM A
- CSM B
- CSM C

Nested Lists

- CSD
  - CSD A
  - CSD B
- CSM
  - CSM A
  - CSM B

Ordered List within an Unordered List

- Unordered Item 1
- Unordered Item 2
  1. Ordered Subitem 2.1
  2. Ordered Subitem 2.2
- Unordered Item 3

Definition List

HTML
: A markup language for creating web pages.

CSS
: A style sheet language used for describing the presentation of a document written in HTML.

JavaScript
: A programming language commonly used to create interactive effects within web browsers.

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

Note: link three different pages with background color

Source Code:-

```
<html>
<body style="background-color:yellow">
<div align="center" style="border: solid red"><font color="blue">
This is some Text in a div element</font></div>
<a href="program2_1.html"><h2 style="color:pink">click here to view image</h2>
</body>
</html>
```

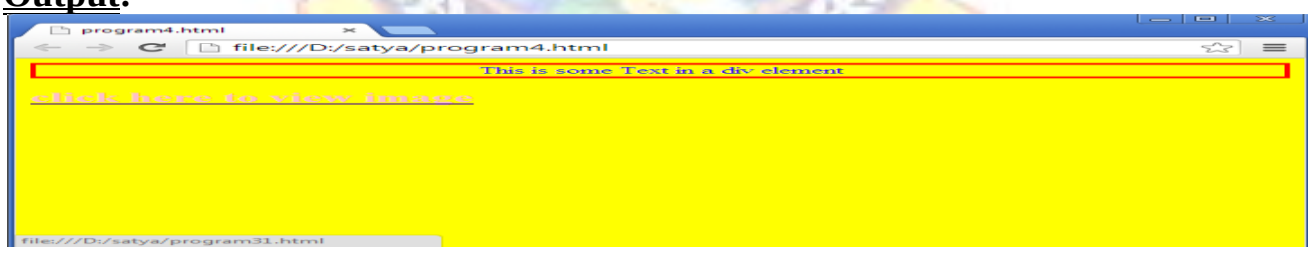
Link code 1:- **save as pragram2_1.html**

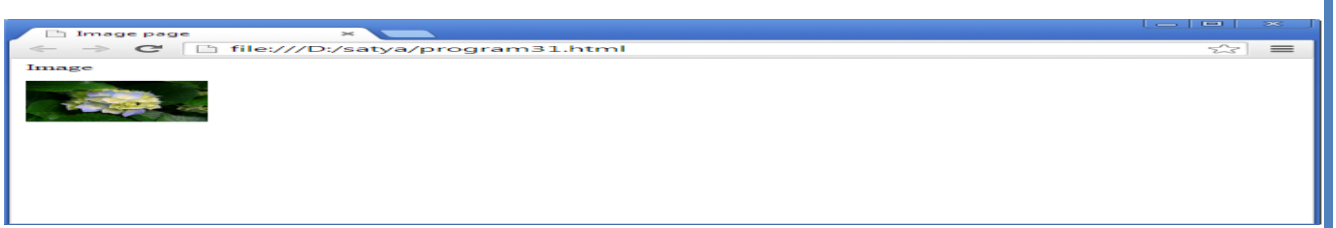
```
<html>
<title>Image page</title>
<head>Image</head>
<body>
<p><a href="pragram2_2.html"><image src=" gow.jpg"width="100" height="80">
 </p>
</body>
</html>
```

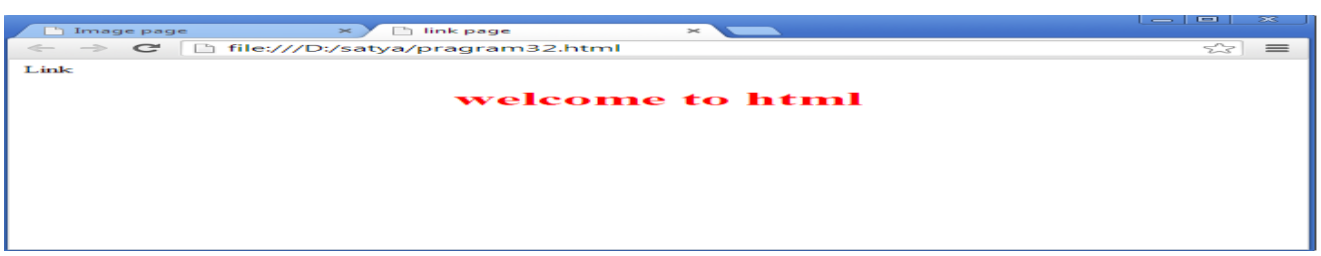
Link code 2:- **save as pragram2_2.html**

```
<html>
<title>link page</title>
<head>Link</head>
<body>
<h1 align="center"><font color="red">welcome to html</h1></font>
</body>
</html>
```

Output:-







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.

Note:

1. Replace your_image_url.jpg with the URL of your image.
2. Replace yourfriendsprofile.com with your friend's profile URL.
3. Replace friend_image_url.jpg with the URL of your friend's image.

SOURCE CODE 1:

```
<html>
<head>
   <title>Profile Images</title>
   <style>
      .profile-img {
         width: 150px;
         height: 150px;
         border-radius: 50%;
         object-fit: cover;
         margin: 10px;
      }
   </style>
</head>
<body>
   <h1>Click on the images to visit profiles</h1>

   <a href="program3_1.html" target="_blank">
      <img src="adi.jpg" alt="Your Profile" class="profile-img">
   </a>
   <a href="program3_2.html" target="_blank">
      <img src="pal.jpeg" alt="Friend's Profile" class="profile-img">
   </a>

</body>
</html>
```

SOURCE CODE2 (SAVE AS PROGRAM3_1.HTML)

```
<html>
<head>

   <title>Student Profile</title>

</head>
<body>

      <img src="adi.jpg" alt="my pic" width="150" height="160">
      <h1>adithya</h1>
```

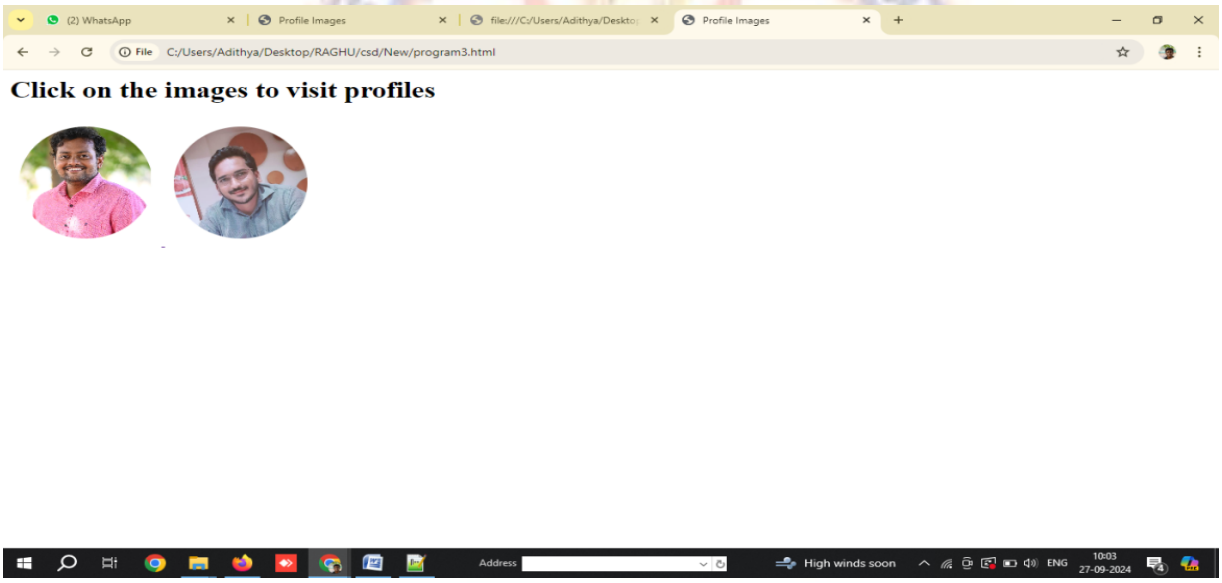
```
    <p>Computer Science Major</p>

    <h2>Personal Information</h2>
    <ul>
      <li><strong>Age:</strong> 20</li>
      <li><strong>Email:</strong> adithya@example.com</li>
      <li><strong>Phone:</strong> (123) 456-7890</li>
      <li><strong>Address:</strong> 123 Main St, Anytown, USA</li>
    </ul>

    <h2>Academic Information</h2>
    <ul>
      <li><strong>University:</strong> ABC University</li>
      <li><strong>Year:</strong> Junior</li>
      <li><strong>GPA:</strong> 3.8</li>
      <li><strong>Major:</strong> Computer Science</li>
      <li><strong>Minor:</strong> Mathematics</li>
    </ul>

    <h2>Skills</h2>
    <ul>
      <li>Programming Languages: Python, Java, C++</li>
      <li>Web Development: HTML, CSS, JavaScript</li>
      <li>Database Management: SQL, MongoDB</li>
    </ul>
  </div>

</body>
</html>
```

SOURCE CODE2 (SAVE AS PROGRAM3_2.HTML)

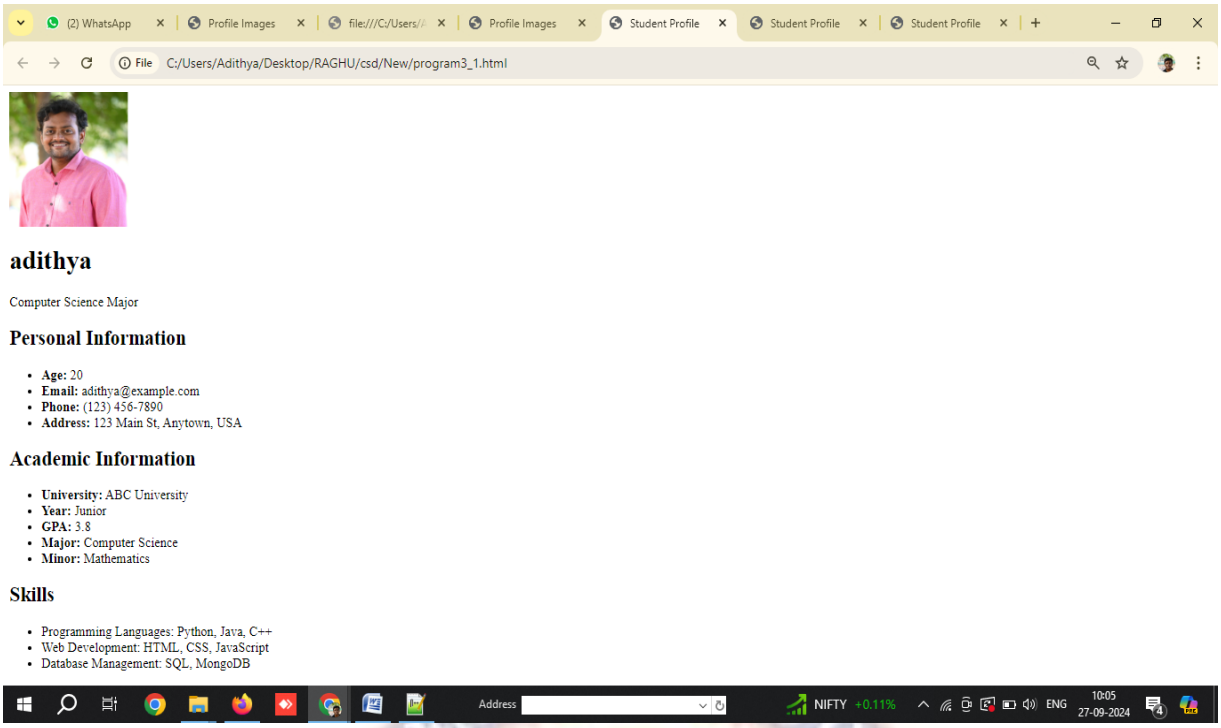
```
<html>
<head>

  <title>Student Profile</title>

</head>
<body>
    <img src="pal.jpeg" alt="my pic" width="150" height="160">
    <h1>pal</h1>
    <p>Computer Science Major</p>

    <h2>Personal Information</h2>
    <ul>
      <li><strong>Age:</strong> 20</li>
      <li><strong>Email:</strong> adithya@example.com</li>
      <li><strong>Phone:</strong> (123) 456-7890</li>
      <li><strong>Address:</strong> 123 Main St, Anytown, USA</li>
    </ul>
```

```
        <h2>Academic Information</h2>
        <ul>
            <li><strong>University:</strong> ABC University</li>
            <li><strong>Year:</strong> Junior</li>
            <li><strong>GPA:</strong> 3.8</li>
            <li><strong>Major:</strong> Computer Science</li>
            <li><strong>Minor:</strong> Mathematics</li>
        </ul>

        <h2>Skills</h2>
        <ul>
            <li>Programming Languages: Python, Java, C++</li>
            <li>Web Development: HTML, CSS, JavaScript</li>
            <li>Database Management: SQL, MongoDB</li>
        </ul>
    </div>
</body>
</html>
```

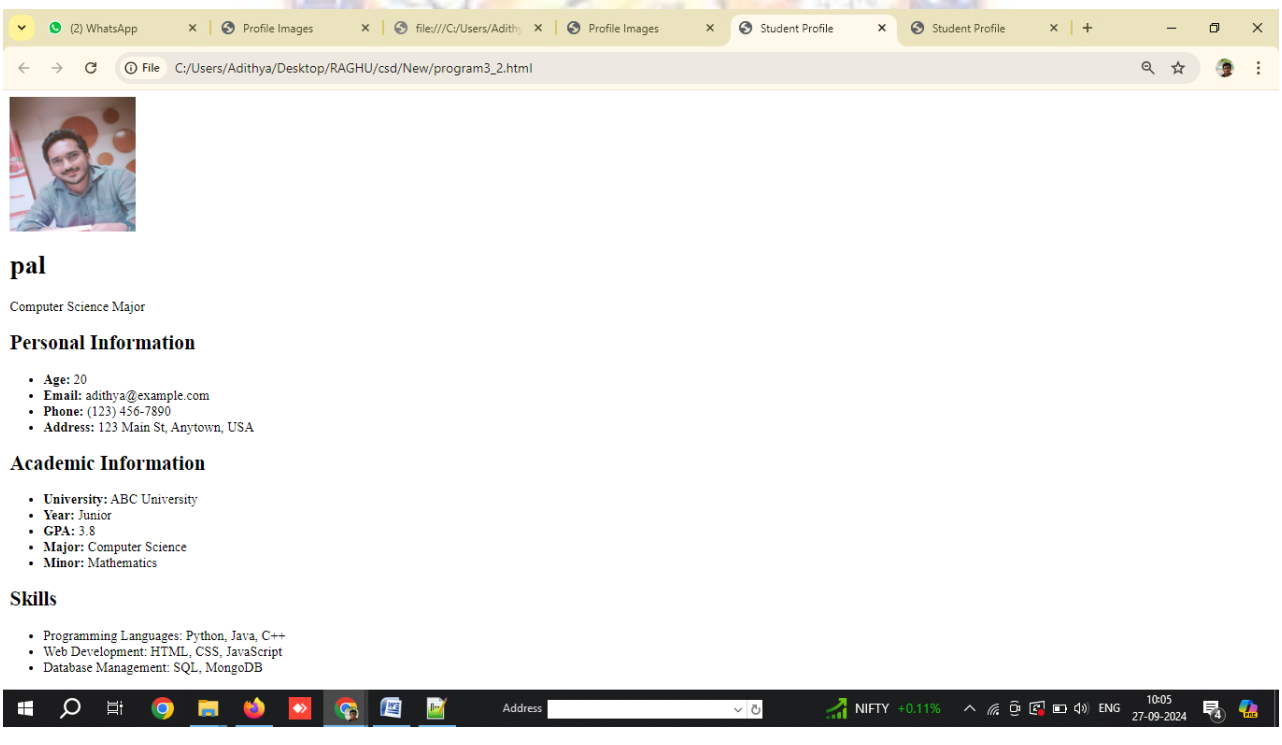
OUTPUT:



PROFILE 1



PROFILE 2



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. Create an image gallery using this technique

SOURCE CODE

```
<html>
<head>

  <title>Image Gallery with Thumbnails</title>
  <style>
    /* Basic styling for the image gallery */
    body {
      font-family: Arial, sans-serif;
    }

    .gallery {
      display: flex;
      flex-wrap: wrap;
      gap: 10px;
    }

    .gallery a {
      display: inline-block;
    }

    .gallery img {
      width: 100px;
      height: 100px;
      object-fit: cover; /* Ensures the image fills the thumbnail area */
      border: 2px solid #ddd;
      transition: 0.3s;
    }

    .gallery img:hover {
      border-color: #333; /* Change border color on hover */
    }
  </style>
</head>
<body>
  <h1>Image Gallery with Thumbnails</h1>
  <div class="gallery">
    <a href="prabas.jpeg" target="_blank">
      <img src="prabas1.jpeg" alt="Image 1">
    </a>
    <a href="ntr.jpeg" target="_blank">
      <img src="ntr1.jpeg" alt="Image 2">
    </a>
    <a href="mahesh.jpg" target="_blank">
      <img src="mahesh1.jpeg" alt="Image 3">
    </a>
    <a href="pavan.jpg" target="_blank">
      <img src="pavan.jpeg" alt="Image 4">
    </a>
```

```
    <a href="bunny.jpeg" target="_blank">
      <img src=" bunny1.jpeg" alt="Image 5">
    </a>

  </div>

</body>
</html>
```

OUTPUT:

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

SOURCE CODE

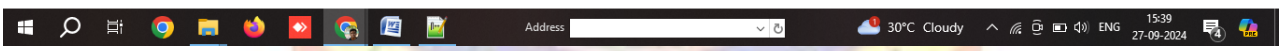
```
<html >
<head>
   <title>HTML Tables Example</title>
   <style>
      table {
         border-collapse: collapse; /* Merges adjacent borders */
         width: 50%;
         margin: 20px auto; /* Center the table on the page */
      }
      th, td {
         border: 1px solid black; /* Adds borders to table cells */
         padding: 10px;
         text-align: center;
      }
      th {
         background-color: #f2f2f2; /* Light grey background for header */
      }
   </style>
</head>
<body>

   <h2 style="text-align:center;">HTML Tables Example</h2>

   <table border="1">
      <!-- Table Header Row -->
      <tr>
         <th rowspan="2">Name</th> <!-- Merges two rows in the first column -->
         <th colspan="2">Contact Information</th> <!-- Merges two columns in the second row -->
         <th rowspan="2">Age</th>
      </tr>
      <tr>
         <th>Email</th>
         <th>Phone</th>
      </tr>

      <!-- Table Data Rows -->
      <tr>
         <td>CSD</td>
         <td>csd@rec.com</td>
         <td>9876543210</td>
         <td>30</td>
      </tr>
      <tr>
         <td>CSM</td>
         <td>csm@rec.com</td>
         <td>123456789</td>
```

```
        <td>25</td>
      </tr>
      <tr>
        <td>CSE</td>
        <td>cse@rec.com</td>
        <td>963852741</td>
        <td>28</td>
      </tr>
    </table>

</body>
</html>
```

OUTPUT

HTML Tables Example

Name	Contact Information		Age
	Email	Phone	
CSD	csd@rec.com	9876543210	30
CSM	csm@rec.com	123456789	25
CSE	cse@rec.com	963852741	28



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.).

```
<html>
<head>

   <title>Class Timetable</title>
</head>
<body>

   <!-- Timetable Table -->
   <table border="1" cellspacing="2" cellpadding="10" align="center">
      <!-- Table Caption -->
      <caption><strong>Class Timetable</strong></caption>

      <!-- Table Header Row -->
      <tr>
         <th>Day</th>
         <th>9:00 - 10:00</th>
         <th>10:00 - 11:00</th>
         <th>11:00 - 12:00</th>
         <th colspan="2">12:00 - 1:00</th> <!-- Merged Lunch Break -->
         <th>1:00 - 2:00</th>
         <th>2:00 - 3:00</th>
      </tr>

      <!-- Monday Timetable -->
      <tr>
         <td>Monday</td>
         <td>Mathematics</td>
         <td>English</td>
         <td rowspan="2">Physics</td> <!-- Merged with Tuesday -->
         <td colspan="2" rowspan="6">Lunch Break</td> <!-- Merged with all days -->
         <td>Computer Science</td>
         <td>Physical Education</td>
      </tr>

      <!-- Tuesday Timetable -->
      <tr>
         <td>Tuesday</td>
         <td>Chemistry</td>
         <td>History</td>
         <td>Biology</td>
         <td>Art</td>
      </tr>
```

```
        <!-- Wednesday Timetable -->
        <tr>
            <td>Wednesday</td>
            <td rowspan="2">Sports</td> <!-- Merged with Thursday -->
            <td>Geography</td>
            <td>English</td>
            <td>Mathematics</td>
            <td>Music</td>
        </tr>

        <!-- Thursday Timetable -->
        <tr>
            <td>Thursday</td>
            <td>Chemistry</td>
            <td>History</td>
            <td>Physics</td>
            <td>Computer Science</td>
        </tr>

        <!-- Friday Timetable -->
        <tr>
            <td>Friday</td>
            <td>Biology</td>
            <td>Mathematics</td>
            <td>History</td>
            <td colspan="2">Sports</td> <!-- Merged two periods -->
            <td>Geography</td>
        </tr>

        <!-- Saturday Timetable -->
        <tr>
            <td>Saturday</td>
            <td colspan="6">Field Trip</td> <!-- Merged all periods -->
            <td>Art</td>
        </tr>
    </table>

</body>
</html>
```

OUTPUT:

Class Timetable

Day	9:00 - 10:00	10:00 - 11:00	11:00 - 12:00	12:00 - 1:00	1:00 - 2:00	2:00 - 3:00
Monday	Mathematics	English	Physics	Lunch Break	Computer Science	Physical Education
Tuesday	Chemistry	History			Biology	Art
Wednesday	Sports	Geography	English		Mathematics	Music
Thursday		Chemistry	History		Physics	Computer Science
Friday	Biology	Mathematics	History		Sports	
Saturday	Field Trip					Art

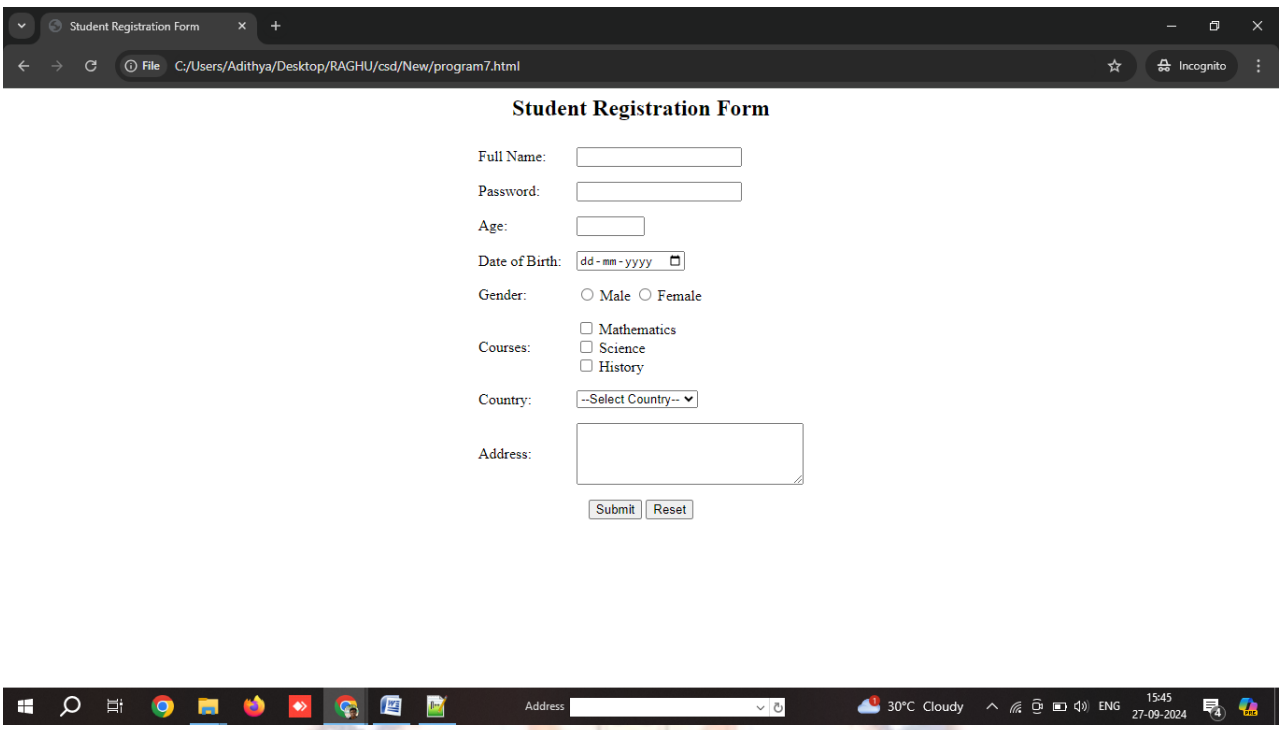
7) Write a HTML program, to explain the working of forms by designing Registration form. (Note: Include text field, password field, number field, date of birth field, checkboxes, radio buttons, list boxes using <select>&<option> tags, <text area> and two buttons ie: submit and reset. Use tables to provide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

SOURCE CODE

```
<html >
<head>

   <title>Student Registration Form</title>
</head>
<body>

   <!-- Registration Form -->
   <h2 style="text-align:center;">Student Registration Form</h2>

   <form action="#" method="post">
      <table border="0" cellpadding="8" cellspacing="0" align="center">
         <!-- Full Name -->
         <tr>
            <td><label for="fullname">Full Name:</label></td>
            <td><input type="text" id="fullname" name="fullname" required></td>
         </tr>

         <!-- Password -->
         <tr>
            <td><label for="password">Password:</label></td>
            <td><input type="password" id="password" name="password" required></td>
         </tr>

         <!-- Age -->
         <tr>
            <td><label for="age">Age:</label></td>
            <td><input type="number" id="age" name="age" min="10" max="100" required></td>
         </tr>

         <!-- Date of Birth -->
         <tr>
            <td><label for="dob">Date of Birth:</label></td>
            <td><input type="date" id="dob" name="dob" required></td>
         </tr>

         <!-- Gender -->
         <tr>
            <td>Gender:</td>
            <td>
               <input type="radio" id="male" name="gender" value="male" required>
               <label for="male">Male</label>
               <input type="radio" id="female" name="gender" value="female" required>
               <label for="female">Female</label>
            </td>
         </tr>
```

```
<!-- Courses -->
        <tr>
          <td>Courses:</td>
          <td>
            <input type="checkbox" id="maths" name="courses" value="mathematics">
            <label for="maths">Mathematics</label><br>
            <input type="checkbox" id="science" name="courses" value="science">
            <label for="science">Science</label><br>
            <input type="checkbox" id="history" name="courses" value="history">
            <label for="history">History</label>
          </td>
        </tr>

        <!-- Country -->
        <tr>
          <td><label for="country">Country:</label></td>
          <td>
            <select id="country" name="country" required>
              <option value="">--Select Country--</option>
              <option value="usa">United States</option>
              <option value="canada">Canada</option>
              <option value="india">India</option>
              <option value="australia">Australia</option>
              <option value="uk">United Kingdom</option>
            </select>
          </td>
        </tr>

        <!-- Address -->
        <tr>
          <td><label for="address">Address:</label></td>
          <td><textarea id="address" name="address" rows="4" cols="30" required></textarea></td>
        </tr>

        <!-- Buttons -->
        <tr>
          <td colspan="2" style="text-align:center;">
            <input type="submit" value="Submit">
            <input type="reset" value="Reset">
          </td>
        </tr>
      </table>
    </form>

</body>
</html>
```

OUTPUT:


Student Registration Form
File C:/Users/Adithya/Desktop/RAGHU/csd/New/program7.html
Incognito
Student Registration Form
Full Name:
Password:
Age:
Date of Birth:
dd-mm-yyyy
Gender:
Male
Female
Courses:
Mathematics
Science
History
Country:
--Select Country--
Address:
Submit
Reset

Address
30°C Cloudy
ENG
15:45
27-09-2024

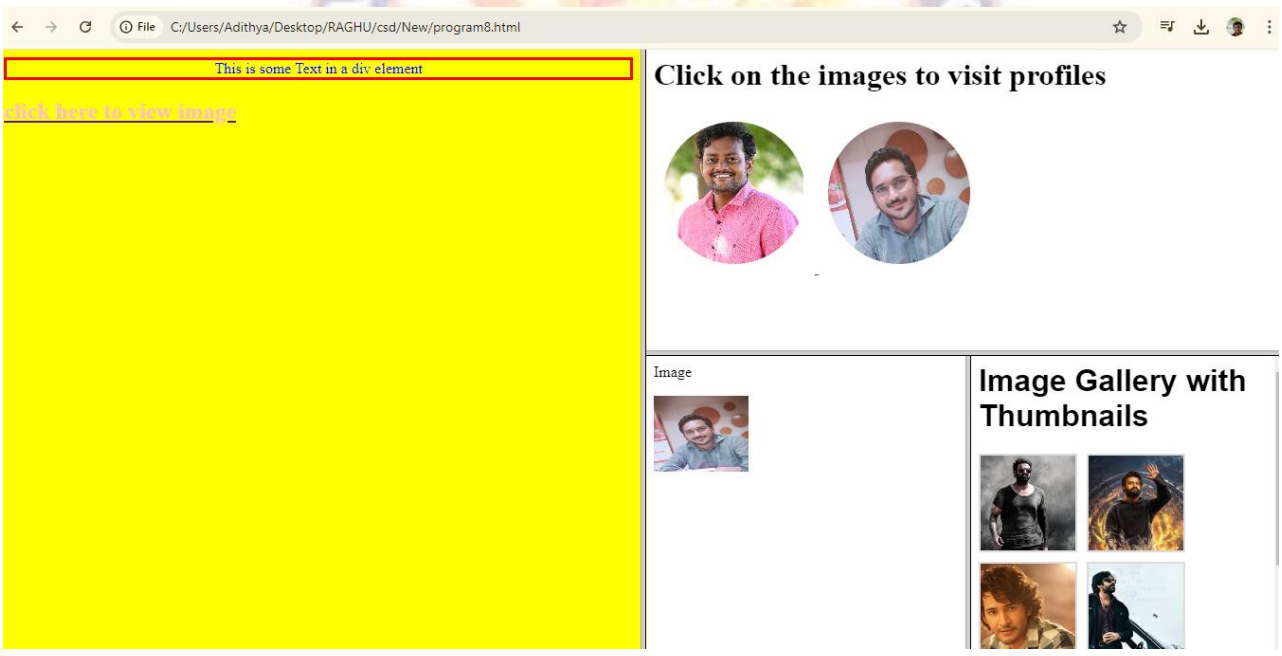

REC
KNOWLEDGE IS POWER

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)

SOURCE CODE:

```
<html>
<head>
   <title>Frame tag</title>
</head>
 <frameset cols="25%,25%" >
   <frame src=" program2.html" >
   <frameset rows="25%,25%">
   <frame src="program2_1.html">
   <frameset cols="25%,25%">
   <frame src="program=2_2.html">
<frame src="program3.html">
  </frameset>
 </frameset>
</frameset>
</html>
```

OUTPUT:



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

- **<header>**: Represents the introductory content (like the title and logo) of the page or section.
- **<nav>**: Defines a set of navigation links.
- **<main>**: The main content of the webpage.
- **<article>**: Represents self-contained content that could stand on its own.
- **<section>**: Defines sections within the article.
- **<aside>**: Contains side information, related to the main content.
- **<figure>**: Used to group media elements (like images), often with a `<figcaption>` for captions.
- **<figcaption>**: Describes the content of a `<figure>`.
- **<footer>**: Contains footer information, like copyright details.
- ** ** and ****: Generic containers to structure and style the content, commonly used for layout and inline styling.

Source code:

```
<html>
<head>
  <title>HTML Structure Example</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            margin: 0;
            padding: 0;
            box-sizing: border-box;
        }
        header {
            background-color: #4CAF50;
            color: white;
            padding: 15px;
            text-align: center;
        }
        nav {
            background-color: #333;
            color: white;
            padding: 10px;
            text-align: center;
        }
        nav a {
            color: white;
            margin: 0 15px;
            text-decoration: none;
        }
        main {
            display: flex;
            margin: 20px;
        }
        article {
```

```
        flex: 2;
        margin-right: 20px;
      }
      aside {
        flex: 1;
        background-color: #f4f4f4;
        padding: 15px;
      }
      figure {
        margin: 20px 0;
      }
      footer {
        background-color: #333;
        color: white;
        text-align: center;
        padding: 10px;
        position: fixed;
        bottom: 0;
        width: 100%;
      }
      section {
        margin-bottom: 20px;
      }
      .highlight {
        background-color: yellow;
        font-weight: bold;
      }
    </style>


</head>
<body>

<header>
    <h1>Welcome to Raghu Engineering College</h1>
</header>

<nav>
    <a href="#home">Home</a>
    <a href="#about">About</a>
    <a href="#contact">Contact</a>
</nav>

<main>
    <article>
        <section>
            <h2>About</h2>
            <p>Raghu Engineering College was established
                        in 2001 and is situated on the excellent
                        pasture of 50 acres of land and is just 25
                        minutes away from the
```

```
                    <span class="highlight">RTC complex and
                    Railway station of Visakhapatnam, AP,
                    India.  </span> It strives to equip its students
                    with the required conceptual, Experimental
                    Programs, and managerial skills to grab the
                    emerging opportunities and meet the
                    ever-increasing demand and requirements
                    of the information technology and
                    manufacturing sectors.</p>
        </section>
        <section>
            <h2>Main </h2>
            <p>This is the second section of the article, which covers another important topic.</p>
            <figure>
                <img src="rec.jpeg" alt="Example Image" width="50%">
                <figcaption>An example image with a caption.</figcaption>
            </figure>
        </section>
    </article>

    <aside>
        <h2>Related Information</h2>
        <p>Both Academia – industry collaborations and the MOUs encourage improving the quality and
quantity of teaching, research, innovations, human resource, and thus the financial sources of the
institution. The adequate and well established Advanced labs give ample opportunities for the students
to do experiments. Sports, games, and cultural activities are integral parts of the institute's curriculum.
The NCC and NSS units communicate the importance of unity, discipline, and social services and help
build the students' inner and outer characters. Apart from sophisticated A/C hostels, a huge and
hygienic canteen is built on the campus to satisfy the hunger and thirst of students satisfactorily.

</p>
    </aside>
</main>

<footer>
    <p>&copy; 2024 My Website. All rights reserved.</p>
</footer>

</body>
</html>
```

OUTPUT:

Welcome to Raghu Engineering College

Home About Contact

About

Raghu Engineering College was established in 2001 and is situated on the excellent pasture of 50 acres of land and is just 25 minutes away from the **RTC complex and Railway station of Visakhapatnam, AP, India.** It strives to equip its students with the required conceptual, Experimental Programs, and managerial skills to grab the emerging opportunities and meet the ever-increasing demand and requirements of the information technology and manufacturing sectors.

Main

This is the second section of the article, which covers another important topic.

Related Information

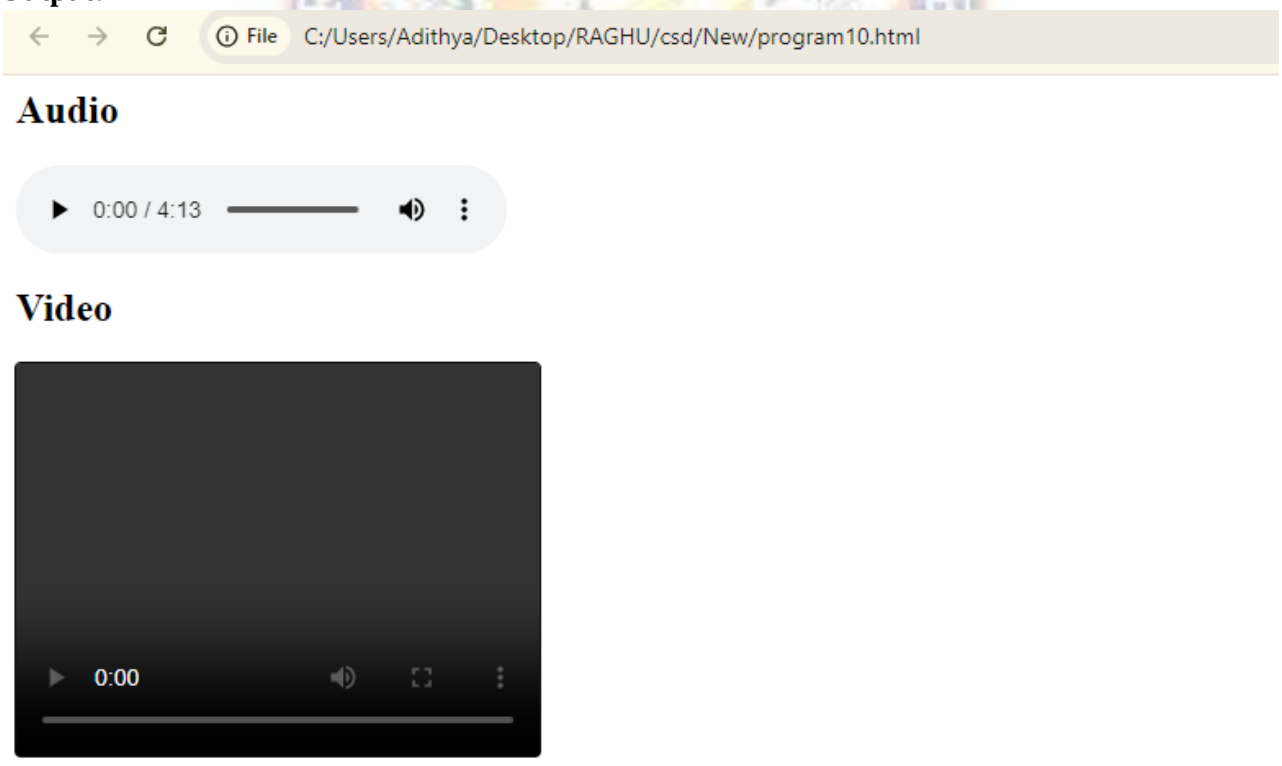
Both Academia – industry collaborations and the MOUs encourage improving the quality and quantity of teaching, research, innovations, human resource, and thus the financial sources of the institution. The adequate and well established Advanced labs give ample opportunities for the students to do experiments. Sports, games, and cultural activities are integral parts of the institute's curriculum. The NCC and NSS units communicate the importance of unity, discipline, and social services and help build the students' inner and outer characters. Apart from sophisticated A/C hostels, a huge and hygienic canteen is built on the campus to satisfy the hunger and thirst of students satisfactorily.

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

Source code

```
<html>
<head>
  <title>Audio and Video Embed</title>
</head>
<body>

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

   <h2>Video</h2>
   <video width="320" height="240" controls>
      <source src="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).

SOURCE CODE

CSS CODE:

```
.box
{
   border: 2px solid red;            /* Property: border, Value: 2px solid red */
   padding: 10px;                    /* Property: padding, Value: 10px */
   background-color: lightgray;    /* Property: background-color, Value: lightgray */
   text-align: center;                /* Align the text */
}
```

Note save above css code as program11style.css

HTML CODE:

```
<html>
<head>
   <title>REC</title>

   <!-- Link to External CSS file -->
   <link rel="stylesheet" href="program11style.css">

   <!-- Internal CSS -->
   <style>
      /* Internal style for the class */
      .highlight {
         background-color: yellow; /* Property: background-color, Value: yellow */
         font-weight: bold; /* Property: font-weight, Value: bold */
         text-align: center; /* Align the text */
      }
   </style>
</head>
<body>

   <h1 style="color: green;">Raghu Engineering College</h1> <!-- Inline style -->

   <p class="highlight">Welcome to Raghu Engineering College</p> <!-- Internal style via class selector -->

   <div class="box">Raghu Engineering College - External Style</div> <!-- External style -->

</body>
</html>
```

OUTPUT:

File C:/Users/Adithya/Desktop/RAGHU/csd/New/program11.html

Raghu Engineering College

Welcome to Raghu Engineering College

Raghu Engineering College - External Style

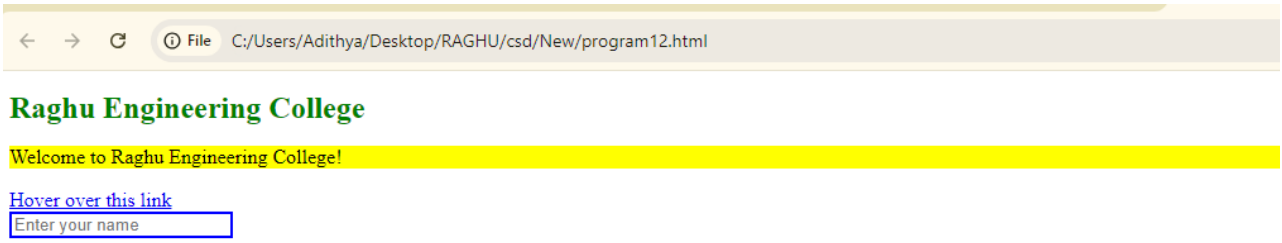
12.Write a program to apply different types of selector forms

- Simple selector (element, id, class, group, universal)
- Combinator selector (descendant, child, adjacent sibling, general sibling)
- Pseudo-class selector
- Pseudo-element selector
- Attribute selector

SOURCE CODE:

```
<html>
<head>
  <title>REC</title>
   <style>
      /* Simple Selectors */
      h1 {
         color: green;  /* Element selector */
      }
      #college {
         font-size: 24px; /* ID selector */
      }
      .highlight {
         background-color: yellow; /* Class selector */
      }

      /* Pseudo-class Selector */
      a:hover {
         color: orange;
      }

      /* Attribute Selector */
      input[type="text"] {
         border: 2px solid blue;
      }
   </style>
</head>
<body>

   <h1 id="college">Raghu Engineering College</h1>
   <p class="highlight">Welcome to Raghu Engineering College!</p>
   <a href="#">Hover over this link</a>
   <br>
   <input type="text" placeholder="Enter your name">

</body>
</html>
```

OUTPUT:

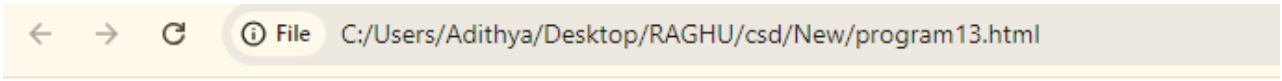


13.Write a program to demonstrate the various ways you can reference a color in CSS.

SOURCE CODE

```
<html>
<head>
 <title>Color References</title>
  <style>
     .named { color: blue; } /* Named color */
     .hex { color: #FF5733; } /* Hexadecimal */
     .rgb { color: rgb(34, 193, 195); } /* RGB */
     .rgba { color: rgba(255, 0, 0, 0.5); } /* RGBA */
     .hsl { color: hsl(120, 100%, 50%); } /* HSL */
     .hsla { color: hsla(240, 100%, 50%, 0.3); } /* HSLA */
  </style>
</head>
<body>

  <h2>Color References in CSS</h2>
  <p class="named">This text is in a named color: <strong>APJ Abdul Kalam</strong>.</p>
  <p class="hex">This text is in a hexadecimal color: <strong>APJ Abdul Kalam</strong>.</p>
  <p class="rgb">This text is in an RGB color: <strong>APJ Abdul Kalam</strong>.</p>
  <p class="rgba">This text is in an RGBA color: <strong>APJ Abdul Kalam</strong>.</p>
  <p class="hsl">This text is in an HSL color: <strong>APJ Abdul Kalam</strong>.</p>
  <p class="hsla">This text is in an HSLA color: <strong>APJ Abdul Kalam</strong>.</p>

</body>
</html>
```

OUTPUT:



Color References in CSS

This text is in a named color: **APJ Abdul Kalam**.

This text is in a hexadecimal color: **APJ Abdul Kalam**.

This text is in an RGB color: **APJ Abdul Kalam**.

This text is in an RGBA color: **APJ Abdul Kalam**.

This text is in an HSL color: **APJ Abdul Kalam**.

This text is in an HSLA color: **APJ Abdul Kalam**.

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.

Source code:

```
<html>
<head>
 <title>Fixed Background Image</title>
  <style>
    body {
      height: 200vh; /* Allows scrolling */
      margin: 0;
      font-family: Arial, sans-serif;
    }
    .background {
      position: fixed;
      top: 50%;
      left: 50%;
      width: 100%;
      height: 100%;
      background-image: url('kalam.jpg'); /* Replace with your image URL */
      background-size: cover;
      background-repeat: no-repeat;
      transform: translate(-50%, -50%) rotate(15deg); /* Center and tilt */
      z-index: -1; /* Behind content */
    }
    .content {
      position: relative;
      z-index: 1; /* Above the background */
      color: blue; /* Text color */
      padding: 20px;
    }
  </style>
</head>
<body>

  <div class="background"></div>
  <div class="content">
    <h1>APJ Abdul Kalam</h1>
```

```
    <p>Scroll down to see the fixed background image effect!</p>
  </div>

</body>
</html>
```

Output:

15.Write a program using the following terms related to CSS font and text:

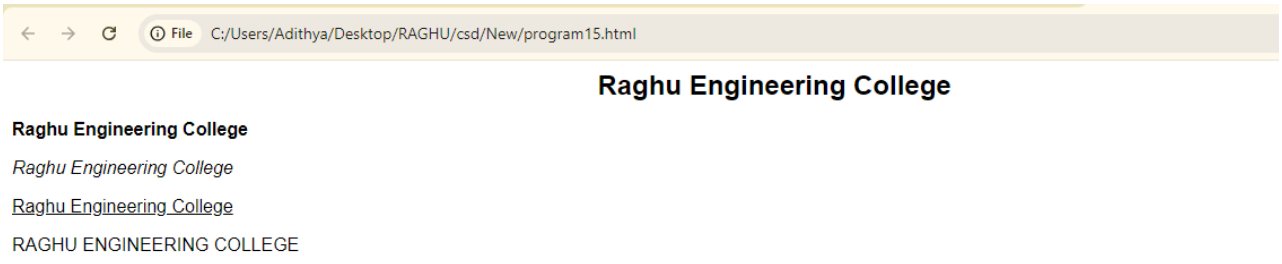
i. font-size ii. font-weight iii. font-style iv. text-decoration v. text-transformation vi. text-alignment

Source code:

```
<html>
<head>
 <title>Text Styles</title>
  <style>
    body { font-family: Arial; }
    .large { font-size: 24px; }
    .bold { font-weight: bold; }
    .italic { font-style: italic; }
    .underline { text-decoration: underline; }
    .uppercase { text-transform: uppercase; }
    .center { text-align: center; }
  </style>
</head>
<body>

  <h1 class="large center">Raghu Engineering College</h1>
  <p class="bold">Raghu Engineering College</p>
  <p class="italic">Raghu Engineering College</p>
  <p class="underline">Raghu Engineering College</p>
  <p class="uppercase">Raghu Engineering College</p>
```

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

OUTPUT:



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

Source code:

```
<html>
<head>
   <title>CSS Box Model</title>
   <style>
      .box {
         width: 200px;        /* Content width */
         padding: 10px;       /* Inner space */
         border: 2px solid blue; /* Border */
         margin: 20px;        /* Outer space */
         background-color: lightyellow; /* Background */
      }
   </style>
</head>
<body>

   <div class="box">Box Model Example</div>

   <p><strong>Content:</strong> Inside the box.</p>
   <p><strong>Padding:</strong> Space inside the box.</p>
   <p><strong>Border:</strong> Surrounds the box.</p>
   <p><strong>Margin:</strong> Space outside the box.</p>

</body>
</html>
```

OUTPUT:

File C:/Users/Adithya/Desktop/RAGHU/csd/New/program16.html

Box Model Example

Content: Inside the box.

Padding: Space inside the box.

Border: Surrounds the box.

Margin: Space outside the box.

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

External js source code:

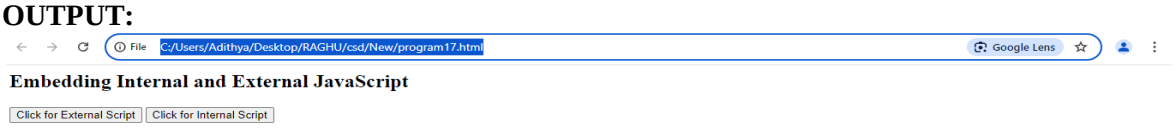
```
// External JavaScript function
function externalFunction() {
  alert("Hello from the CSD");

}
```

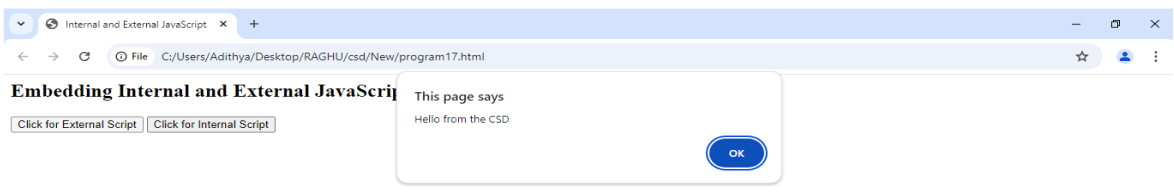
Note: Save as script17.js

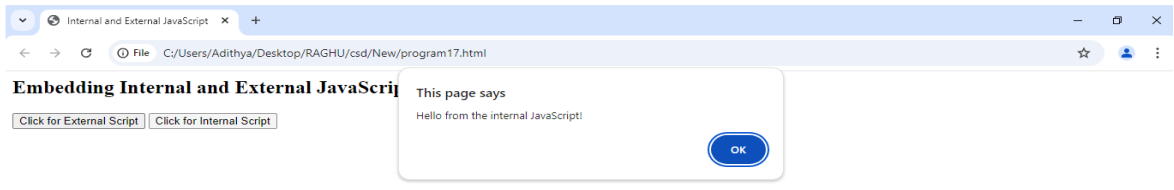
source code:

```
<html>
<head>
  <title>Internal and External JavaScript</title>
  <!-- Link to external JavaScript file -->
  <script src="script17.js"></script>
</head>
<body>

  <h2>Embedding Internal and External JavaScript</h2>

  <!-- Button to trigger JavaScript function from external file -->
  <button onclick="externalFunction()">Click for External Script</button>

  <!-- Button to trigger JavaScript function from internal script -->
  <button onclick="internalFunction()">Click for Internal Script</button>

  <script>
    // Internal JavaScript function
    function internalFunction() {
      alert("Hello from the internal JavaScript!");
    }
  </script>

</body>
</html>
```

OUTPUT:





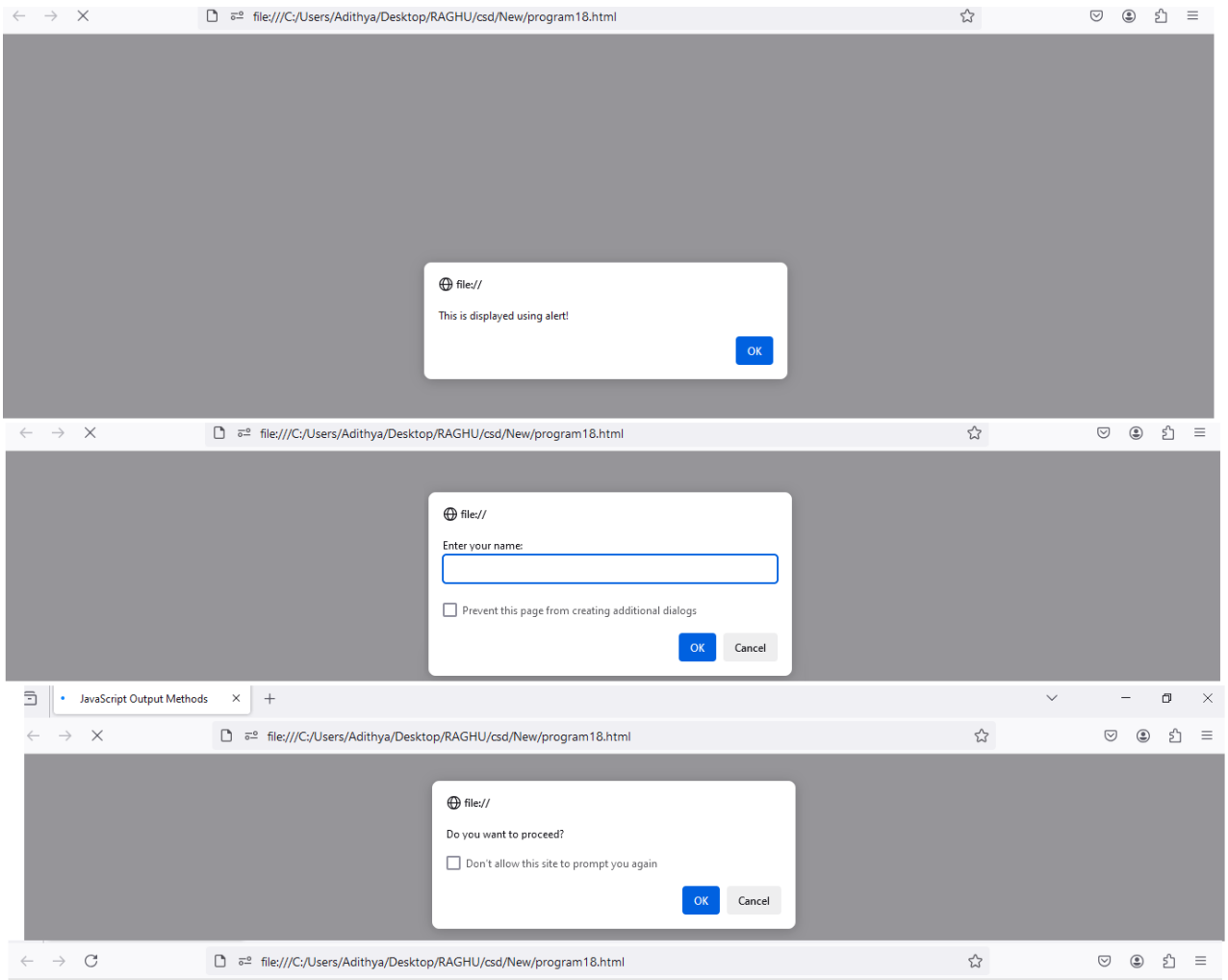


18.Write a java script program to explain the different ways for displaying output.

SOURCE CODE:

```
<html>
<head>
  <title>JavaScript Output Methods</title>
</head>
<body>

  <h2>JavaScript Output Methods Example</h2>
  <p id="output"></p> <!-- For innerHTML example -->

  <script>


    // 1. Using alert() to show a pop-up dialog
    alert("This is displayed using alert!");

    // 2. Using document.write() to write content directly to the page
    document.write("This is displayed using document.write!<br>");

    // 3. Using innerHTML to insert text into an HTML element
    document.getElementById("output").innerHTML = "This is displayed using innerHTML!";
    // 4. Using prompt() to ask the user for input
    let name = prompt("Enter your name:");
    console.log("Hello, " + name + "! (Displayed using prompt and console.log)");


  </script>

</body>
</html>
```

OUTPUT:



JavaScript Output Methods Example

This is displayed using innerHTML!

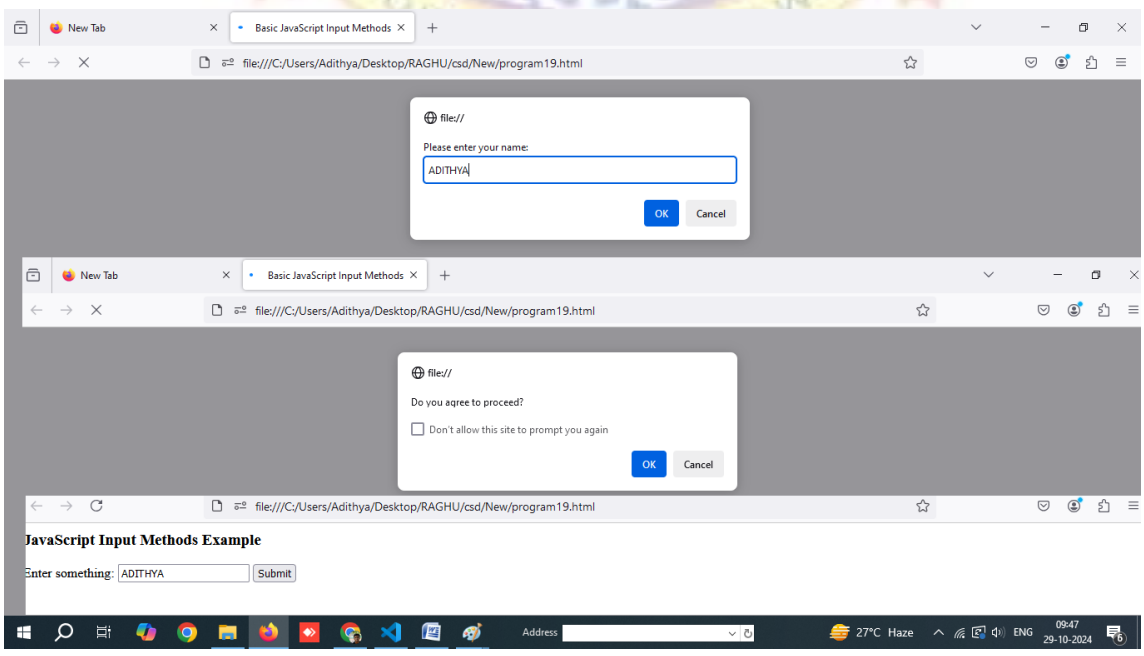
This is displayed using document.write!

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

Source code :

```
<html>
<head>
  <title>Basic JavaScript Input Methods</title>
</head>
<body>

  <h3>JavaScript Input Methods Example</h3>

  <script>
    // 1. Using prompt() to get a simple input from the user
    let name = prompt("Please enter your name:");
    console.log("Hello, " + name);

    // 2. Using confirm() to get a yes/no response
    let isConfirmed = confirm("Do you agree to proceed?");
    console.log("User agreed:", isConfirmed);
  </script>

  <!-- 3. Using an HTML input field to get user input -->
  <label for="inputField">Enter something:</label>
  <input type="text" id="inputField">
  <button onclick="getInput()">Submit</button>

  <script>
    function getInput() {
      let userInput = document.getElementById("inputField").value;
      console.log("Input from text field:", userInput);
    }
  </script>

</body>
</html>
```

OUTPUT:



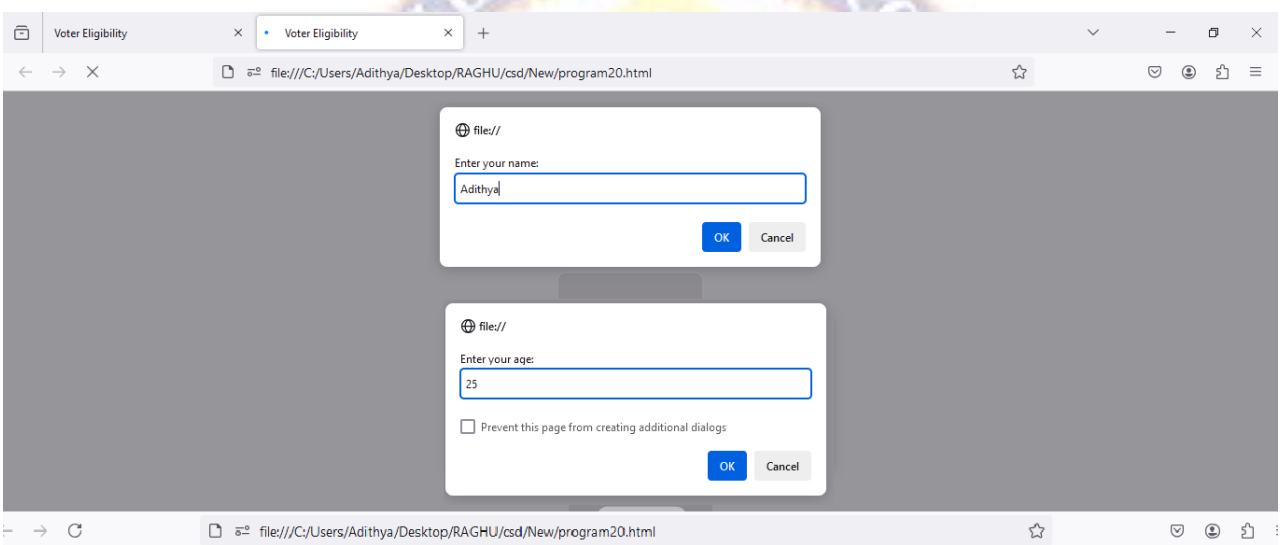
20.Create a webpage which uses prompt dialogue box to ask a voter for his name and age. Display the information in table format along with either the voter can vote or not

SOURCE CODE:

```
<html>
<head>
  <title>Voter Eligibility</title>
  <style>
    table {
      width: 50%;
      border-collapse: collapse;
      margin: 20px auto;
    }
    th, td {
      padding: 10px;
      border: 1px solid #333;
      text-align: center;
    }
    th {
      background-color: #4CAF50;
      color: white;
    }
    .eligible {
      color: green;
    }
    .not-eligible {
      color: red;
    }
  </style>
</head>
<body>

  <h2 style="text-align: center;">Voter Eligibility Check</h2>

  <!-- Table to display voter information -->
  <table>
    <thead>
      <tr>
        <th>Name</th>
        <th>Age</th>
        <th>Eligibility</th>
      </tr>
    </thead>
    <tbody>
      <tr>
        <td id="voterName"></td>
        <td id="voterAge"></td>
        <td id="voterEligibility"></td>
      </tr>
    </tbody>
  </table>

  <script>
    // Prompt the user for their name
    let name = prompt("Enter your name:");

    // Prompt the user for their age
    let age = prompt("Enter your age:");
```

```
    // Display the name and age in the table
    document.getElementById("voterName").textContent = name;
    document.getElementById("voterAge").textContent = age;

    // Check if the age is 18 or older and determine eligibility
    let eligibilityText;
    if (age >= 18) {
      eligibilityText = "Eligible to Vote";
      document.getElementById("voterEligibility").classList.add("eligible");
    } else {
      eligibilityText = "Not Eligible to Vote";
      document.getElementById("voterEligibility").classList.add("not-eligible");
    }

    // Display eligibility status in the table
    document.getElementById("voterEligibility").textContent = eligibilityText;
  </script>

</body>
</html>
```

OUTPUT:



Voter Eligibility Check

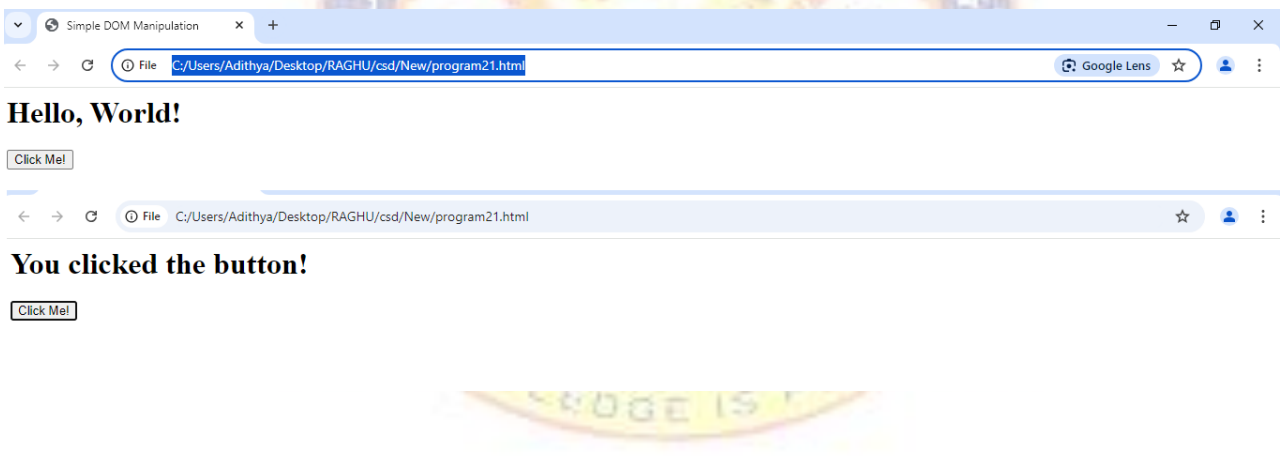
Name	Age	Eligibility
Adithya	25	Eligible to Vote

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

SOURCE CODE

```
<html>
<head>
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Simple DOM Manipulation</title>
</head>
<body>
   <h1 id="heading">Hello, World!</h1>
   <button onclick="changeText()">Click Me!</button>

   <script>
      function changeText() {
         // Get the heading element by its ID
         let heading = document.getElementById("heading");

         // Change the text content of the heading
         heading.textContent = "You clicked the button!";
      }
   </script>
</body>
</html>
```

OUTPUT

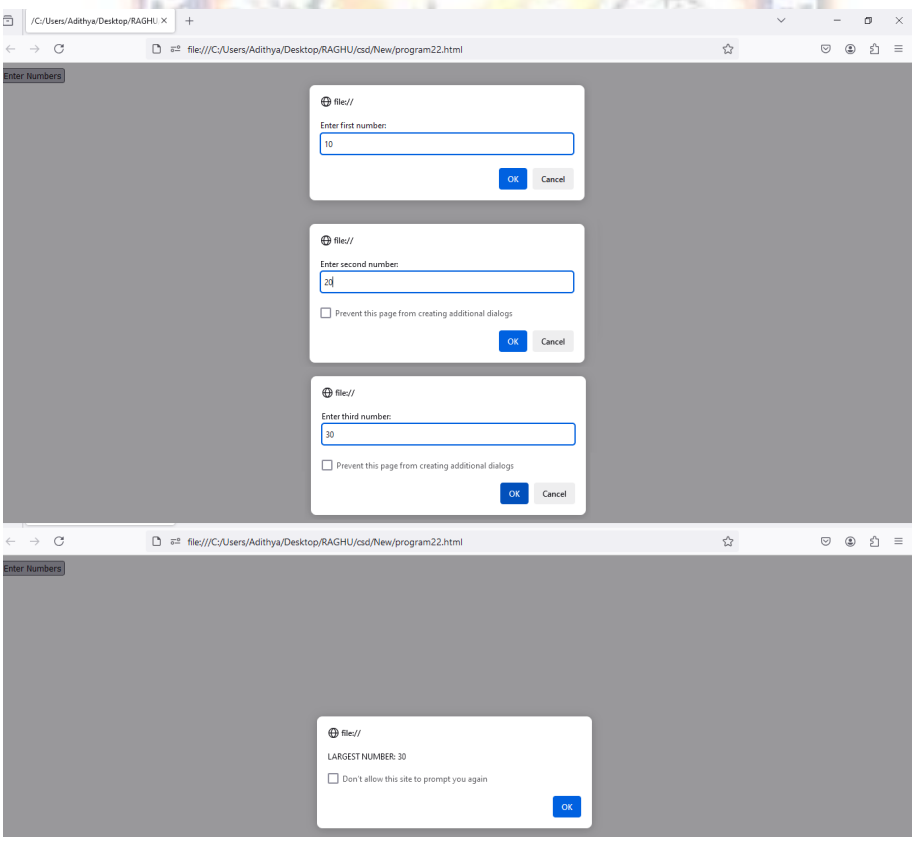


22.Write a java script program using window object properties and methods.

SOURCE CODE:

```
<html>
<body>
   <button onclick="findLargest()">Enter Numbers</button>

   <script>
      function findLargest() {
         let nums = [
            parseInt(window.prompt("Enter first number:")),
            parseInt(window.prompt("Enter second number:")),
            parseInt(window.prompt("Enter third number:"))
         ];

         if (nums.some(isNaN)) {
            window.alert("Please enter valid numbers.");
         } else {
            let result = (nums[0] === nums[1] && nums[1] === nums[2]) ?
               "EQUAL NUMBERS" : "LARGEST NUMBER: " + Math.max(...nums);
            window.alert(result);
         }
      }
   </script>
</body>
</html>
```

OUTPUT:

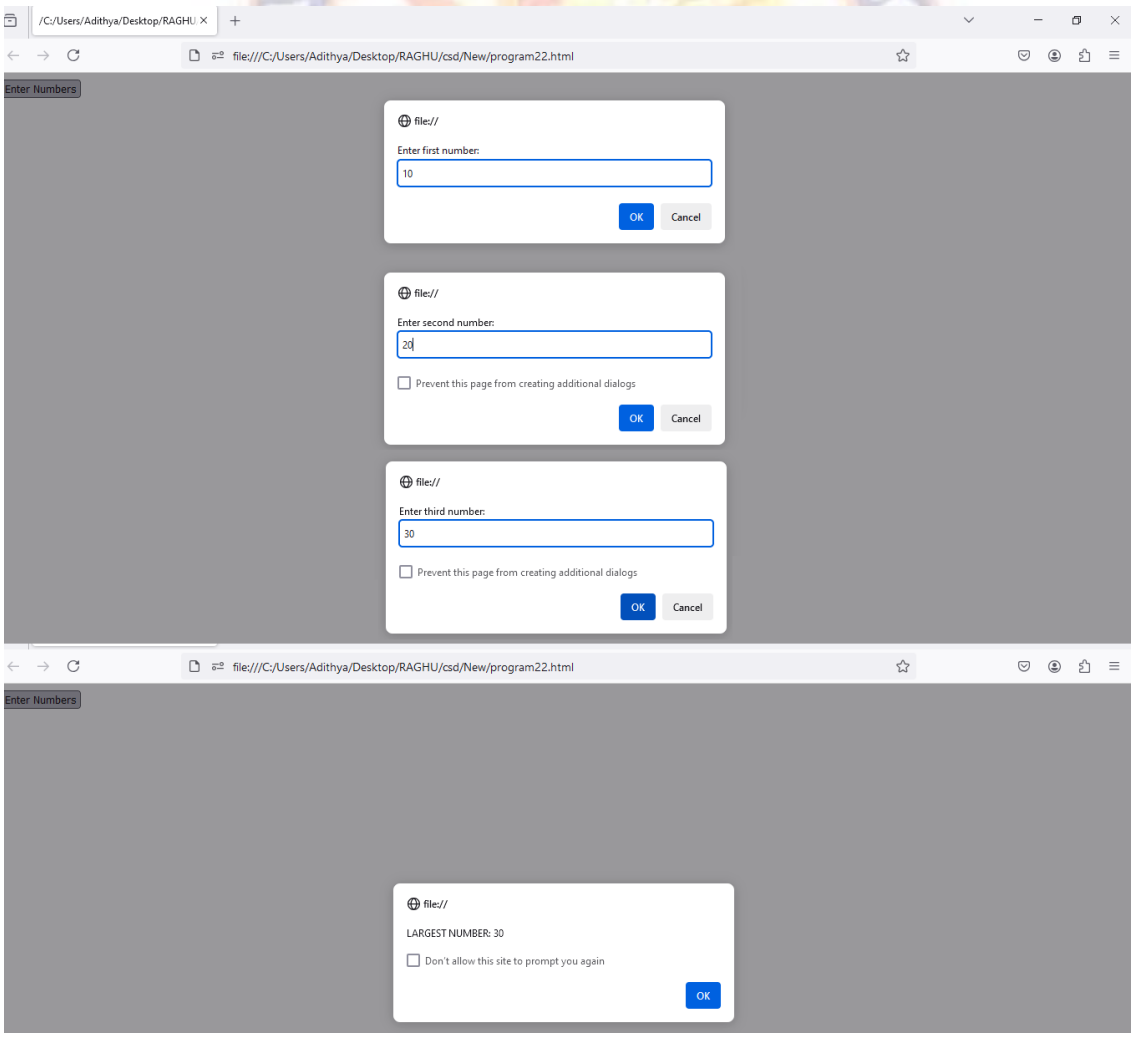


23.Write a java script program using array object properties and methods.

SOURCE CODE:

```
<html>
<body>
   <button onclick="findLargest()">Enter Numbers</button>

   <script>
      function findLargest() {
         let numbers = [
            parseInt(prompt("Enter first number:")),
            parseInt(prompt("Enter second number:")),
            parseInt(prompt("Enter third number:"))
         ];

         if (numbers.includes(NaN)) {
            alert("Please enter valid numbers.");
         } else {
            alert("LARGEST NUMBER: " + Math.max(...numbers));
         }
      }
   </script>
</body>
</html>
```

OUTPUT:

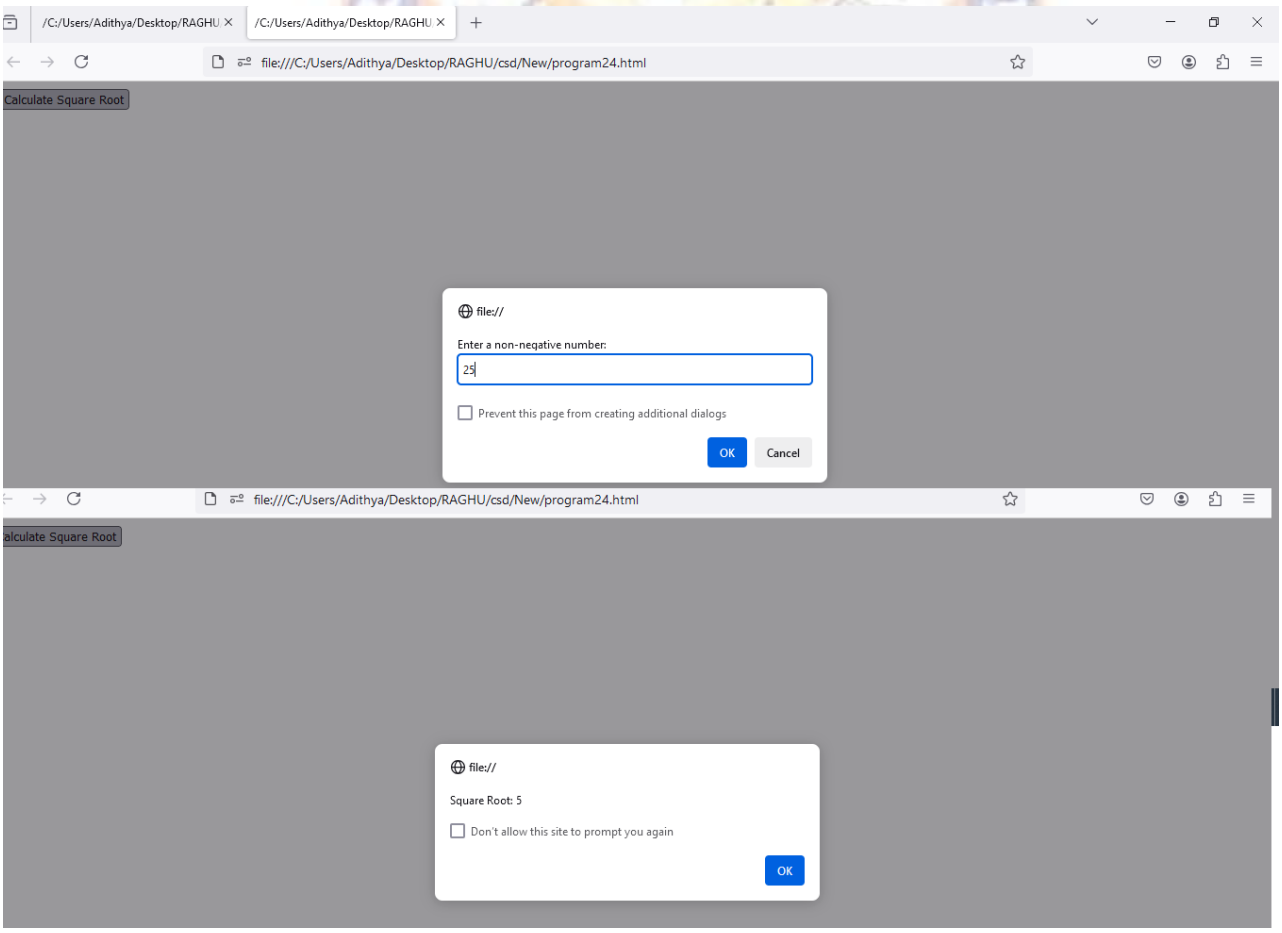


24.Write a java script program using math object properties and methods.

SOURCE CODE:

```
<html>
<body>
   <button onclick="calculateSquareRoot()">Calculate Square Root</button>

   <script>
      function calculateSquareRoot() {
         // Prompt the user for a number
         let number = parseFloat(prompt("Enter a non-negative number:"));

         // Check if the input is valid and non-negative
         if (isNaN(number) || number < 0) {
            alert("Please enter a valid non-negative number.");
         } else {
            // Use Math.sqrt() to calculate the square root
            let squareRoot = Math.sqrt(number);
            alert("Square Root: " + squareRoot);
         }
      }
   </script>
</body>
</html>
```

OUTPUT:

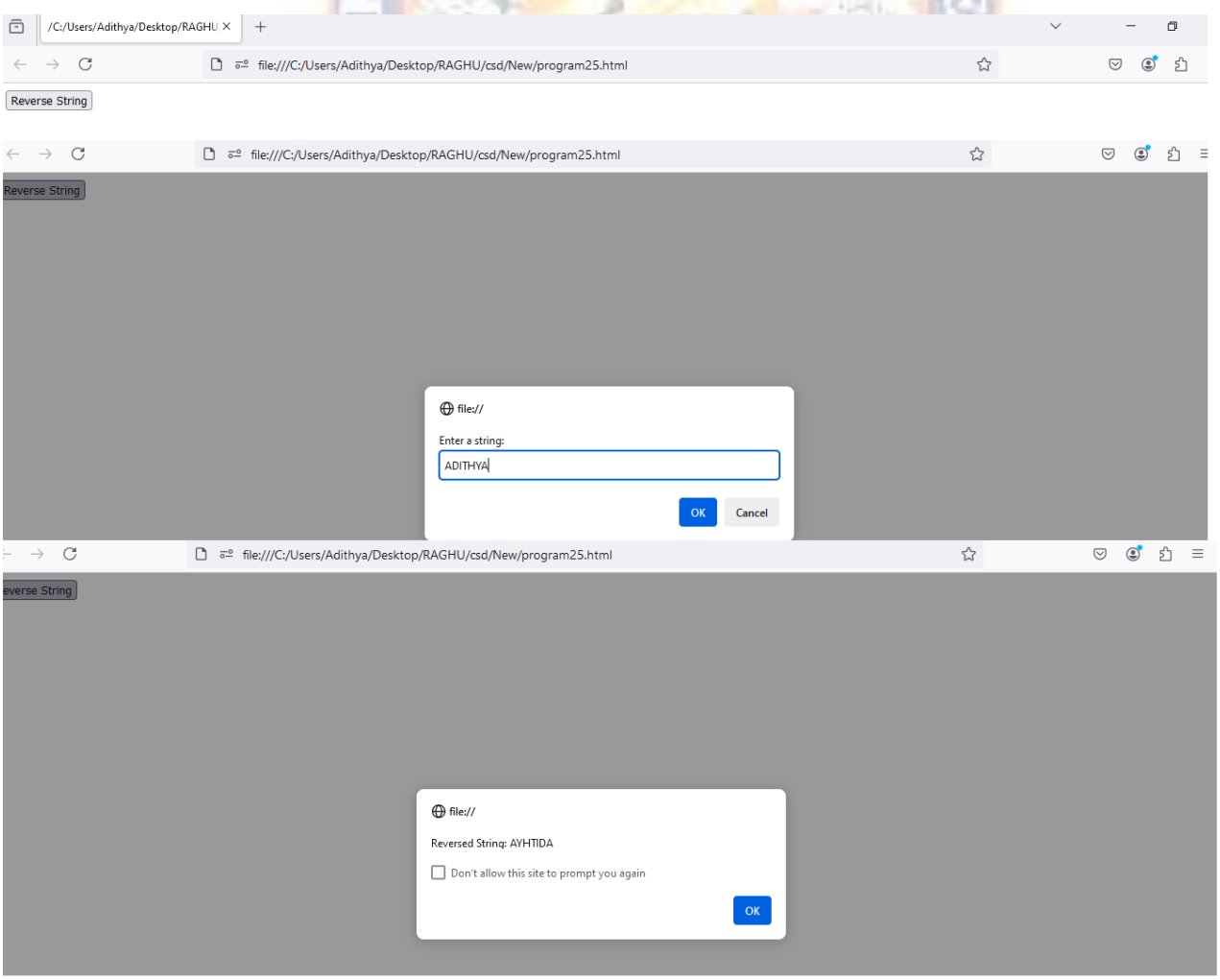


25.Write a java script program using string object properties and methods.

SOURCE CODE

```
<html>
<body>
   <button onclick="reverseString()">Reverse String</button>

   <script>
      function reverseString() {
         // Prompt the user for a string
         let inputString = prompt("Enter a string:");

         // Check if the input is valid
         if (inputString) {
            // Reverse the string using split, reverse, and join methods
            let reversedString = inputString.split('').reverse().join('');
            alert("Reversed String: " + reversedString);
         } else {
            alert("Please enter a valid string.");
         }
      }
   </script>
</body>
</html>
```

OUTPUT:

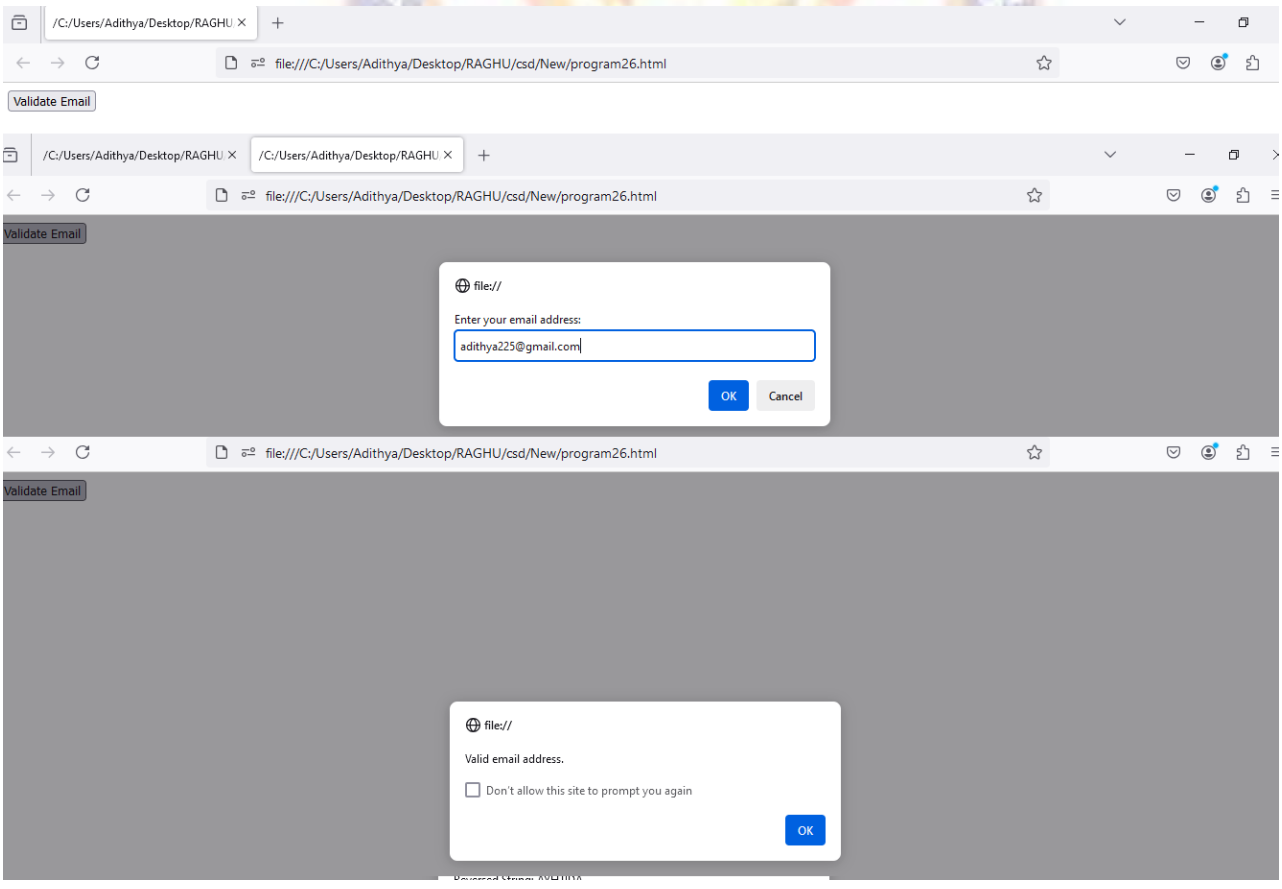


26.Write a java script program using regex object properties and methods.

SOURCE CODE:

```
<html>
<body>
   <button onclick="validateEmail()">Validate Email</button>

   <script>
      function validateEmail() {
         // Prompt the user for an email address
         let email = prompt("Enter your email address:");

         // Regular expression to validate the email format
         let emailRegex = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;

         // Test the email against the regex
         if (emailRegex.test(email)) {
            alert("Valid email address.");
         } else {
            alert("Invalid email address. Please enter a valid one.");
         }
      }
   </script>
</body>
</html>
```

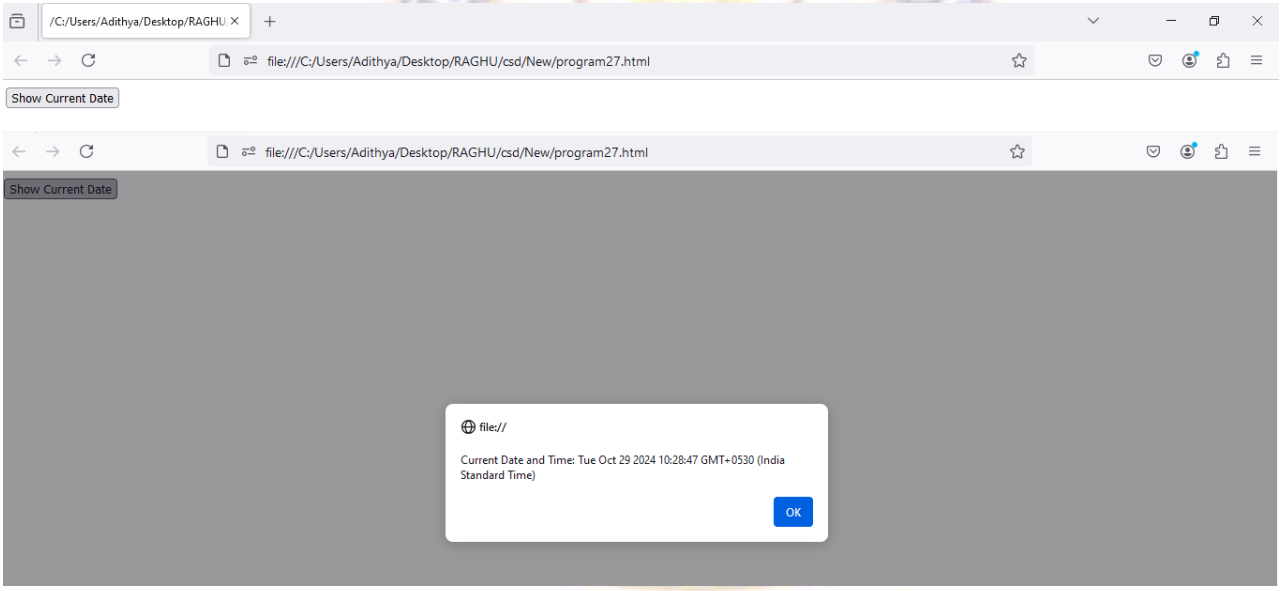
OUTPUT:



27.Write a java script program using date object properties and methods.
Source code:

```
<html>
<body>
   <button onclick="showCurrentDate()">Show Current Date</button>

   <script>
      function showCurrentDate() {
         // Create a new Date object
         let currentDate = new Date();

         // Get the current date and time
         let dateString = currentDate.toString();

         // Display the current date and time in an alert
         alert("Current Date and Time: " + dateString);
      }
   </script>
</body>
</html>
```

OUTPUT:



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

Source code:

```
<html>
  <head>

    <title>Basic User-Defined Object Example</title>
  </head>
  <body>
    <script>
    function Person(name, age)
     {
       this.name = name;
       this.age = age;
       this.getInfo = function()
        {
         return `Name: ${this.name}, Age: ${this.age}`;
        };
      }

      function createAndDisplayPerson() {
        const person = new Person(
          document.getElementById("name").value,
          document.getElementById("age").value
        );
        document.getElementById("personInfo").textContent = person.getInfo();
      }
      </script>
    <h1>Basic User-Defined Object Example: Person</h1>

    <div>
      <label for="name">Name:</label>
      <input type="text" id="name" value="REC" />
    </div>
    <div>
      <label for="age">Age:</label>
      <input type="number" id="age" value="25" />
    </div>
    <button onclick="createAndDisplayPerson()">Create and Display Person</button>

    <h2>Person Information</h2>
    <p id="personInfo"></p>
  </body>
</html>
```

OUTPUT:

File C:/Users/Adithya/Desktop/RAGHU/csd/New/program28.html

Basic User-Defined Object Example: Person

Name: REC
Age: 25
Create and Display Person

Person Information

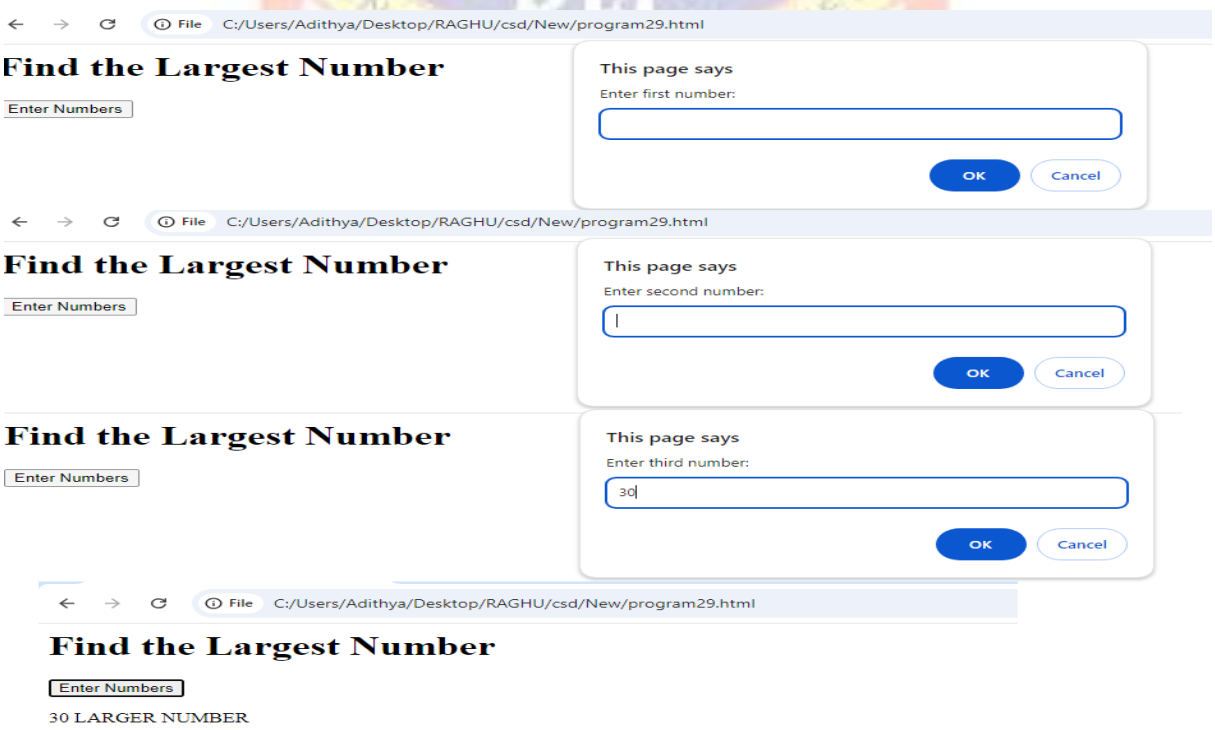
Name: REC, Age: 25

29.Write a java script 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".

Source code:

```
<html>
<head>
   <title>Largest Number</title>
</head>
<body>

   <h1>Find the Largest Number</h1>
   <button onclick="checkNumbers()">Enter Numbers</button>
   <p id="result"></p>

   <script>
      function checkNumbers() {
         let num1 = parseInt(prompt("Enter first number:"));
         let num2 = parseInt(prompt("Enter second number:"));
         let num3 = parseInt(prompt("Enter third number:"));

         if (num1 === num2 && num2 === num3) {
            document.getElementById("result").innerText = "EQUAL NUMBERS";
         } else {
            let largest = Math.max(num1, num2, num3);
            document.getElementById("result").innerText = largest + " LARGER NUMBER";
         }
      }
   </script>

</body>
</html>
```

OUTPUT:

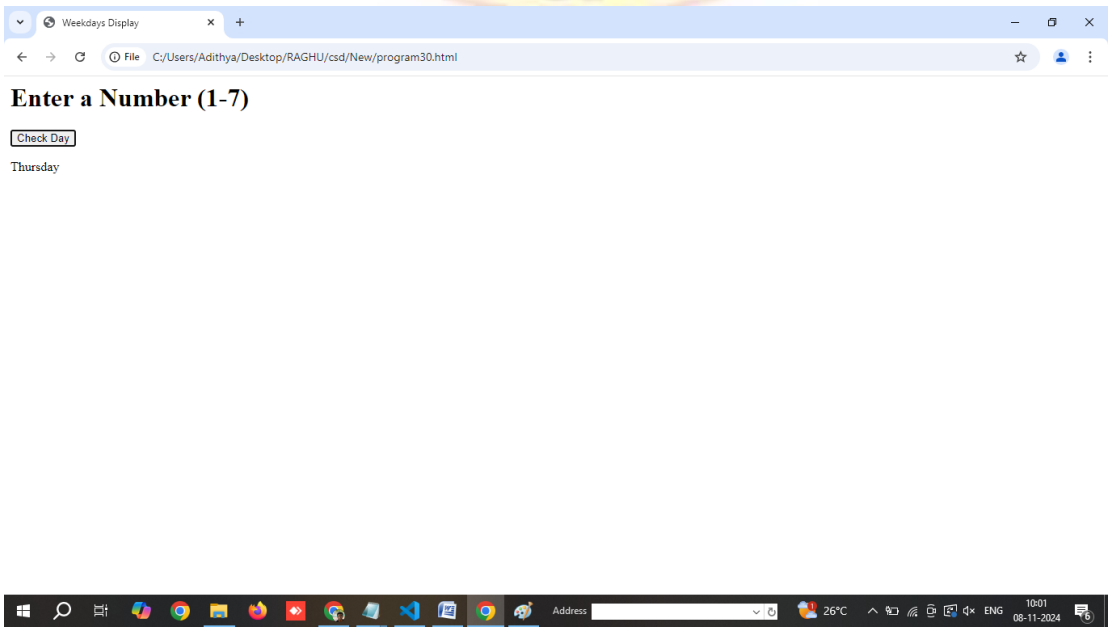


30.Write a java script program to display week days using switch case.

Source code:

```
<html>
<head>
   <title>Weekdays Display</title>
</head>
<body>

   <h1>Enter a Number (1-7)</h1>
   <button onclick="showDay()">Check Day</button>
   <p id="result"></p>

   <script>
      function showDay() {
         let dayNumber = parseInt(prompt("Enter a number (1-7):"));
         let day;

         switch (dayNumber) {
            case 1: day = "Sunday"; break;
            case 2: day = "Monday"; break;
            case 3: day = "Tuesday"; break;
            case 4: day = "Wednesday"; break;
            case 5: day = "Thursday"; break;
            case 6: day = "Friday"; break;
            case 7: day = "Saturday"; break;
            default: day = "Invalid number! Please enter a number between 1 and 7.";
         }

         document.getElementById("result").innerText = day;
      }
   </script>

</body>
</html>
```

OUTPUT:

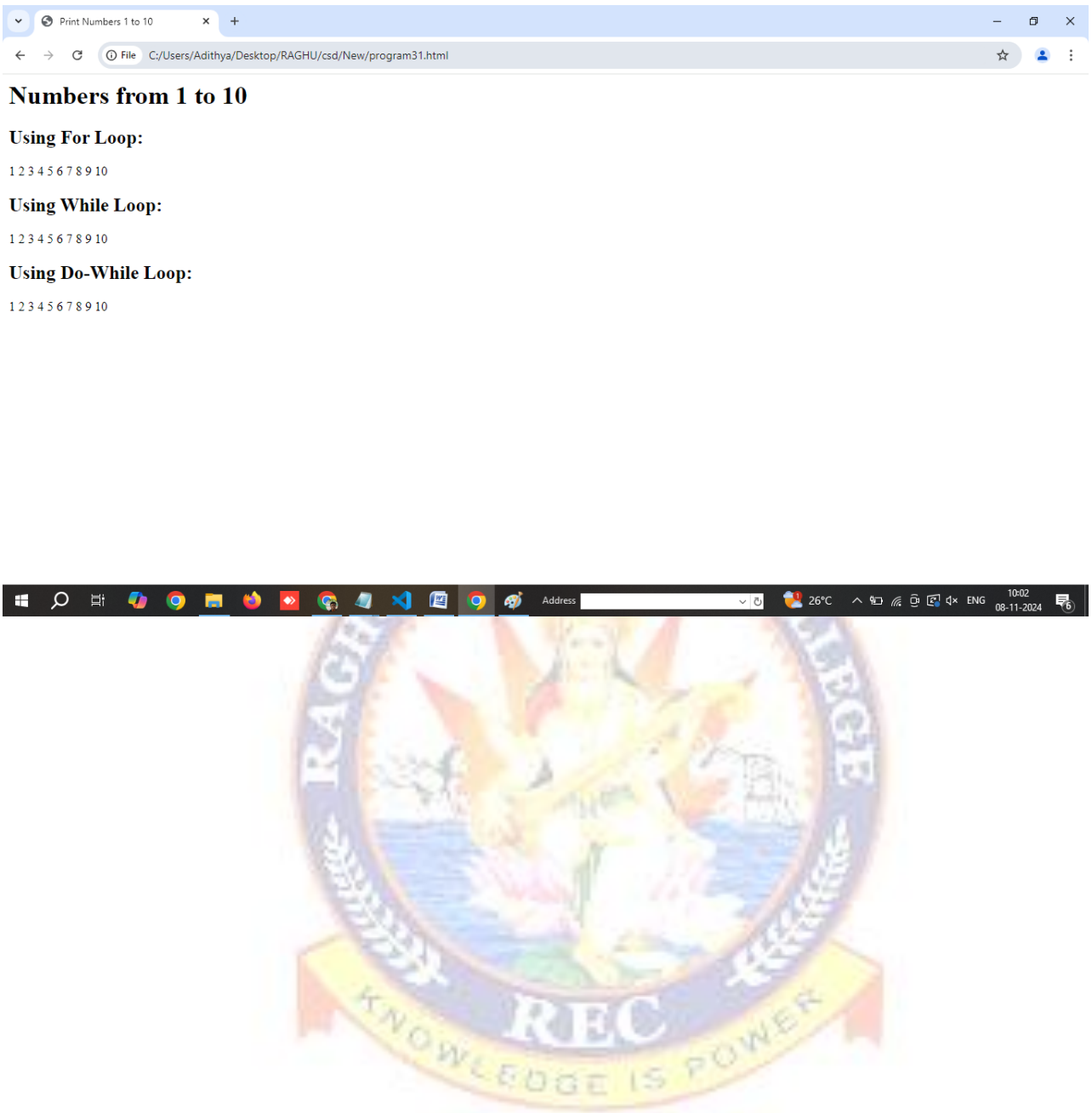


31.Write a java script program to print 1 to 10 numbers using for, while and do-while loops.

Source code:

```
<html>
<head>

   <title>Print Numbers 1 to 10</title>
</head>
<body>

   <h1>Numbers from 1 to 10</h1>

   <h2>Using For Loop:</h2>
   <p id="forLoop"></p>

   <h2>Using While Loop:</h2>
   <p id="whileLoop"></p>

   <h2>Using Do-While Loop:</h2>
   <p id="doWhileLoop"></p>

   <script>
      // For Loop
      let forOutput = '';
      for (let i = 1; i <= 10; i++) {
         forOutput += i + ' ';
      }
      document.getElementById("forLoop").innerText = forOutput;

      // While Loop
      let whileOutput = '';
      let j = 1;
      while (j <= 10) {
         whileOutput += j + ' ';
         j++;
      }
      document.getElementById("whileLoop").innerText = whileOutput;

      // Do-While Loop
      let doWhileOutput = '';
      let k = 1;
      do {
         doWhileOutput += k + ' ';
         k++;
      } while (k <= 10);
      document.getElementById("doWhileLoop").innerText = doWhileOutput;
   </script>

</body>
</html>
```

Output:

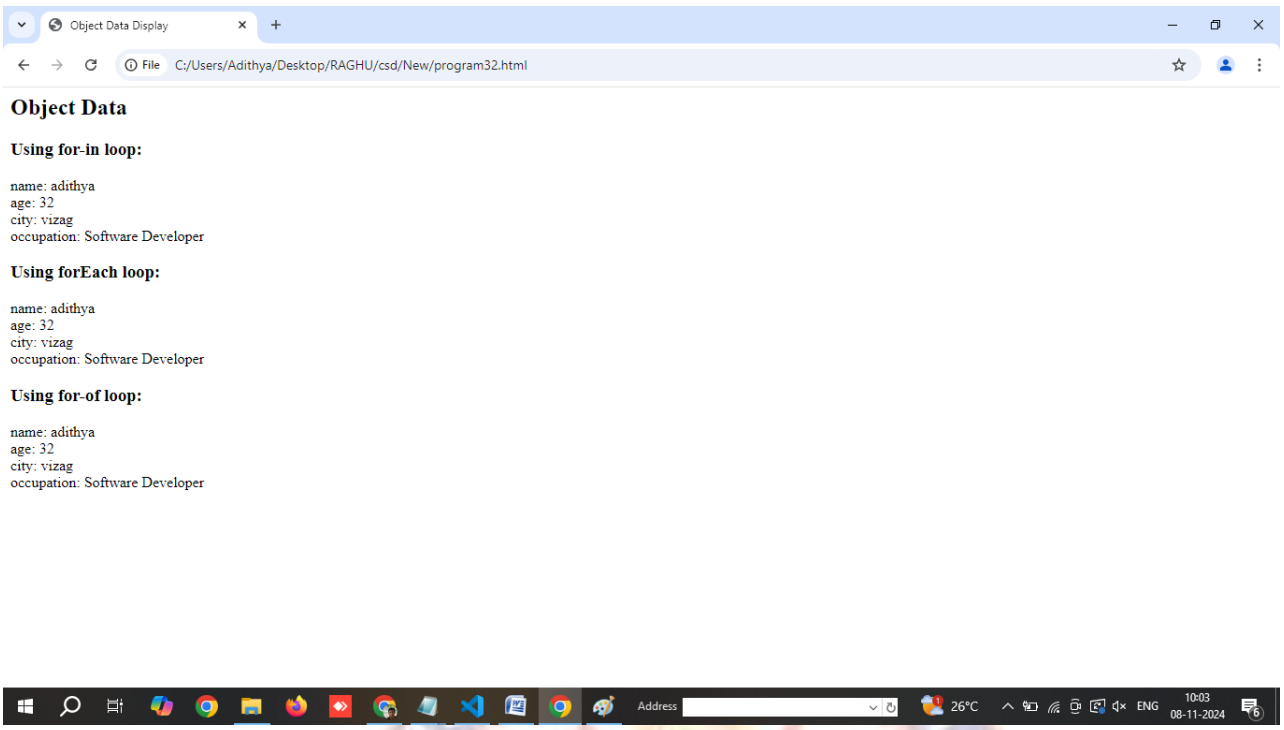

Print Numbers 1 to 10
File C:/Users/Adithya/Desktop/RAGHU/csd/New/program31.html
Numbers from 1 to 10
Using For Loop:
1 2 3 4 5 6 7 8 9 10
Using While Loop:
1 2 3 4 5 6 7 8 9 10
Using Do-While Loop:
1 2 3 4 5 6 7 8 9 10
Address
26°C
ENG
10:02
08-11-2024

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

Source code:

```
<html>
<head>
  <title>Object Data Display</title>
</head>
<body>

  <h2>Object Data</h2>
  <div id="output"></div>

  <script>
    // Define an object
    const data = {
      name: "adithya",
      age: 32,
      city: "vizag",
      occupation: "Software Developer"
    };

    // Select the output div
    const outputDiv = document.getElementById('output');

    // Using for-in loop
    outputDiv.innerHTML += "<h3>Using for-in loop:</h3>";
    for (let key in data) {
      outputDiv.innerHTML += `${key}: ${data[key]}<br>`;
    }

    // Using forEach loop
    outputDiv.innerHTML += "<h3>Using forEach loop:</h3>";
    Object.keys(data).forEach(key => {
      outputDiv.innerHTML += `${key}: ${data[key]}<br>`;
    });

    // Using for-of loop
    outputDiv.innerHTML += "<h3>Using for-of loop:</h3>";
    for (let [key, value] of Object.entries(data)) {
      outputDiv.innerHTML += `${key}: ${value}<br>`;
    }
  </script>

</body>
</html>
```

OUTPUT:


Object Data Display
File C:/Users/Adithya/Desktop/RAGHU/csd/New/program32.html
Object Data
Using for-in loop:
name: adithya
age: 32
city: vizag
occupation: Software Developer
Using forEach loop:
name: adithya
age: 32
city: vizag
occupation: Software Developer
Using for-of loop:
name: adithya
age: 32
city: vizag
occupation: Software Developer

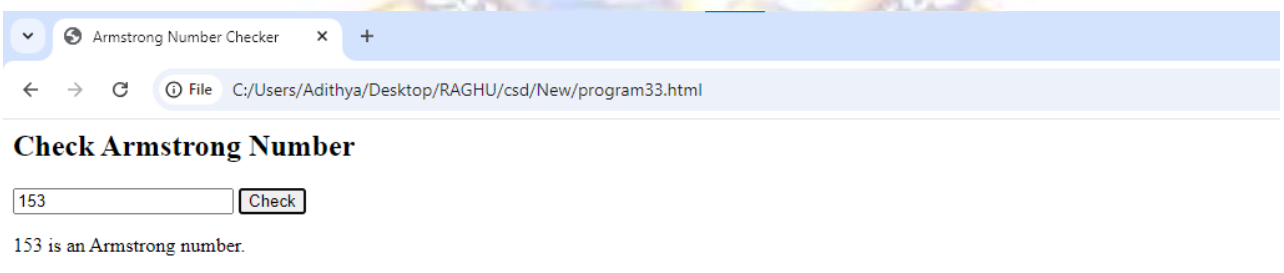
Address
26°C
ENG
10:03
08-11-2024

33.Develop a java script program to determine whether a given number is an 'ARMSTRONG NUMBER' or not. [Eg: 153 is an Armstrong number, since sum of the cube of the digits is equal to the number i.e.,13 + 53+ 33 = 153]

Source code:

```
<html>
<head>

  <title>Armstrong Number Checker</title>
</head>
<body>
  <div>
    <h2>Check Armstrong Number</h2>
    <input type="number" id="number" placeholder="Enter a number" required>
    <button onclick="checkArmstrong()">Check</button>
    <p id="result"></p>
  </div>

  <script>
    function checkArmstrong() {
      const number = parseInt(document.getElementById('number').value);
      const digits = number.toString().split('');
      const sum = digits.reduce((acc, digit) => acc + Math.pow(parseInt(digit), digits.length), 0);
      document.getElementById('result').innerText = sum === number ? `${number} is an
Armstrong number.` : `${number} is not an Armstrong number.`;
    }
  </script>
</body>
</html>
```

Output:

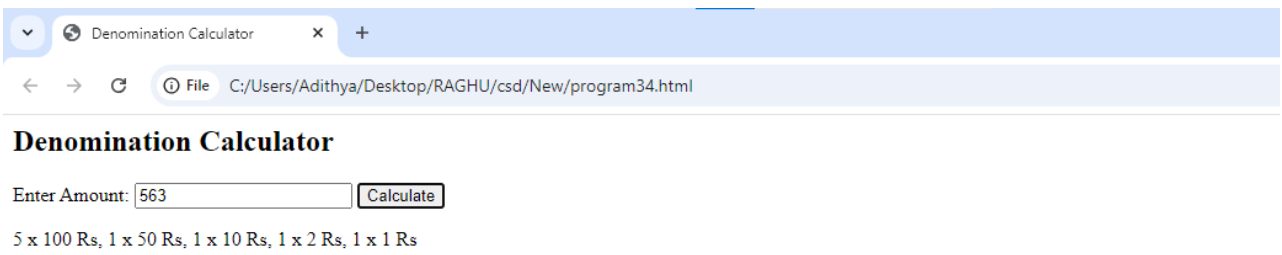


34.Write a program to display the denomination of the amount deposited in the bank in terms of 100's, 50's, 20's, 10's, 5's, 2's & 1's. (Eg: If deposited amount is Rs.163, the output should be 1-100's, 1-50's, 1- 10's, 1-2's & 1-1's)

Source code:

```
<html>
<head>
  <title>Denomination Calculator</title>
</head>
<body>

  <h2>Denomination Calculator</h2>

  <!-- Input Form -->
  <label for="amount">Enter Amount: </label>
  <input type="number" id="amount" required>
  <button onclick="calculateDenominations()">Calculate</button>

  <!-- Result Display -->
  <p id="result"></p>

  <script>
    function calculateDenominations() {
      var amount = parseInt(document.getElementById('amount').value);
      var denominations = [100, 50, 20, 10, 5, 2, 1];
      var result = "";

      for (var i = 0; i < denominations.length; i++) {
        var count = Math.floor(amount / denominations[i]);
        amount %= denominations[i];  // Update remaining amount
        if (count > 0) {
          result += count + " x " + denominations[i] + " Rs, ";
        }
      }

      document.getElementById('result').innerText = result.slice(0, -2); // Remove last comma
    }
  </script>

</body>
</html>
```

Output:



35.Design a appropriate function should be called to display

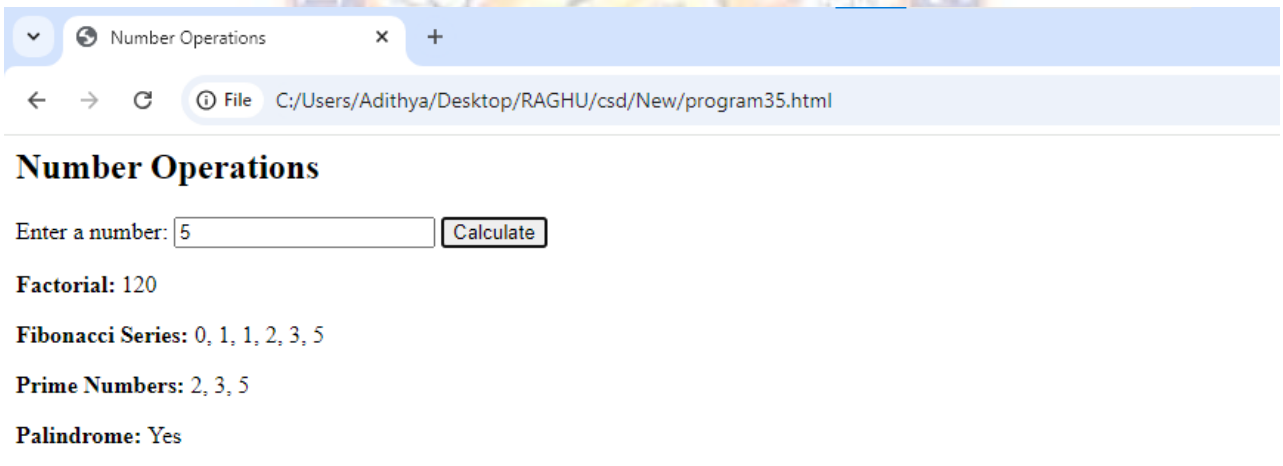
1. **Factorial of that number**
2. **Fibonacci series up to that number**
3. **Prime numbers up to that number**
4. **Is it palindrome or not**

Source code:

```
<html>
<head>

  <title>Number Operations</title>
</head>
<body>

  <h2>Number Operations</h2>

  <!-- Input Form -->
  <label for="number">Enter a number: </label>
  <input type="number" id="number">
  <button onclick="performOperations()">Calculate</button>

  <!-- Results Section -->
  <p><strong>Factorial: </strong><span id="factorial"></span></p>
  <p><strong>Fibonacci Series: </strong><span id="fibonacci"></span></p>
  <p><strong>Prime Numbers: </strong><span id="prime"></span></p>
  <p><strong>Palindrome: </strong><span id="palindrome"></span></p>

  <script>
    function performOperations() {
      var num = document.getElementById('number').value;

      // Factorial
      document.getElementById('factorial').innerText = factorial(num);

      // Fibonacci
      document.getElementById('fibonacci').innerText = fibonacci(num);

      // Prime Numbers
      document.getElementById('prime').innerText = primeNumbers(num);

      // Palindrome
      document.getElementById('palindrome').innerText = isPalindrome(num);
    }

    function factorial(n) {
      n = parseInt(n);
      let result = 1;
      for (let i = 1; i <= n; i++) result *= i;
      return result;
    }

    function fibonacci(n) {
      n = parseInt(n);
      let fib = [0, 1];
      for (let i = 2; i <= n; i++) fib.push(fib[i-1] + fib[i-2]);
```

```
    return fib.join(', ');
  }

  function primeNumbers(n) {
    n = parseInt(n);
    let primes = [];
    for (let i = 2; i <= n; i++) if (isPrime(i)) primes.push(i);
    return primes.join(', ');
  }

  function isPrime(num) {
    for (let i = 2; i <= Math.sqrt(num); i++) if (num % i === 0) return false;
    return num > 1;
  }

  function isPalindrome(num) {
    let str = num.toString();
    return str === str.split('').reverse().join('') ? "Yes" : "No";
  }
 </script>

</body>
</html>
```

Output:



36.Design a HTML having a text box and four buttons named Factorial, Fibonacci, Prime, and Palindrome. When a button is pressed an appropriate function should be called to display

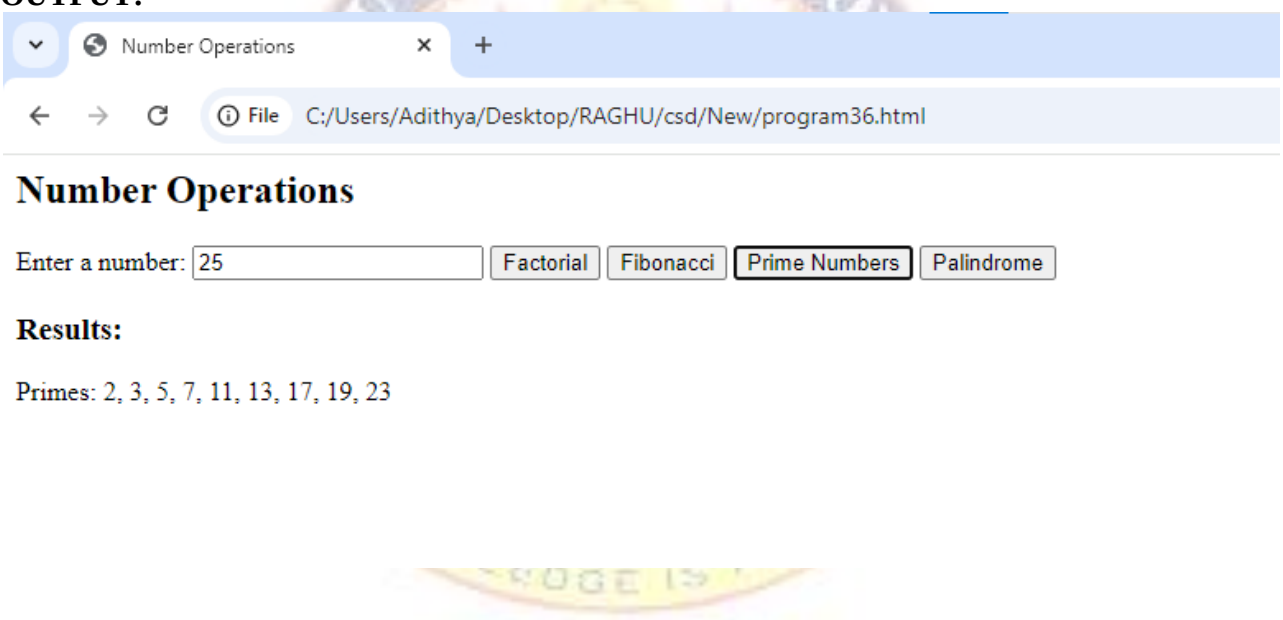
1. **Factorial of that number**
2. **Fibonacci series up to that number**
3. **Prime numbers up to that number**
4. **Is it palindrome or not**

Source code:

```
<html>
<head>

  <title>Number Operations</title>
</head>
<body>

  <h2>Number Operations</h2>

  <!-- Input for Number -->
  <label for="number">Enter a number: </label>
  <input type="number" id="number">

  <!-- Buttons -->
  <button onclick="factorial()">Factorial</button>
  <button onclick="fibonacci()">Fibonacci</button>
  <button onclick="primes()">Prime Numbers</button>
  <button onclick="palindrome()">Palindrome</button>

  <h3>Results:</h3>
  <p><span id="result"></span></p>

  <script>
   // Factorial
   function factorial() {
    var num = document.getElementById("number").value;
    var result = 1;
    for (var i = 1; i <= num; i++) result *= i;
    document.getElementById("result").innerText = "Factorial: " + result;
   }

   // Fibonacci
   function fibonacci() {
    var num = document.getElementById("number").value;
    var fib = [0, 1];
    for (var i = 2; i < num; i++) fib.push(fib[i - 1] + fib[i - 2]);
    document.getElementById("result").innerText = "Fibonacci: " + fib.join(", ");
   }

   // Prime Numbers
   function primes() {
    var num = document.getElementById("number").value;
    var primes = [];
    for (var i = 2; i <= num; i++) if (isPrime(i)) primes.push(i);
    document.getElementById("result").innerText = "Primes: " + primes.join(", ");
```

```
    }

    function isPrime(n) {
      for (var i = 2; i < n; i++) if (n % i === 0) return false;
      return n > 1;
    }

    // Palindrome
    function palindrome() {
      var num = document.getElementById("number").value;
      var str = num.toString();
      var reverse = str.split("").reverse().join("");
      document.getElementById("result").innerText = (str === reverse) ? "Palindrome: Yes" :
"Palindrome: No";
    }
  </script>

</body>
</html>
```

OUTPUT:



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

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

Source code:

```
<html >
<head>

 <title>Registration</title>
 <style>
  body {
   font-family: Arial, sans-serif;
   padding: 20px;
   background-color: #f4f4f4;
   text-align: center;
  }
  .form-container {
   background-color: white;
   padding: 20px;
   border-radius: 5px;
   box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
   width: 300px;
   margin: 0 auto;
  }
  input {
   width: 100%;
   padding: 8px;
   margin: 10px 0;
   border: 1px solid #ccc;
   border-radius: 4px;
  }
  button {
   width: 100%;
   padding: 10px;
   background-color: #4CAF50;
   color: white;
   border: none;
   border-radius: 4px;
  }
  button:hover {
   background-color: #45a049;
  }
  p {
   color: red;
  }
 </style>
</head>
<body>

 <div class="form-container">
  <h2>Registration Form</h2>
```

```
    <input type="text" id="name" placeholder="Enter your name"><br>
    <input type="text" id="mobile" placeholder="Enter your mobile"><br>
    <input type="text" id="email" placeholder="Enter your email"><br>

    <button onclick="validateForm()">Submit</button>
    <p id="result"></p>
  </div>

  <script>
    function validateForm() {
      const name = document.getElementById("name").value;
      const mobile = document.getElementById("mobile").value;
      const email = document.getElementById("email").value;
      const result = document.getElementById("result");

      // Name Validation
      if (name.length < 6 || !/^[A-Za-z]/.test(name)) return result.innerHTML = "Name must start with a letter and be at least 6 characters long.";

      // Mobile Validation
      if (mobile.length !== 10 || isNaN(mobile)) return result.innerHTML = "Mobile number must be exactly 10 digits.";

      // Email Validation
      if (!email.includes("@") || !email.includes(".")) return result.innerHTML = "Email must contain @ and .";

      result.innerHTML = "Registration Successful!";
      result.style.color = "green";
    }
  </script>

</body>
</html>
```

Output: