



INTERNET AND WEB PROGRAMMING
Lab Record

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Submitted To
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INDEX

S. No.	Title of Experiment	Page No.
1	Analyze the existing IRCTC website and improve the website using HTML.	
2	Design an English alphabet chart such that on clicking the alphabet the appropriate example must be displayed using HTML client-side image mapping.	
3	Design the online periodic table or time table using CSS.	
4	Write a JavaScript function to capitalize the first letter of each word in a string using form	
5	Create a function that will add two positive numbers of indefinite size. The numbers are received as strings and the result should be also provided as string. Dynamic input is required.	
6	Develop tic-tac-toe game using JavaScript.	
7	Show how JavaScript can be used to open a new browser window, with a named page displayed in it. The new window should have a width of 200, a height of 200, a location bar. Add a note on resizing the created window with suitable code.	
8	Write a multiple-choice quiz. It has five questions and the user can only select one answer for each question. After the user selects an answer, alert him or her if he or she is wrong, and show the user the correct answer in a separate textbox field. Show the simple timer to the user, upon form submission display total marks scored.	
9	Add and Remove elements from array in javascript.	
10	Create a simple Program to build the Calculator in JavaScript using with HTML and CSS web languages.	
11	Develop an online quiz application using PHP where the questions and answers are maintained in database.	
12	Create a hospital registration form and validate the fields using JavaScript store in database.	
13	Write a PHP program for sending and receiving plain text message (email).	

S. No.	Title of Experiment
1	Analyze the existing IRCTC website and improve the website using HTML.

HTML CODE:

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <script src="https://kit.fontawesome.com/0de0529c5f.js" crossorigin="anonymous"></script>
  <script src="./javas.js"></script>
  <link rel="icon" href="./images/titlepage logo.png" type="image/icon type">
  <link rel="stylesheet" href="1.css">
  <title>IRCTC Next Generation eTicketing System</title>
</head>
<body>
  <header id="main-header">
    <div id="img1"></div>
    <div id="linklists">
      <div id="links1" >
        <ul class="horizontal-list center">
          <li class="blue-bold"><a href="#">LOGIN</a></li>
          <li><a href="https://www.irctc.co.in/nget/profile/user-registration">REGISTER</a></li>
          <li><a href="https://agent.irctc.co.in/nget/train-search">AGENT LOGIN</a></li>
          <li><a href="#">CONTACT US</a></li>
          <li><a href="#">ASK DISHA</a></li>
          <li><a href="https://www.irctc.co.in/nget/enquiry/alerts"><strong>ALERTS</strong></a></li>
          <li>
            <span id="datetime" style="font-weight: bold;"></span>
            <script src="javas.js"></script>
          </li>
          <li>
            <button class="btn" onclick="decreaseFontSize()">A-</button>
            <button class="btn" onclick="resetFontSize()">A</button>
            <button class="btn" onclick="increaseFontSize()">A+</button>
            <script src="./javas.js"></script>
          </li>
        </ul>
      </div>
    </div>
  </header>

```

```

        </li>
        <li><button class="btn">हिन्दी</button></li>
    </ul>
</div>
<div id="links2">
    <div class="dropdown">
        <a href="/index.html"><span><i class="fa-solid fa-house"></i></span></a>
    </div>

    <div class="dropdown">
        <span class="blue-bold">IRCTC EXCLUSIVE</span>
        <div class="dropdown-content">
            <div class="dropdown-option">IRCTC eWallet</div>
            <div class="dropdown-option">IRCTC-iPAY</div>
            <div class="dropdown-option">e-Gift Vouchers</div>
        </div>
    </div>

    <div class="dropdown">
        <span class="orange-underline">TRAINS</span>
        <div class="dropdown-content">
            <div class="dropdown-option">Book Ticket</div>
            <div class="dropdown-option">Foreign Tourist Booking</div>
            <div class="dropdown-option">Connecting Journey Booking</div>
            <div class="dropdown-option">IRCTC Trains</div>
            <div class="dropdown-option">Cancel Ticket</div>
            <div class="dropdown-option">PNR Enquiry</div>
            <div class="dropdown-option">Train Schedule</div>
            <div class="dropdown-option">Track Your Train</div>
            <div class="dropdown-option">FTR Coach/Train Booking</div>
        </div>
    </div>

    <div class="dropdown">
        <a href="https://www.bus.irctc.co.in/home"
target="_blank"><span>BUSES</span></a>
    </div>

    <div class="dropdown">
        <a href="https://www.air.irctc.co.in/" target="_blank"><span>FLIGHTS</
span>
    </div>

    <div class="dropdown">
        <a href="https://www.hotel.irctctourism.com/hotel"
target="_blank"><span>HOTELS</span></a>
    </div>

```

```

<div class="dropdown">
  <span>HOLIDAYS</span>
  <div class="dropdown-content">
    <div class="dropdown-option">Tourist Trains</div>
    <div class="dropdown-option">Tour Packages</div>
    <div class="dropdown-option">Stays</div>
  </div>
</div>
<div class="dropdown">
  <span>LOYALTY</span>
  <div class="dropdown-content">
    <div class="dropdown-option">IRCTC SBI Credit Card</div>
    <div class="dropdown-option">IRCTC BOB Credit Card</div>
    <div class="dropdown-option">IRCTC HDFC Credit Card</div>
  </div>
</div>
<div class="dropdown">
  <span>MEALS</span>
  <div class="dropdown-content">
    <div class="dropdown-option">Order Food - E-Catering</div>
    <div class="dropdown-option">Cooked Food Menu</div>
  </div>
</div>
<div class="dropdown">
  <span>PROMOTIONS</span>
  <div class="dropdown-content">
    <div class="dropdown-option">Suboption </div>
    <div class="dropdown-option">Suboption </div>
    <div class="dropdown-option">Suboption </div>
    <div class="dropdown-option">Suboption </div>
    <div class="dropdown-option">Suboption </div>
  </div>
</div>
<div class="dropdown">
  <span>MORE</span>
  <div class="dropdown-content">
    <div class="dropdown-option">Suboption </div>
    <div class="dropdown-option">Suboption </div>
    <div class="dropdown-option">Suboption </div>
    <div class="dropdown-option">Suboption </div>
    <div class="dropdown-option">Suboption </div>
  </div>
</div>

```

```

        </div>
    </div>
    <div id="img2"></div>
</header>
<main>
<section id="ticket-booking">
    <div id="form">
        <header>
            <div id="pnr-status" class="blue-bold center">
                <span id="i-span"><i class="fa-solid fa-clipboard-check"></i></span>
                <span id="text"><a href="https://www.indianrail.gov.in/enquiry/PNR/
PnrEnquiry.html?locale=en" target="_blank" >PNR STATUS</a></span>
            </div>
            <div id="charts" class="blue-bold center">
                <span><i class="fa-sharp fa-solid fa-clipboard-list"></i></span>
                <span><a href="https://www.irctc.co.in/online-charts/"
target="_blank">CHARTS/VACANCY</a></span>
            </div>
        </header>
        <main>
            <header>
                
                <h2>BOOK TICKET</h2>
                
            </header>
            <form method="get" action="#">
                <div>
                    <input id="from" name="from" type="text" placeholder="From"
class="leftbox" autofocus>
                    <input id="date" name="date" type="date" class="rightbox">
                    <input id="to" name="to" type="text" placeholder="To" class="leftbox">
                    <select id="class" name="class" class="rightbox">
                        <option value="all" selected>All Classes</option>
                        <option value="anubhuti">Anubhuti Class (EA)</option>
                        <option value="all" >AC First Class (1A)</option>
                        <option value="all" >Vistadome AC (EV)</option>
                        <option value="all" >Exec. Chair Car (EC)</option>
                        <option value="all" >AC 2 Tier (2A)</option>
                        <option value="all" >First Class (FC)</option>
                        <option value="all" >AC 3 Tier (3A)</option>
                    </select>
                </div>
            </form>
        </main>
    </div>
</section>
</main>
</div>

```

```

        <option value="all" >AC 3 Economy (3E)</option>
        <option value="all" >Vistadome Chair Car (VC)</option>
        <option value="all" >AC Chair Car (CC)</option>
        <option value="all" >Sleeper (SL)</option>
        <option value="all" >Vistadome Non AC (VS)</option>
        <option value="all" >Second Sitting (2S)</option>
    </select>
    <select id="quota" name="quota" class="leftbox">
        <option value="general" selected>GENERAL</option>
        <option value="ladies">LADIES</option>
        <option value="lower-berth" >LOWER BERTH/SR.CITIZEN</option>
        <option value="pwd" >PERSON WITH DISABILITY</option>
        <option value="tatk" >TATKAL</option>
        <option value="premium-tatk" >PREMIUM TATKAL</option>
    </select>
</div>
<span id="checkboxes">
    <input id="pwd-concession" name="pwd-concession" type="checkbox"
value="pwd-concession">Person With Disability Concession
    <input id="flexi-date" name="flexi-date" type="checkbox" value="flexi-
date">Flexible With Date
    <br>
    <input id="berth-available" name="berth-available" type="checkbox"
value="berth-available">Train With Available Berth
    <input id="railway-pass" name="railway-pass" type="checkbox"
value="railway-pass">Railway Pass Concession
    <br>
    <div id="buttons">
        <button type="submit">Search</button>
        <button type="button"><span>Try booking in Ask DISHA 2.0</span></
button>
    </div>
</span>
</form>
</main>
<div id="note">
    <p id="p1">Customers are requested to contact only on IRCTC's authorised
contact no./Email id (Contact No.:14646 OR 0755-6610661 / 0755-4090600, Email:
care@irctc.co.in), for assistance regarding ticket booking, refund or forgot user-id/
password. Beware of fraudulent sites offering assistance.</p>
    <p id="p2">Please check the alert section regarding restoration of AC 3-tier
economy fare.</p>
</div>

```

```

</div>
<div id="ticket-booking-heading">
  <h1>INDIAN RAILWAYS</h1>
  <h2>Safety | Security | Punctuality</h2>
</div>
</section>
<section id="service">
  <div class="divider"></div>
  <header class="center">
    <h1>Have you not found the right one?</h1>
    <h1>Find a service suitable for you here.</h1>
  </header>
  <main id="icons" >
    <div><a href="https://www.air.irctc.co.in/" target="_blank"><i class="fa-solid fa-plane"></i></a><p>FLIGHTS</p></div>
    <div><a href="https://hotel.irctctourism.com/hotel" target="_blank"><i class="fa-solid fa-hotel"></i></a><p>HOTELS</p></div>
    <div><a href="https://raildrishti.indianrailways.gov.in/raildrishti/raildrishtiv3/" target="_blank"><i class="fa-solid fa-chart-line"></i></a><p>RAIL DRISHTI</p></div>
    <div><a href="https://www.ecatering.irctc.co.in/" target="_blank"><i class="fa-solid fa-bell-concierge"></i></a><p>E-CATERING</p></div>
    <div><a href="https://www.bus.irctc.co.in/home" target="_blank"><i class="fa-solid fa-bus"></i></a><p>BUS</p></div>
    <div><a href="https://www.irctctourism.com/tourpackage_search?searchKey=&tagType=&travelType=&category=" target="_blank"><i class="fa-solid fa-umbrella-beach"></i></a><p>HOLIDAY PACKAGES</p></div>
    <div><a href="https://www.irctctourism.com/bharatgaurav" target="_blank"><i class="fa-solid fa-train-subway"></i></a><p>TOURIST TRAIN</p></div>
    <div><a href="https://www.irctctourism.com/gallery/" target="_blank"><i class="fa-solid fa-mountain"></i></a><p>HILL RAILWAYS</p></div>
    <div><a href="https://www.ftr.irctc.co.in/ftr/" target="_blank"><i class="fa-solid fa-train-tram"></i></a><p>CHARTER TRAIN</p></div>
    <div><a href="https://www.irctctourism.com/gallery/" target="_blank"><i class="fa-solid fa-mountain-sun"></i></a><p>GALLERY</p></div>
  </main>
  <div>
    
  </div>
</section>
<section id="socials">

  <!-- <div id="social-icons"> -->

```


<p>Get Connected with us on social networks</p>
 <i class="fa-brands fa-facebook-f blue"></i>
 <i class="fa-brands fa-youtube red"></i>
 <i class="fa-brands fa-instagram blue"></i>
 <i class="fa-brands fa-linkedin-in blue"></i>
 <i class="fa-brands fa-telegram blue"></i>
 <i class="fa-brands fa-pinterest red"></i>
 <i class="fa-brands fa-tumblr grey"></i>
 <i class="fa-brands fa-twitter blue"></i>
 <!-- </div> -->
 </section>

<section id="all-links">
 <div>

 <li onclick="toggleList('hiddenList1','button1')">IRCTC Trains
 ▼

 <ul id="hiddenList1" class="hidden">
 Suboption 1
 Suboption 2
 Suboption 3

 </div>
 <div>

 <li onclick="toggleList('hiddenList2','button2')">How To▼

 <ul id="hiddenList2" class="hidden">
 Suboption 1
 Suboption 2
 Suboption 3

</div>

<div>

<li onclick="toggleList('hiddenList3','button3')">IRCTC eWallet▼

<ul id="hiddenList3" class="hidden">

Suboption 1

Suboption 2

Suboption 3

</div>

<div>

<li onclick="toggleList('hiddenList4','button4')">For Newly Migrated Agents▼

<ul id="hiddenList4" class="hidden">

Suboption 1

Suboption 2

Suboption 3

</div>

<div>

<li onclick="toggleList('hiddenList5','button5')">General Information▼

<ul id="hiddenList5" class="hidden">

Suboption 1

Suboption 2

Suboption 3

</div>

<div>


```

        <li onclick="toggleList('hiddenList6','button6')">IRCTC Official App<span
id="button6">▼</span></li>
    </ul>
    <ul id="hiddenList6" class="hidden">
        <li>Suboption 1 </li>
        <li>Suboption 2 </li>
        <li>Suboption 3 </li>
    </ul>
</div>

<div>
    <ul>
        <li onclick="toggleList('hiddenList7','button7')">IRCTC Loyalty Program<span
id="button7">▼</span></li>
    </ul>
    <ul id="hiddenList7" class="hidden">
        <li>Suboption 1 </li>
        <li>Suboption 2 </li>
        <li>Suboption 3 </li>
    </ul>
</div>

<div>
    <ul>
        <li onclick="toggleList('hiddenList8','button8')">Mobile Zone<span
id="button8">▼</span></li>
    </ul>
    <ul id="hiddenList8" class="hidden">
        <li>Suboption 1 </li>
        <li>Suboption 2 </li>
        <li>Suboption 3 </li>
    </ul>
</div>

<div>
    <ul>
        <li onclick="toggleList('hiddenList9','button9')">Important Information<span
id="button9">▼</span></li>
    </ul>
    <ul id="hiddenList9" class="hidden">
        <li>Suboption 1 </li>
        <li>Suboption 2 </li>
        <li>Suboption 3 </li>
    </ul>
</div>

```

```
</ul>
</div>
```

```
<div>
  <ul>
    <li onclick="toggleList('hiddenList10','button10')">Advertise with us<span
id="button10">▼</span></li>
  </ul>
  <ul id="hiddenList10" class="hidden">
    <li>Suboption 1 </li>
    <li>Suboption 2 </li>
    <li>Suboption 3 </li>
  </ul>
</div>
```

```
<div>
  <ul>
    <li onclick="toggleList('hiddenList11','button11')">IRCTC-iPAY Payment
Gateway<span id="button11">▼</span></li>
  </ul>
  <ul id="hiddenList11" class="hidden">
    <li>Suboption 1 </li>
    <li>Suboption 2 </li>
    <li>Suboption 3 </li>
  </ul>
</div>
```

```
<div>
  <ul>
    <li onclick="toggleList('hiddenList12','button12')">Policies<span
id="button12">▼</span></li>
  </ul>
  <ul id="hiddenList12" class="hidden">
    <li>Suboption 1 </li>
    <li>Suboption 2 </li>
    <li>Suboption 3 </li>
  </ul>
</div>
```

```
<div>
  <ul>
    <li onclick="toggleList('hiddenList13','button13')">Agents<span
id="button13">▼</span></li>
```

```
</ul>
<ul id="hiddenList13" class="hidden">
  <li>Suboption 1 </li>
  <li>Suboption 2 </li>
  <li>Suboption 3 </li>
</ul>
</div>
```

```
<div>
<ul>
  <li onclick="toggleList('hiddenList14','button14')">Refund Rules<span
id="button14">▼</span></li>
</ul>
<ul id="hiddenList14" class="hidden">
  <li>Suboption 1 </li>
  <li>Suboption 2 </li>
  <li>Suboption 3 </li>
</ul>
</div>
```

```
<div>
<ul>
  <li onclick="toggleList('hiddenList15','button15')">IRCTC Zone<span
id="button15">▼</span></li>
</ul>
<ul id="hiddenList15" class="hidden">
  <li>Suboption 1 </li>
  <li>Suboption 2 </li>
  <li>Suboption 3 </li>
</ul>
</div>
```

```
<div>
<ul>
  <li onclick="toggleList('hiddenList16','button16')">Ask Disha ChatBot<span
id="button16">▼</span></li>
</ul>
<ul id="hiddenList16" class="hidden">
  <li>Suboption 1 </li>
  <li>Suboption 2 </li>
  <li>Suboption 3 </li>
</ul>
```

</div>

<div>

<li onclick="toggleList('hiddenList17','button17')">Enquiries▼

<ul id="hiddenList17" class="hidden">

Suboption 1

Suboption 2

Suboption 3

</div>

<div>

<li onclick="toggleList('hiddenList18','button18')">Person With Disability Facilities▼

<ul id="hiddenList18" class="hidden">

Suboption 1

Suboption 2

Suboption 3

</div>

<div>

<li onclick="toggleList('hiddenList19','button19')">About us▼

<ul id="hiddenList19" class="hidden">

Suboption 1

Suboption 2

Suboption 3

</div>

</section>

<section id="sponsors">

<div id="images">

</div>

```
<div id="copyright-info">
  <p>&copy; Garvit 22BCE10667</p>
</div>
</section>
</main>
</body>
</html>
```

CSS CODE:

```
:root {
  font-size: 16px;
}

body {
  font-family: Body, Quicksand, sans-serif;
  margin: 0;
  background: #ebebeb;
}
section {
  margin-top: 5rem;
}
.center {
  text-align: center;
}
.horizontal-list {
  padding: 0;
  margin-top: 0;
}
.horizontal-list li {
  display: inline-block;
  margin-right: 1rem;
  font-size: 0.9rem;
}
.blue-bold {
  padding: 0.4rem;
  background-color: #213d77;
  font-weight: bold;
  color: white;
}
.blue-bold a {
  color: white;
}
```

```

.divider {
  height: 0.6vh;
  width: 98.9vw;
  background-color: lightgrey;
  margin-top: -2rem;
  margin-bottom: 3rem;
}
.blue {
  background-color: #4867aa;
  color: white;
}
.red {
  background-color: red;
  color: white;
}
.grey {
  background-color: #3c576c;
  color: white;
}
.yellow {
  background-color: yellow;
  color: white;
}
.orange-underline {
  color: rgba(251, 121, 43, 1);
  text-decoration: underline;
  font-weight: bold;
}
.dropdown span {
  margin-right: 1rem;
  font-size: 0.9rem;
}
.btn {
  background: none;
  border: none;
  padding: 5px 10px;
  margin-right: 5px;
  cursor: pointer;
  color: black;
  padding: 0;
  margin: 0 0.3rem;
}
a {

```



```

    text-decoration: none;
    color: black;
}
strong {
    background-color: lightgrey;
    font-weight: bold;
    padding: 0.4rem;
}

/* ---hover dropdown options */
.dropdown {
    display: inline-block;
    position: relative;
}

.dropdown-content {
    display: none;
    position: absolute;
    background-color: #f9f9f9;
    min-width: 200px;
    /* padding: 10px; */
    box-shadow: 0 2px 5px rgba(0, 0, 0, 0.2);
    font-size: 0.9rem;
}

.dropdown-content div {
    padding: 0.8rem 0 0.8rem 0.5rem;
}

.dropdown-content div:hover {
    background-color: rgb(243, 222, 183);
    cursor: pointer;
}

.dropdown:hover .dropdown-content {
    display: block;
}

.dropdown-option {
    padding: 5px 0;
    font-weight: bold;
}

.hidden {
    display: none;
}

```

```
/* hover dropdown end */
```

```
#main-header {  
  padding-top: 1rem;  
  padding-bottom: 1rem;  
  height: 11vh;  
  width: 100vw;  
  background-color: #8dc6ff;  
  display: flex;  
  justify-content: space-around;
```

```
  top: 0;  
}
```

```
#main-header img {  
  height: 95%;  
  width: auto;  
}
```

```
#img1 {  
  margin-left: -3rem;  
}
```

```
#img2 {  
  margin-right: -3rem;  
}
```

```
#linklists {  
  display: flex;  
  flex-direction: column;  
}
```

```
/* -----ticket-booking section----- */
```

```
#ticket-booking {  
  margin-top: 7rem;  
  background-image: url("https://boroktimes.com/wp-content/uploads/2023/01/  
Unknown-facts-about-trains-to-Northeast.png");  
  background-repeat: no-repeat;  
  background-size: cover;  
  display: flex;  
  justify-content: space-around;  
  height: 40rem;  
  /* margin-left: -15rem */
```

```

}
#form {
  margin-top: 3rem;
  width: 43vw;
}
#form main {
  background-color: #ffffff;
  margin-bottom: 0;
}
#form > header {
  display: flex;
  justify-content: space-between;
}
#form > header div {
  width: 47.5%;
  font-size: 0.9rem;
}
#form > header div span {
  display: inline-block;
}
#form > header div i {
  margin-left: -8rem;
  font-size: 1.4rem;
}
#form main header {
  display: flex;
  flex-wrap: wrap;
  justify-content: space-between;
}
#form main h2 {
  color: #2f4677;
  font-size: 2rem;
}
#form main form div {
  display: flex;
  flex-wrap: wrap;
}

.leftbox {
  width: 50%;
  height: 1.6rem;
  margin: 1rem;
  color: #082b71;
}

```

```

}
.rightbox {
  width: 35%;
  height: 1.6rem;
  margin: 1rem;
  color: #082b71;
}
input::placeholder {
  color: #082b71;
}
input[type="checkbox"] {
  margin-left: 1.5rem;
  margin-right: 0.7rem;
  margin-top: 0.5rem;
  cursor: pointer;
  transform: scale(1.5);
}
#buttons {
  display: flex;
  justify-content: space-between;
}
#checkboxboxes {
  color: #082b71;
  font-weight: 550;
  font-size: 0.9rem;
  font-family: quicksand;
}
button {
  border: none;
  height: 1.9rem;
  color: white;
  border-radius: 0.3rem;
  font-weight: bold;
  margin: 2rem 2rem;
}
button[type="submit"] {
  background-color: #fb792b;
  width: 6rem;
  cursor: pointer;
}
button[type="button"] {
  background-color: #01bb0a;
  width: 15rem;

```

```

}
button[type="button"] span:hover {
  text-decoration: underline;
  color: #007ad9;
  cursor: pointer;
}
select {
  cursor: pointer;
}
select option {
  cursor: pointer;
  color: black;
  font-weight: lighter;
  font-size: 1rem;
  padding: 1rem;
  margin-bottom: 1rem;
}
select option:hover {
  background-color: lightgrey;
  box-shadow: 4px 10px 12px black;
}
#note {
  margin-top: 0.1rem;
  background-color: #ffffff;
}
#note #p1 {
  color: red;
  font-size: x-small;
  line-height: 1rem;
  font-weight: bold;
}
#note #p2 {
  color: rgb(0, 0, 255);
  font-size: x-small;
  font-weight: bold;
}

#ticket-booking-heading {
  color: #213d77;
}
#ticket-booking-heading h1 {
  margin-top: 1rem;
  font-weight: 700;
}

```

```

    font-size: 3.2rem;
}
#ticket-booking-heading h2 {
    margin-left: 15%;
    margin-top: -2.4rem;
    font-weight: normal;
}

/* -----services section----- */

#service {
    display: flex;
    flex-direction: column;
    align-items: center;
}

#service header {
    font-weight: bold;
    font-size: 1.5rem;
}
#service header h1 {
    margin: 0;
}
#icons {
    margin-top: 2rem;
    width: 62vw;
    display: flex;
    flex-wrap: wrap;
    justify-content: space-between;
}
#icons div {
    margin: 2rem 0;
}
#icons i {
    margin: 0 2.5rem;
    font-size: 3rem;
    padding: 1rem;
    border: black solid 0.1rem;
    border-radius: 50%;
    transition: ease-in-out 0.3s;
}
#icons i:hover {
    color: white;
}

```

```

    background-color: blue;
    box-shadow: 4px 10px 12px black;
    transform: scale(1.2);
}
#icons p {
    text-align: center;
    font-weight: bold;
}

/* -----holidays section----- */

#holidays {
    background-color: #f7f7f7;
    display: flex;
    flex-direction: column;
    align-items: center;
    padding-bottom: 6rem;
    margin-bottom: 0;
}
#holidays > header {
    font-size: 1.5rem;
}
#packages {
    width: 70vw;
    display: flex;
    flex-wrap: wrap;
    /* justify-content: space-between; */
    margin-left: 3rem;
}
#packages > div {
    margin-top: 3rem;
    margin-right: 1rem;
    background-color: #fff;
    width: 21.9vw;
    overflow: hidden;
}
#packages h2 {
    margin-left: 1rem;
}
#packages p {
    margin: 0 1rem;
    line-height: 1.7rem;
    font-size: 0.85rem;
}

```

```

}
#packages a {
  font-weight: bold;
  margin-top: 1rem;
}
#packages i {
  margin-left: 0.5rem;
}

/* -----socials section----- */

#socials {
  margin-top: 0;
  margin-bottom: 0.2rem;
  height: 5rem;
  background-image: linear-gradient(270deg, #9b4b90 0, #2c215d);
  color: white;
  display: flex;
  justify-content: space-between;
  padding: 0 20rem;
  align-items: center;
}
#socials i {
  padding: 1rem;
  border-radius: 50%;
  box-shadow: 0 5px 11px 0 rgb(0 0 0/18%), 0 4px 15px 0 rgb(0 0 0/15%);
  transition: ease-in-out 0.3s;
}
#socials i:hover {
  transform: scale(1.2);
  box-shadow: 4px 10px 12px black;
}

/* -----all links section----- */

#all-links {
  margin: 0;
  padding: 3rem 7rem;
  height: auto;
  background-color: #2c215d;
  display: grid;
  grid-template-columns: repeat(4, 1fr);
  grid-gap: 0.1rem;

```



```

}
#all-links div:hover {
  border: 1px solid orange;
  box-shadow: 4px 10px 12px black;
}
#all-links ul {
  list-style: none;
}
li[onclick] {
  color: white;
  font-weight: bold;
  cursor: pointer;
}
.hidden li {
  color: white;
  font-style: italic;
  font-weight: lighter;
  font-size: small;
  margin-left: 1rem;
  margin-bottom: 0.5rem;
  letter-spacing: 1px;
}

/* -----sponsors----- */

#sponsors {
  margin: 0 10rem;
  display: flex;
  justify-content: space-between;
}

#copyright-info {
  font-size: 0.8rem;
  display: flex;
  flex-direction: column;
  justify-content: start;
  align-items: end;
}
#copyright-info p {
  margin: 0.1rem;
}
#copyright-info a {
  color: #007ad9;

```

```

font-weight: bold;
}
#copyright-info a:hover {
text-decoration: underline;
}

```

OUTPUT:

IRCTC Next Generation eTicketing System

127.0.0.1:5500/1.html

IRCTC EXCLUSIVE TRAINS BUSES FLIGHTS HOTELS HOLIDAYS LOYALTY MEALS PROMOTIONS MORE

INDIAN RAILWAYS
Safety | Security | Punctuality

PNR STATUS CHARTS/VACANCY

75 Azadi Ka Amrit Mahotsav G20

From: dd / mm / yyyy

To: Second Sitting (2S)

GENERAL

☐ Person With Disability Concession ☐ Flexible With Date

☐ Train With Available Berth ☐ Railway Pass Concession

Search Try booking in Ask DISHA 2.0

Customers are requested to contact only on IRCTC's authorised contact no./Email id (Contact No.:14646 OR 0755-6610661 / 0755-4090600, Email: care@irctc.co.in), for assistance regarding ticket booking, refund or forgot user-id/password. Beware of fraudulent sites offering assistance.

Please check the alert section regarding restoration of AC 3-tier economy fare.

S. No.	Title of Experiment
2	Design an English alphabet chart such that on clicking the alphabet the appropriate example must be displayed using HTML client-side image mapping.

CODE:

```
<!DOCTYPE html>
<html>
<body style="background:white; background-size: cover; background-position: center;">
  <style>
    .center {
      text-align: center;
      color: rgb(55, 0, 151);
    }
    .footer{
      font-family: 'American Typewriter', 'serif';
      background: radial-gradient(circle, rgb(55, 0, 151) 0%, white 100%);
      color: white;
      display:flex;
      align-items: center;
      justify-content: center;
      bottom: 0;
      text-align: center;
      margin-bottom: 0;
    }
  </style>
  <h1 class= center style="background-color: transparent; text-align: center; font-size:
  8vh;">English Alphabet Chart </h1>
  <div style="text-align: center;"><img src = "englishalpha.png" usemap="#map"></div>
  <map name = "map">
    <area shape = "rect" coords="2, 96, 73, 225" href="https://www.seekpng.com/png/
  detail/45-455173_teacher-apple-clipart-apple-clipart-with-word.png">
    <area shape = "rect" coords="127,95 ,198, 226"href="https://static.vecteezy.com/
  system/resources/previews/006/574/091/original/learning-english-alphabet-for-kids-
  letter-b-cute-cartoon-bee-vector.jpg">
    <area shape = "rect" coords="253, 94, 320, 230" href="https://img.freepik.com/
  premium-vector/cute-cartoon-character-initial-letter-c-with-baby-wearing-cat-
  costume_181099-343.jpg?w=2000">
    <area shape = "rect" coords= "376, 97, 445, 226" href="https://static.vecteezy.com/
  system/resources/previews/001/236/744/non_2x/d-for-dog-vector.jpg">
    <area shape = "rect" coords= "504, 97, 568, 229" href="https://
  images.clipartlogo.com/files/istock/previews/1045/104524599-letter-e-tracing-elephant-
  standing-on-two-legs.jpg">
```

<area shape = "rect" coords= "620, 97, 684, 226" href="https://cdn1.vectorstock.com/i/1000x1000/51/60/letter-f-tracing-frog-eating-fly-vector-31965160.jpg">

<area shape = "rect" coords= "26, 247, 95, 384" href="https://previews.123rf.com/images/hermandesign2015/hermandesign20151801/hermandesign2015180100413/93072426-flashcard-letter-g-is-for-ghost-design.jpg">

<area shape = "rect" coords= "150, 251, 221, 380" href="https://thumbs.dreamstime.com/b/flashcard-letter-h-heart-illustration-flashcard-letter-h-heart-107285374.jpg">

<area shape = "rect" coords= "279,249,309,383" href="https://i.pinimg.com/originals/20/f2/a2/20f2a2e278c821592ce032f90447b488.jpg">

<area shape = "rect" coords= "364,249,410,383" href="https://cdn1.vectorstock.com/i/1000x1000/48/25/flashcard-letter-j-is-for-jester-vector-19404825.jpg">

<area shape = "rect" coords= "469, 251,547,382" href="https://static.vecteezy.com/system/resources/previews/002/583/382/original/vocabulary-flashcard-with-word-kite-free-vector.jpg">

<area shape = "rect" coords= "597, 249, 662,384" href="https://img.freepik.com/premium-vector/zoo-animal-alphabet-l-lion-with-cute-animal_33070-4589.jpg">

<area shape = "rect" coords= "43,409,135,541" href="https://static.storyweaver.org.in/illustrations/35542/search/14.jpg">

<area shape = "rect" coords= "191,408,264,542" href="https://img.freepik.com/premium-vector/n-nest_96037-128.jpg">

<area shape = "rect" coords= "322,404,391,543" href="https://img.freepik.com/premium-vector/animal-alphabet-flashcard-children-learning-letter-o-o-is-octopus_122784-3309.jpg?w=2000">

<area shape = "rect" coords= "446,408,516,539" href="https://media.istockphoto.com/vectors/letter-p-uppercase-tracing-pelican-bird-with-fish-in-mouth-vector-id1131308874?k=20&m=1131308874&s=170667a&w=0&h=ZrEdHUQ3JHKnyQKnXPW176boJh-NOSJRjsn5fAcMPow=">

<area shape = "rect" coords= "569,408,645,553" href="https://img.freepik.com/premium-vector/alphabet-q-queen-with-good-animation-beside_33070-4594.jpg?w=2000">

<area shape = "rect" coords= "62,562,134,699" href="https://static.vecteezy.com/system/resources/previews/000/518/272/non_2x/r-for-rainbow-vector.jpg">

<area shape = "rect" coords= "183,561,253,697" href="https://thumbs.dreamstime.com/b/alphabet-letter-s-star-alphabet-letter-s-star-vector-illustration-159912311.jpg">

<area shape = "rect" coords= "304,563,377,697" href="https://kidsactivitiesblog--o--com.follycdn.com/wp-content/uploads/2020/10/LetterTWords.png">

<area shape = "rect" coords= "426,561,497,697" href="https://media.istockphoto.com/vectors/vector-illustration-for-learning-the-alphabet-for-children-with-u-vector-id1332582611?k=20&m=1332582611&s=612x612&w=0&h=peTh39rdXlo3GxBxtCOn1nWKVxrWyo31--0w-gyx4lO=">

```

<area shape = "rect" coords= "548,563,623,697" href="https://media.istockphoto.com/
vectors/vector-alphabet-letter-v-violin-vector-id842772654?
k=20&m=842772654&s=170667a&w=0&h=boomVEqKiv0uNK0G1HlxgP3Q3twAKFzxbOc
gbYtAnRI=">
<area shape = "rect" coords= "101,717,211,852" href="https://media.istockphoto.com/
vectors/vector-illustration-of-alphabet-letter-w-and-whale-vector-id1191806056?
k=20&m=1191806056&s=170667a&w=0&h=vm7ziS7tWNLQ-Ty-
EsV9hFoBMfll_UOfptdWgkfSzGI=">
<area shape = "rect" coords= "255,717,338,853" href="https://media.istockphoto.com/
vectors/vector-illustration-for-learning-the-alphabet-for-children-with-x-vector-
id1332583414?
k=20&m=1332583414&s=612x612&w=0&h=P4L82HBxgg1k90o2CBFWblc0kokH2fs-
qgNrHILn9LI=">
<area shape = "rect" coords= "381,716,459,852" href="https://
static8.depositphotos.com/1353542/891/i/450/depositphotos_8919937-stock-photo-
letter-y-yo-yo.jpg">
<area shape = "rect" coords= "507,718,580,851" href="https://img.freepik.com/
premium-vector/alphabet-animals-kids-zebra_506530-198.jpg?w=2000">
</map>
<footer class="footer">
<p>Garvit 22BCE10667</p>
</footer>
</body>
</html>

```

OUTPUT:



S. No.	Title of Experiment
3	Design the online periodic table or time table using CSS.

HTML (PUG) CODE:

```
- var categories = ['alkali-metals','alkaline-earth-
metals','lanthanoids','actinoids','transition-metals','post-transition-
metals','metalloids','other-nonmetals','noble-gasses','unknown']

// ELEMENT MIXIN TEMPLATE
mixin element(number, symbol, name, mass, weight, material, column, row)
  .element(class=material)(class='c'+column)(class='r'+row)
    input.activate(type='radio', name='elements')
    input.deactivate(type='radio', name='elements')
    .overlay
    .square
    .model
      each item in weight.reverse()
        .orbital
          - for (var i = 0; i < item; i++)
            .electron
    .atomic-number= number
    .label
    .symbol= symbol
    .name= name
    .atomic-mass= mass
    ul.atomic-weight
      each item in weight.reverse()
        li= item

// PLACEHOLDER MIXIN TEMPLATE
mixin placeholder(number, material, column, row)
  .placeholder(class=material)(class='c'+column)(class='r'+row)
    .square= number

.wrapper
  each item in categories
    input.category-toggle(type='radio', id=item, name='categories')
    input.category-cancel(type='radio', id='cancel' name='categories')
  .periodic-table
```

+element(1, 'H', 'Hydrogen', 1.008, [1], 'other-nonmetal', 1, 1)
 +element(2, 'He', 'Helium', 4.0026, [2], 'noble-gas', 18, 1)
 +element(3, 'Li', 'Lithium', 6.94, [3], 'alkali-metal', 1, 2)
 +element(4, 'Be', 'Beryllium', 9.0122, [2,2], 'alkaline-earth-metal', 2, 2)
 +element(5, 'B', 'Boron', 10.81, [2,3], 'metalloid', 13, 2)
 +element(6, 'C', 'Carbon', 12.011, [2,4], 'other-nonmetal', 14, 2)
 +element(7, 'N', 'Nitrogen', 14.007, [2,5], 'other-nonmetal', 15, 2)
 +element(8, 'O', 'Oxygen', 15.999, [2,6], 'other-nonmetal', 16, 2)
 +element(9, 'F', 'Flourine', 18.998, [2,7], 'other-nonmetal', 17, 2)
 +element(10, 'Ne', 'Neon', 20.180, [2,8], 'noble-gas', 18, 2)
 +element(11, 'Na', 'Sodium', 22.990, [2,8,1], 'alkali-metal', 1, 3)
 +element(12, 'Mg', 'Magnesium', 24.305, [2,8,2], 'alkaline-earth-metal', 2, 3)
 +element(13, 'Al', 'Aluminium', 26.982, [2,8,3], 'post-transition-metal', 13, 3)
 +element(14, 'Si', 'Silicon', 28.085, [2,8,4], 'metalloid', 14, 3)
 +element(15, 'P', 'Phosphorus', 30.974, [2,8,5], 'other-nonmetal', 15, 3)
 +element(16, 'S', 'Sulfur', 32.06, [2,8,6], 'other-nonmetal', 16, 3)
 +element(17, 'Cl', 'Chlorine', 35.45, [2,8,7], 'other-nonmetal', 17, 3)
 +element(18, 'Ar', 'Argon', 39.948, [2,8,8], 'noble-gas', 18, 3)
 +element(19, 'K', 'Potassium', 39.098, [2,8,8,1], 'alkali-metal', 1, 4)
 +element(20, 'Ca', 'Calcium', 40.078, [2,8,8,2], 'alkaline-earth-metal', 2, 4)
 +element(21, 'Sc', 'Scandium', 44.956, [2,8,9,2], 'transition-metal', 3, 4)
 +element(22, 'Ti', 'Titanium', 47.867, [2,8,10,2], 'transition-metal', 4, 4)
 +element(23, 'V', 'Vanadium', 50.942, [2,8,11,2], 'transition-metal', 5, 4)
 +element(24, 'Cr', 'Chromium', 51.996, [2,8,13,1], 'transition-metal', 6, 4)
 +element(25, 'Mn', 'Manganese', 54.938, [2,8,13,2], 'transition-metal', 7, 4)
 +element(26, 'Fe', 'Iron', 55.845, [2,8,14,2], 'transition-metal', 8, 4)
 +element(27, 'Co', 'Cobalt', 58.933, [2,8,15,2], 'transition-metal', 9, 4)
 +element(28, 'Ni', 'Nickel', 58.693, [2,8,16,2], 'transition-metal', 10, 4)
 +element(29, 'Cu', 'Copper', 63.546, [2,8,18,1], 'transition-metal', 11, 4)
 +element(30, 'Zn', 'Zinc', 65.38, [2,8,18,2], 'transition-metal', 12, 4)
 +element(31, 'Ga', 'Gallium', 69.723, [2,8,18,3], 'post-transition-metal', 13, 4)
 +element(32, 'Ge', 'Germanium', 72.630, [2,8,18,4], 'metalloid', 14, 4)
 +element(33, 'As', 'Arsenic', 74.922, [2,8,18,5], 'metalloid', 15, 4)
 +element(34, 'Se', 'Selenium', 78.971, [2,8,18,6], 'other-nonmetal', 16, 4)
 +element(35, 'Br', 'Bromine', 79.904, [2,8,18,7], 'other-nonmetal', 17, 4)
 +element(36, 'Kr', 'Krypton', 83.798, [2,8,18,8], 'noble-gas', 18, 4)
 +element(37, 'Rb', 'Rubidium', 85.468, [2,8,18,8,1], 'alkali-metal', 1, 5)
 +element(38, 'Sr', 'Strontium', 87.62, [2,8,18,8,2], 'alkaline-earth-metal', 2, 5)
 +element(39, 'Y', 'Yttrium', 88.906, [2,8,18,9,2], 'transition-metal', 3, 5)
 +element(40, 'Zr', 'Zirconium', 91.224, [2,8,18,10,2], 'transition-metal', 4, 5)
 +element(41, 'Nb', 'Niobium', 92.906, [2,8,18,12,1], 'transition-metal', 5, 5)
 +element(42, 'Mo', 'Molybdenum', 95.95, [2,8,18,13,1], 'transition-metal', 6, 5)
 +element(43, 'Tc', 'Technetium', '(98)', [2,8,18,13,2], 'transition-metal', 7, 5)

+element(44, 'Ru', 'Ruthenium', 101.07, [2,8,18,15,1], 'transition-metal', 8, 5)
 +element(45, 'Rh', 'Rhodium', 102.91, [2,8,18,16,1], 'transition-metal', 9, 5)
 +element(46, 'Pd', 'Palladium', 106.42, [2,8,18,18], 'transition-metal', 10, 5)
 +element(47, 'Ag', 'Silver', 107.87, [2,8,18,18,1], 'transition-metal', 11, 5)
 +element(48, 'Cd', 'Cadmium', 112.41, [2,8,18,18,2], 'transition-metal', 12, 5)
 +element(49, 'In', 'Indium', 114.82, [2,8,18,18,3], 'post-transition-metal', 13, 5)
 +element(50, 'Sn', 'Tin', 204.38, [2,8,18,18,4], 'post-transition-metal', 14, 5)
 +element(51, 'Sb', 'Antimony', 121.76, [2,8,18,18,5], 'metalloid', 15, 5)
 +element(52, 'Te', 'Tellurium', 127.60, [2,8,18,18,6], 'metalloid', 16, 5)
 +element(53, 'I', 'Iodine', 126.90, [2,8,18,18,7], 'other-nonmetal', 17, 5)
 +element(54, 'Xe', 'Xenon', 131.29, [2,8,18,18,8], 'noble-gas', 18, 5)
 +element(55, 'Cs', 'Caesium', 132.91, [2,8,18,18,8,1], 'alkali-metal', 1, 6)
 +element(56, 'Ba', 'Barium', 137.33, [2,8,18,18,8,2], 'alkaline-earth-metal', 2, 6)
 +element(57, 'La', 'Lanthanum', 138.91, [2,8,18,18,9,2], 'lanthanoid', 4, 9)
 +element(58, 'Ce', 'Cerium', 140.12, [2,8,18,19,9,2], 'lanthanoid', 5, 9)
 +element(59, 'Pr', 'Praseodymium', 140.91, [2,8,18,21,8,2], 'lanthanoid', 6, 9)
 +element(60, 'Nd', 'Neodymium', 144.24, [2,8,18,22,8,2], 'lanthanoid', 7, 9)
 +element(61, 'Pm', 'Promethium', 144.24, [2,8,18,23,8,2], 'lanthanoid', 8, 9)
 +element(62, 'Sm', 'Samarium', 150.36, [2,8,18,24,8,2], 'lanthanoid', 9, 9)
 +element(63, 'Eu', 'Europium', 151.96, [2,8,18,25,8,2], 'lanthanoid', 10, 9)
 +element(64, 'Gd', 'Gadolinium', 157.25, [2,8,18,25,9,2], 'lanthanoid', 11, 9)
 +element(65, 'Tb', 'Terbium', 158.93, [2,8,18,27,8,2], 'lanthanoid', 12, 9)
 +element(66, 'Dy', 'Dysprosium', 162.50, [2,8,18,28,8,2], 'lanthanoid', 13, 9)
 +element(67, 'Ho', 'Holmium', 164.93, [2,8,18,29,8,2], 'lanthanoid', 14, 9)
 +element(68, 'Er', 'Erbium', 167.26, [2,8,18,30,8,2], 'lanthanoid', 15, 9)
 +element(69, 'Tm', 'Thulium', 168.93, [2,8,18,31,8,2], 'lanthanoid', 16, 9)
 +element(70, 'Yb', 'Ytterbium', 173.05, [2,8,18,32,8,2], 'lanthanoid', 17, 9)
 +element(71, 'Lu', 'Lutetium', 174.97, [2,8,18,32,9,2], 'lanthanoid', 18, 9)
 +element(72, 'Hf', 'Hafnium', 178.49, [2,8,18,32,10,2], 'transition-metal', 4, 6)
 +element(73, 'Ta', 'Tantalum', 180.95, [2,8,18,32,11,2], 'transition-metal', 5, 6)
 +element(74, 'W', 'Tungsten', 183.84, [2,8,18,32,12,2], 'transition-metal', 6, 6)
 +element(75, 'Re', 'Rhenium', 186.21, [2,8,18,32,13,2], 'transition-metal', 7, 6)
 +element(76, 'Os', 'Osmium', 190.23, [2,8,18,32,14,2], 'transition-metal', 8, 6)
 +element(77, 'Ir', 'Iridium', 192.22, [2,8,18,32,15,2], 'transition-metal', 9, 6)
 +element(78, 'Pt', 'Platinum', 195.08, [2,8,18,32,17,1], 'transition-metal', 10, 6)
 +element(79, 'Au', 'Gold', 196.97, [2,8,18,32,18,1], 'transition-metal', 11, 6)
 +element(80, 'Hg', 'Mercury', 200.59, [2,8,18,32,18,2], 'transition-metal', 12, 6)
 +element(81, 'Tl', 'Thallium', 204.38, [2,8,18,32,18,3], 'post-transition-metal', 13, 6)
 +element(82, 'Pb', 'Lead', 207.2, [2,8,18,32,18,4], 'post-transition-metal', 14, 6)
 +element(83, 'Bi', 'Bismuth', 208.98, [2,8,18,32,18,5], 'post-transition-metal', 15, 6)
 +element(84, 'Po', 'Polonium', '(209)', [2,8,18,32,18,6], 'post-transition-metal', 16, 6)
 +element(85, 'At', 'Astatine', '(210)', [2,8,18,32,18,7], 'metalloid', 17, 6)
 +element(86, 'Rn', 'Radon', '(222)', [2,8,18,32,18,8], 'noble-gas', 18, 6)

```

+element(87, 'Fr', 'Francium', '(223)', [2,8,18,32,18,8,1], 'alkali-metal', 1, 7)
+element(88, 'Ra', 'Radium', '(226)', [2,8,18,32,18,8,2], 'alkaline-earth-metal', 2, 7)
+element(89, 'Ac', 'Actinium', '(227)', [2,8,18,32,18,9,2], 'actinoid', 4, 10)
+element(90, 'Th', 'Thorium', '232.04', [2,8,18,32,18,10,2], 'actinoid', 5, 10)
+element(91, 'Pa', 'Protactinium', '231.04', [2,8,18,32,20,9,2], 'actinoid', 6, 10)
+element(92, 'U', 'Uranium', '238.03', [2,8,18,32,21,9,2], 'actinoid', 7, 10)
+element(93, 'Np', 'Neptunium', '(237)', [2,8,18,32,22,9,2], 'actinoid', 8, 10)
+element(94, 'Pu', 'Plutonium', '(244)', [2,8,18,32,24,8,2], 'actinoid', 9, 10)
+element(95, 'Am', 'Americium', '(243)', [2,8,18,32,25,8,2], 'actinoid', 10, 10)
+element(96, 'Cm', 'Curium', '(247)', [2,8,18,32,25,9,2], 'actinoid', 11, 10)
+element(97, 'Bk', 'Berkelium', '(247)', [2,8,18,32,27,8,2], 'actinoid', 12, 10)
+element(98, 'Cf', 'Californium', '(251)', [2,8,18,32,28,8,2], 'actinoid', 13, 10)
+element(99, 'Es', 'Einsteinium', '(252)', [2,8,18,32,29,8,2], 'actinoid', 14, 10)
+element(100, 'Fm', 'Fermium', '(257)', [2,8,18,32,30,8,2], 'actinoid', 15, 10)
+element(101, 'Md', 'Mendelevium', '(258)', [2,8,18,32,31,8,2], 'actinoid', 16, 10)
+element(102, 'No', 'Nobelium', '(259)', [2,8,18,32,32,8,2], 'actinoid', 17, 10)
+element(103, 'Lr', 'Lawrencium', '(266)', [2,8,18,32,32,8,3], 'actinoid', 18, 10)
+element(104, 'Rf', 'Rutherfordium', '(267)', [2,8,18,32,32,10,2], 'transition-metal', 4, 7)
+element(105, 'Db', 'Dubnium', '(268)', [2,8,18,32,32,11,2], 'transition-metal', 5, 7)
+element(106, 'Sg', 'Seaborgium', '(269)', [2,8,18,32,32,12,2], 'transition-metal', 6, 7)
+element(107, 'Bh', 'Bohrium', '(270)', [2,8,18,32,32,13,2], 'transition-metal', 7, 7)
+element(108, 'Hs', 'Hassium', '(277)', [2,8,18,32,32,14,2], 'transition-metal', 8, 7)
+element(109, 'Mt', 'Meitnerium', '(278)', [2,8,18,32,32,15,2], 'unknown', 9, 7)
+element(110, 'Ds', 'Darmstadtium', '(281)', [2,8,18,32,32,17,1], 'unknown', 10, 7)
+element(111, 'Rg', 'Roentgenium', '(282)', [2,8,18,32,32,17,2], 'unknown', 11, 7)
+element(112, 'Cn', 'Copernicium', '(282)', [2,8,18,32,32,18,2], 'transition-metal', 12, 7)
+element(113, 'Nh', 'Nihonium', '(286)', [2,8,18,32,32,18,3], 'unknown', 13, 7)
+element(114, 'Fl', 'Flerovium', '(289)', [2,8,18,32,32,18,4], 'post-transition-metal', 14,
7)
+element(115, 'Mc', 'Moscovium', '(290)', [2,8,18,32,32,18,5], 'unknown', 15, 7)
+element(116, 'Lv', 'Livermorium', '(293)', [2,8,18,32,32,18,6], 'unknown', 16, 7)
+element(117, 'Ts', 'Tennessine', '(294)', [2,8,18,32,32,18,7], 'unknown', 17, 7)
+element(118, 'Og', 'Oganesson', '(294)', [2,8,18,32,32,18,8], 'unknown', 18, 7)

```

```

+placeholder('57-71', 'lanthanoid', 3, 6)

```

```

+placeholder('89-103', 'actinoid', 3, 7)

```

```

.gap.c3.r8

```

```

.key

```

```

.row

```

```

label.alkali-metal(for='alkali-metals') Alkali Metals

```

```

label.alkaline-earth-metal(for='alkaline-earth-metals') Alkaline Earth Metals

```

label.lanthanoid(for='lanthanoids') Lanthanoids
 label.actinoid(for='actinoids') Aktinoids
 label.transition-metal(for='transition-metals') Transition Metals
 label.post-transition-metal(for='post-transition-metals') Post-Transition Metals
 label.metalloid(for='metalloids') Metalloids
 label.other-nonmetal(for='other-nonmetals') Other Nonmetals
 label.noble-gas(for='noble-gasses') Noble Gasses
 label.unknown(for='unknown') Unknown

CSS (SASS) CODE:

```

$bgColor: #101318
$gridGap: 5px
$alkaliMetalColor: #ecbe59
$alkalineEarthMetalColor: #dee955
$lanthanoidColor: #ec77a3
$actinoidColor: #c686cc
$transitionMetalColor: #fd8572
$postTransitionMetalColor: #4cddf3
$metalloidColor: #3aefb6
$otherNonmetalColor: #52ee61
$nobleGasColor: #759fff
$unknownColor: #cccccc
body
  background: $bgColor
  text-shadow: 0 0 0.4vw currentColor
.wrapper
  position: relative
  overflow: hidden
  padding: 2%
  > input
    -webkit-appearance: none
    position: fixed
    left: 0
    top: 0
    width: 100%
    height: 100%
    visibility: hidden
    opacity: 0
    pointer-events: none
.periodic-table
  display: grid
  grid-gap: $gridGap
  
```

```

    grid-template-columns: repeat(18, 1fr)
// -----
// ELEMENT
.element
  position: relative
  font-size: 0.5vw
  padding-bottom: 100%
  cursor: pointer
  color: #fff
  transition: 500ms
.overlay
  position: fixed
  z-index: 1
  left: 0
  right: 0
  top: 0
  bottom: 0
  background-color: $bgColor
  opacity: 0
  pointer-events: none
  transition: 500ms
.square
  position: absolute
  left: 0
  top: 0
  width: 100%
  height: 100%
  border: 2px solid
  box-sizing: border-box
  background: $bgColor
  display: flex
  flex-direction: column
  justify-content: center
  align-items: center
  transition-property: transform, z-index, left, right, top, bottom
  transition-duration: 100ms, 0ms, 200ms, 200ms, 200ms, 200ms
  transition-delay: 0ms, 100ms, 0ms, 0ms, 0ms, 0ms
.atomic-number
  position: absolute
  left: 0
  top: 0
  padding: 2px
.label

```

```

text-align: center
transition: 200ms
.symbol
font-size: 1.7vw
.name
font-size: 0.7vw
.atomic-mass
position: absolute
left: 0
right: 0
bottom: 0
padding: 2px
text-align: center
.atomic-weight
position: absolute
right: 0
top: 0
list-style: none
margin: 0
padding: 2px
opacity: 0
transition: 200ms
text-align: right
.model
display: none
position: absolute
left: -500%
right: -500%
top: -500%
bottom: -500%
transform: scale(0.1)
.orbital
position: absolute
left: 0
right: 0
top: 0
bottom: 0
border: 5px solid
border-radius: 50%
opacity: 0.25
@for $i from 1 through 7
  &:nth-child(#{ $i })
    margin: 10% + 5.5 * ($i - 1)

```

```

    animation-duration: 40s - 6 * ($i - 1)
  .electron
    position: absolute
    left: 0
    right: 0
    top: 0
    bottom: 0
    &::before
      content: ""
      position: absolute
      left: calc(50% - 0.7vw)
      top: -0.7vw
      width: 1.4vw
      height: 1.4vw
      background-color: currentColor
      border-radius: 50%
      opacity: 0.75
    @for $i from 1 through 32
      @for $a from 1 through $i
        &:nth-last-child(#{ $i }):first-child ~ .electron:nth-child(#{ $a })
          transform: rotate((360deg/$i)*($a - 1))
input[type="radio"]
  -webkit-appearance: none
  position: absolute
  z-index: 2
  left: 0
  top: 0
  width: 100%
  height: 100%
  opacity: 0
  cursor: pointer
  outline: none
  &.activate
    &:hover ~ .square
      z-index: 2
      transform: scale(1.35)
      transition-delay: 0ms
      outline: none
      pointer-events: none
    &:checked + input[type="radio"].deactivate
      z-index: 3
      pointer-events: all
    &:checked ~ .overlay

```

```

    opacity: 0.75
    &:checked ~ .square
    z-index: 3
    transform: scale(3)
    transition-duration: 500ms, 0ms, 200ms, 200ms, 200ms, 200ms
    transition-delay: 0ms
    outline: none
    cursor: auto
    .label
        transition-duration: 500ms
        transform: scale(0.75)
    .atomic-weight
        opacity: 1
        transition: 500ms
    .model
        display: block
        animation: fade-in
        animation-duration: 1s
    .orbital
        animation-name: rotate
        animation-timing-function: linear
        animation-iteration-count: infinite
    &.deactivate
        position: fixed
        display: block
        z-index: 1
        opacity: 0
        pointer-events: none
        &:checked ~ .square
        z-index: 1
// -----
// PLACEHOLDER
.placeholder
    position: relative
    z-index: -1
    font-size: 1vw
    padding-bottom: 100%
    color: #fff
    transition: 500ms
    .square
        position: absolute
        left: 0
        top: 0

```

```

width: 100%
height: 100%
border: 2px solid
box-sizing: border-box
display: flex
flex-direction: column
justify-content: center
align-items: center
opacity: 0.5
// -----
// GAP
.gap
position: relative
padding-bottom: 100%
transition: 500ms
&::before
  content: ""
  position: absolute
  left: 50%
  top: 0
  width: 50%
  height: calc(200% + #{$gridGap} * 2 - 4px)
  border-width: 0 0 2px 2px
  border-style: solid
  margin-left: -1px
  color: #fff
  opacity: 0.2
// -----
// COLORS
.alkali-metal
  color: $alkaliMetalColor
.alkaline-earth-metal
  color: $alkalineEarthMetalColor
.lanthanoid
  color: $lanthanoidColor
.actinoid
  color: $actinoidColor
.transition-metal
  color: $transitionMetalColor
.post-transition-metal
  color: $postTransitionMetalColor
.metalloid
  color: $metalloidColor

```



```

.other-nonmetal
  color: $otherNonmetalColor
.noble-gas
  color: $nobleGasColor
.unknown
  color: $unknownColor
// -----
// ROWS & COLUMNS
@for $i from 1 through 10
  .r#{$i}
    grid-row: $i
@for $i from 1 through 18
  .c#{$i}
    grid-column: $i
// -----
// SHIFT EDGE ELEMENTS ON ZOOM
.r1 input[type="radio"].activate:checked ~ .square
  top: 100%
.r10 input[type="radio"].activate:checked ~ .square
  top: -100%
.c1 input[type="radio"].activate:checked ~ .square
  left: 100%
.c18 input[type="radio"].activate:checked ~ .square
  left: -100%
// -----
// ANIMATIONS
@keyframes rotate
  from
    transform: rotate(0deg)
  to
    transform: rotate(360deg)
@keyframes fade-in
  from
    opacity: 0
  to
    opacity: 1
@keyframes noise
  0%, 100%
    background-position: 0 0
  10%
    background-position: -5% -10%
  20%
    background-position: -15% 5%

```

```

30%
  background-position: 7% -25%
40%
  background-position: 20% 25%
50%
  background-position: -25% 10%
60%
  background-position: 15% 5%
70%
  background-position: 0% 15%
80%
  background-position: 25% 35%
90%
  background-position: -10% 10%
// -----
// KEY
.key
  position: relative
  z-index: 1
  grid-row: 1
  grid-column-start: 3
  grid-column-end: 17
  font-size: 0.8vw
  line-height: 1.5
  display: flex
  align-items: center
  pointer-events: none
  user-select: none
.row
  position: relative
  display: flex
  width: 100%
  justify-content: space-between
  label
    opacity: 0.85
    cursor: pointer
    transition: 120ms
    pointer-events: all
    &:hover
      opacity: 1 !important
// -----
// CATEGORY TOGGLES
#alkali-metals:checked ~ .periodic-table .element:not(.alkali-metal),

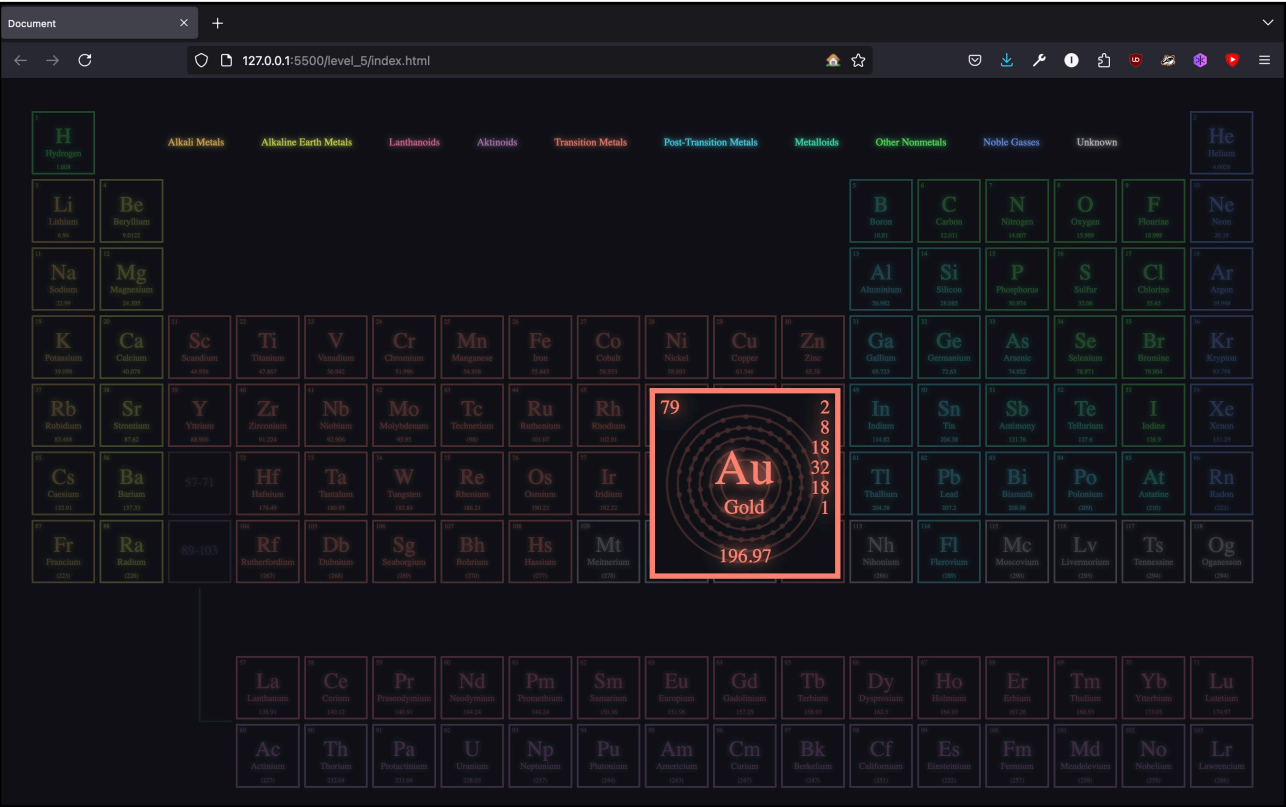
```

```

#alkaline-earth-metals:checked ~ .periodic-table .element:not(.alkaline-earth-metal),
#lanthanoids:checked ~ .periodic-table .element:not(.lanthanoid),
#actinoids:checked ~ .periodic-table .element:not(.actinoid),
#transition-metals:checked ~ .periodic-table .element:not(.transition-metal),
#post-transition-metals:checked ~ .periodic-table .element:not(.post-transition-metal),
#metalloids:checked ~ .periodic-table .element:not(.metalloid),
#other-nonmetals:checked ~ .periodic-table .element:not(.other-nonmetal),
#noble-gasses:checked ~ .periodic-table .element:not(.noble-gas),
#unknown:checked ~ .periodic-table .element:not(.unknown),
#alkali-metals:checked ~ .periodic-table .placeholder,
#alkaline-earth-metals:checked ~ .periodic-table .placeholder,
#lanthanoids:checked ~ .periodic-table .placeholder:not(.lanthanoid),
#actinoids:checked ~ .periodic-table .placeholder:not(.actinoid),
#transition-metals:checked ~ .periodic-table .placeholder,
#post-transition-metals:checked ~ .periodic-table .placeholder,
#metalloids:checked ~ .periodic-table .placeholder,
#other-nonmetals:checked ~ .periodic-table .placeholder,
#noble-gasses:checked ~ .periodic-table .placeholder,
#unknown:checked ~ .periodic-table .placeholder
  opacity: 0.15
  pointer-events: none
#alkali-metals:checked ~ .periodic-table .key label:not(.alkali-metal),
#alkaline-earth-metals:checked ~ .periodic-table .key label:not(.alkaline-earth-metal),
#lanthanoids:checked ~ .periodic-table .key label:not(.lanthanoid),
#actinoids:checked ~ .periodic-table .key label:not(.actinoid),
#transition-metals:checked ~ .periodic-table .key label:not(.transition-metal),
#post-transition-metals:checked ~ .periodic-table .key label:not(.post-transition-metal),
#metalloids:checked ~ .periodic-table .key label:not(.metalloid),
#other-nonmetals:checked ~ .periodic-table .key label:not(.other-nonmetal),
#noble-gasses:checked ~ .periodic-table .key label:not(.noble-gas),
#unknown:checked ~ .periodic-table .key label:not(.unknown)
  opacity: 0.65
.category-toggle:not(#lanthanoids):not(#actinoids):checked ~ .periodic-table .gap
  opacity: 0.5
.category-toggle:checked ~ .category-cancel
  visibility: visible
  pointer-events: all
  cursor: pointer

```

OUTPUT:



S. No.	Title of Experiment
4	Write a JavaScript function to capitalize the first letter of each word in a string using form

HTML CODE:

```

<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Capitalize First Letter</title>
<link rel="stylesheet" href="four.css">
</head>
<body>
<h1>Capitalize First Letter of Each Word</h1>
<form>
<input type="text" id="inputString" placeholder="Enter your text">
<button type="button" onclick="capitalize()">Capitalize</button>
</form>
<div id="output"></div>
<script src="four.js"></script>
</body>
</html>

```

CSS CODE:

```

body {
font-family: Arial, sans-serif;
background-color: #f0f0f0;
justify-content: center;
align-items: center;
height: 100vh;
margin: 0;
}
h1 {
padding: 20px 20px 0px 20px;
text-align: center;
color: #333;
}
form {
background-color: #fff;
padding: 20px;
margin-left: auto;
margin-right: auto;
border-radius: 8px;
box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
max-width: 400px;
width: 100%;

```

```

display: block;
position: relative;
}
label {
display: block;
margin-bottom: 10px;
font-weight: bold;
}
input[type="text"],
textarea {
width: 100%;
padding: 10px;
margin-bottom: 20px;
border: 1px solid #ccc;
border-radius: 4px;
font-size: 16px;
box-sizing: border-box;
}
button {
width: 100%;
padding: 10px;
background-color: #007BFF;
color: #fff;
border: none;
border-radius: 4px;
font-size: 16px;
cursor: pointer;
}
}
button:hover {
background-color: #0056b3;
}
16#output {
margin-top: 20px;
padding: 10px;
font-size: 20px;
border-radius: 4px;
text-align: center;
}

```

JAVASCRIPT CODE:

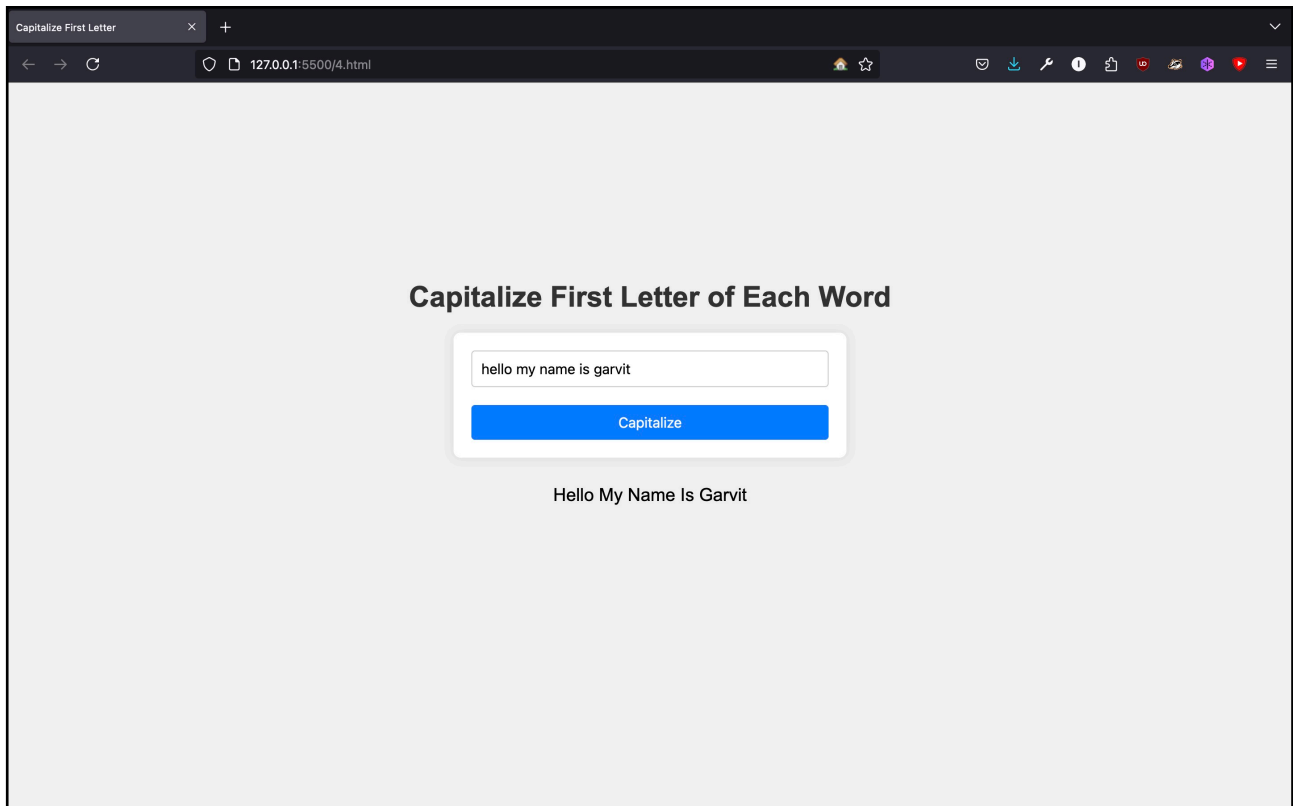
```

function capitalize() {
let inputString = document.getElementById("inputString").value;
let capitalizedString = inputString
    .toLowerCase()
    .split(" ")
    .map(function (word) {
        return word.charAt(0).toUpperCase() + word.slice(1);
    })
    .join(" ");
}

```

```
document.getElementById("output").textContent = capitalizedString;  
}
```

OUTPUT:



S. No.	Title of Experiment
5	Create a function that will add two positive numbers of indefinite size. The numbers are received as strings and the result should be also provided as string. Dynamic input is required.

HTML CODE:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Add Large Numbers</title>
<link rel="stylesheet" href="five.css">
</head>
<body>
<h1>Add Large Numbers</h1>
<form>
<input type="text" id="num1" placeholder="Enter first number">
<input type="text" id="num2" placeholder="Enter second number">
<button type="button" onclick="addLargeNumbers()">Add</button>
</form>
<div id="result"></div>
<script src="five.js"></script>
</body>
</html>
```

CSS CODE:

```
body {
  font-family: Arial, sans-serif;
  background-color: #f0f0f0;
  justify-content: center;
  align-items: center;
  height: 100vh;
  margin: 0;
}
h1 {
  padding: 200px 200px 0px 200px;
  text-align: center;
  color: #333;
}
form {
  background-color: #fff;
  padding: 20px;
  margin-left: auto;
  margin-right: auto;
  border-radius: 8px;
  box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}
```



```

    max-width: 400px;
    width: 100%;
    display: block;
    position: relative;
}
label {
    display: block;
    margin-bottom: 10px;
    font-weight: bold;
}
input[type="text"],
textarea {
    width: 100%;
    padding: 10px;
    margin-bottom: 20px;
    border: 1px solid #ccc;
    border-radius: 4px;
    font-size: 16px;
    box-sizing: border-box;
}
button {
    width: 100%;
    padding: 10px;
    background-color: #00e1ff;
    color: #fff;
    border: none;
    border-radius: 4px;
    font-size: 16px;
    cursor: pointer;
}
button:hover {
    background-color: #0056b3;
}

#result {
    margin-top: 20px;
    padding: 10px;
    font-size: 25px;
    font-weight: 300;
    border-radius: 4px;
    text-align: center;
}

```

JAVASCRIPT CODE:

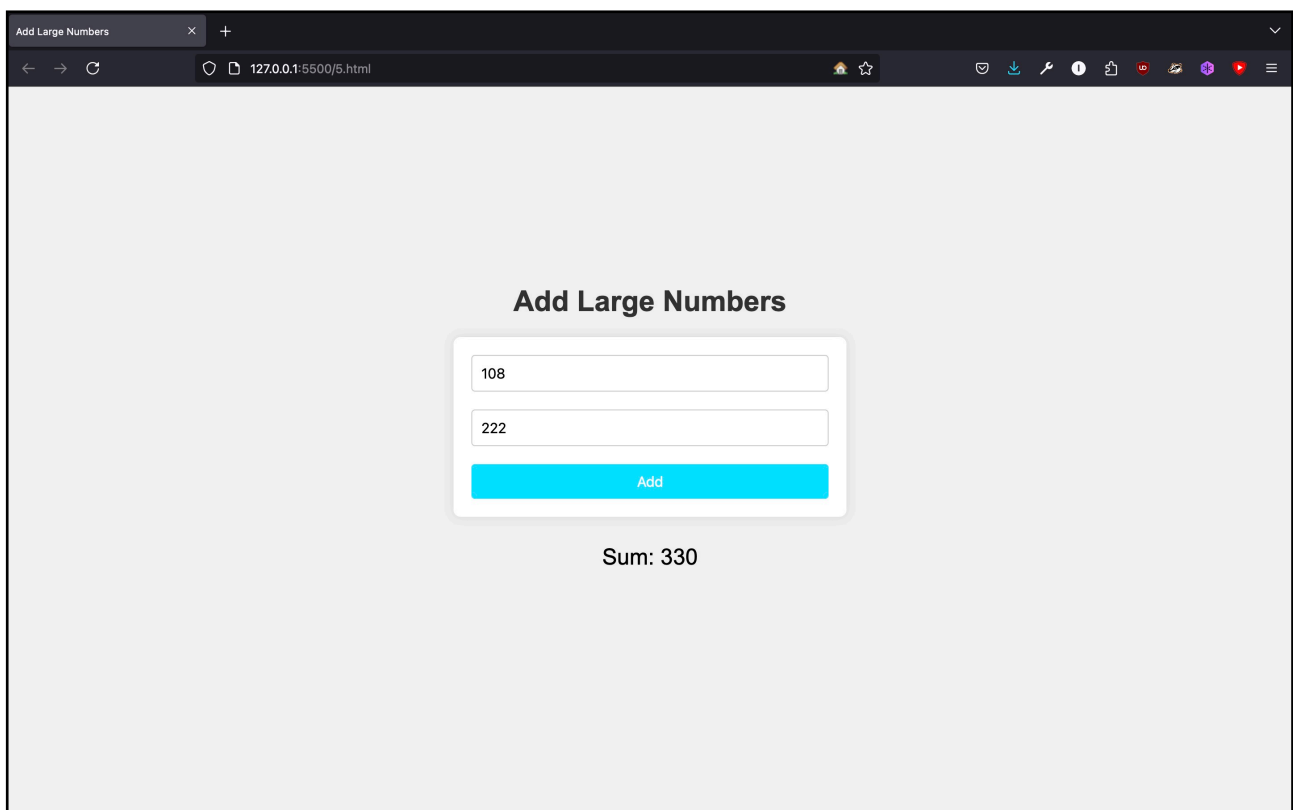
```

function addLargeNumbers() {
    const num1 = document.getElementById('num1').value;
    const num2 = document.getElementById('num2').value;
    let sum = "";

```

```
let carry = 0;
let i = num1.length - 1;
let j = num2.length - 1;
while (i >= 0 || j >= 0 || carry) {
  const digit1 = i >= 0 ? +num1[i] : 0;
  const digit2 = j >= 0 ? +num2[j] : 0;
  let tempSum = digit1 + digit2 + carry;
  carry = Math.floor(tempSum / 10);
  sum = (tempSum % 10) + sum;
  i--;
  j--;
}
document.getElementById('result').innerText = `Sum: ${sum}`;
}
```

OUTPUT:



S. No.	Title of Experiment
6	Develop tic-tac-toe game using JavaScript.

HTML CODE:

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Tic-Tac-Toe</title>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <h1>Tic-Tac-Toe</h1>
  <div id="board">
    <div class="cell" data-index="0"></div>
    <div class="cell" data-index="1"></div>
    <div class="cell" data-index="2"></div>
    <div class="cell" data-index="3"></div>
    <div class="cell" data-index="4"></div>
    <div class="cell" data-index="5"></div>
    <div class="cell" data-index="6"></div>
    <div class="cell" data-index="7"></div>
    <div class="cell" data-index="8"></div>
  </div>
  <button id="restart">Restart Game</button>
  <div id="status"></div>
  <script src="script.js"></script>
</body>
</html>

```

CSS CODE:

```

body {
  font-family: Arial, sans-serif;
  display: flex;
  flex-direction: column;
  align-items: center;
  justify-content: center;
  height: 100vh;
  margin: 0;
  background-color: #f0f0f0;
}

h1 {
  margin-bottom: 20px;
}

```

```
#board {
  display: grid;
  grid-template-columns: repeat(3, 100px);
  grid-template-rows: repeat(3, 100px);
  gap: 5px;
  margin-bottom: 20px;
}
```

```
.cell {
  width: 100px;
  height: 100px;
  background-color: #fff;
  border: 2px solid #333;
  display: flex;
  align-items: center;
  justify-content: center;
  font-size: 2rem;
  cursor: pointer;
}
```

```
#status {
  margin-top: 20px;
  font-size: 1.5rem;
}
```

```
#restart {
  padding: 10px 20px;
  font-size: 1rem;
  cursor: pointer;
}
```

JAVASCRIPT CODE:

```
const cells = document.querySelectorAll('.cell');
const statusText = document.getElementById('status');
const restartButton = document.getElementById('restart');
let currentPlayer = 'X';
let board = ['', '', '', '', '', '', '', '', ''];
let isGameActive = true;
```

```
const winningConditions = [
  [0, 1, 2],
  [3, 4, 5],
  [6, 7, 8],
  [0, 3, 6],
  [1, 4, 7],
  [2, 5, 8],
  [0, 4, 8],
  [2, 4, 6]
];
```

```

function handleClick(event) {
  const clickedCell = event.target;
  const clickedCellIndex = parseInt(clickedCell.getAttribute('data-index'));

  if (board[clickedCellIndex] !== '' || !isActive) {
    return;
  }

  updateCell(clickedCell, clickedCellIndex);
  checkForWinner();
}

function updateCell(cell, index) {
  board[index] = currentPlayer;
  cell.textContent = currentPlayer;
}

function switchPlayer() {
  currentPlayer = currentPlayer === 'X' ? 'O' : 'X';
  statusText.textContent = `It's ${currentPlayer}'s turn`;
}

function checkForWinner() {
  let roundWon = false;

  for (let i = 0; i < winningConditions.length; i++) {
    const winCondition = winningConditions[i];
    const a = board[winCondition[0]];
    const b = board[winCondition[1]];
    const c = board[winCondition[2]];

    if (a === '' || b === '' || c === '') {
      continue;
    }

    if (a === b && b === c) {
      roundWon = true;
      break;
    }
  }

  if (roundWon) {
    statusText.textContent = `${currentPlayer} has won!`;
    isActive = false;
    return;
  }

  if (!board.includes('')) {
    statusText.textContent = 'It\'s a draw!';
    isActive = false;
  }
}

```

```

    return;
  }

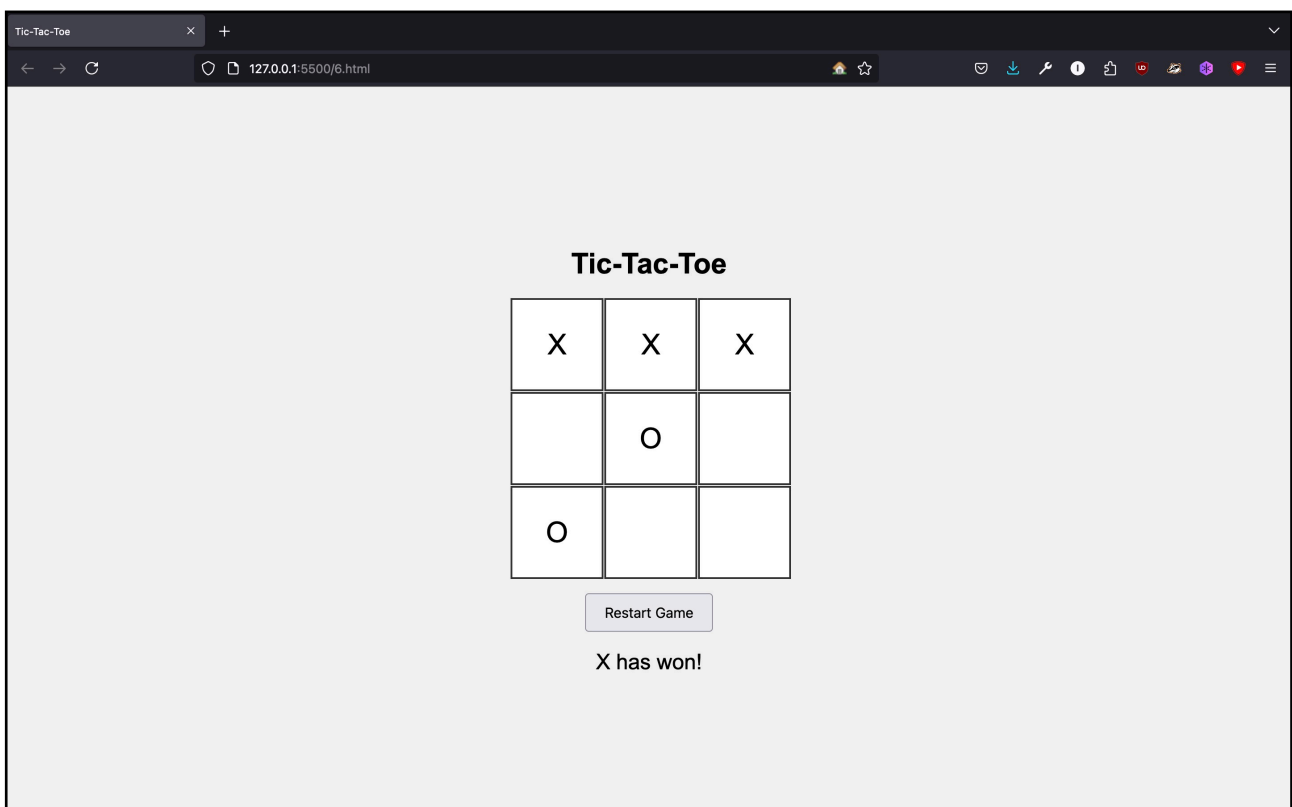
  switchPlayer();
}

function restartGame() {
  currentPlayer = 'X';
  board = ['', '', '', '', '', '', '', '', ''];
  isActive = true;
  statusText.textContent = `It's ${currentPlayer}'s turn`;
  cells.forEach(cell => cell.textContent = '');
}

cells.forEach(cell => cell.addEventListener('click', handleCellClick));
restartButton.addEventListener('click', restartGame);

```

OUTPUT:

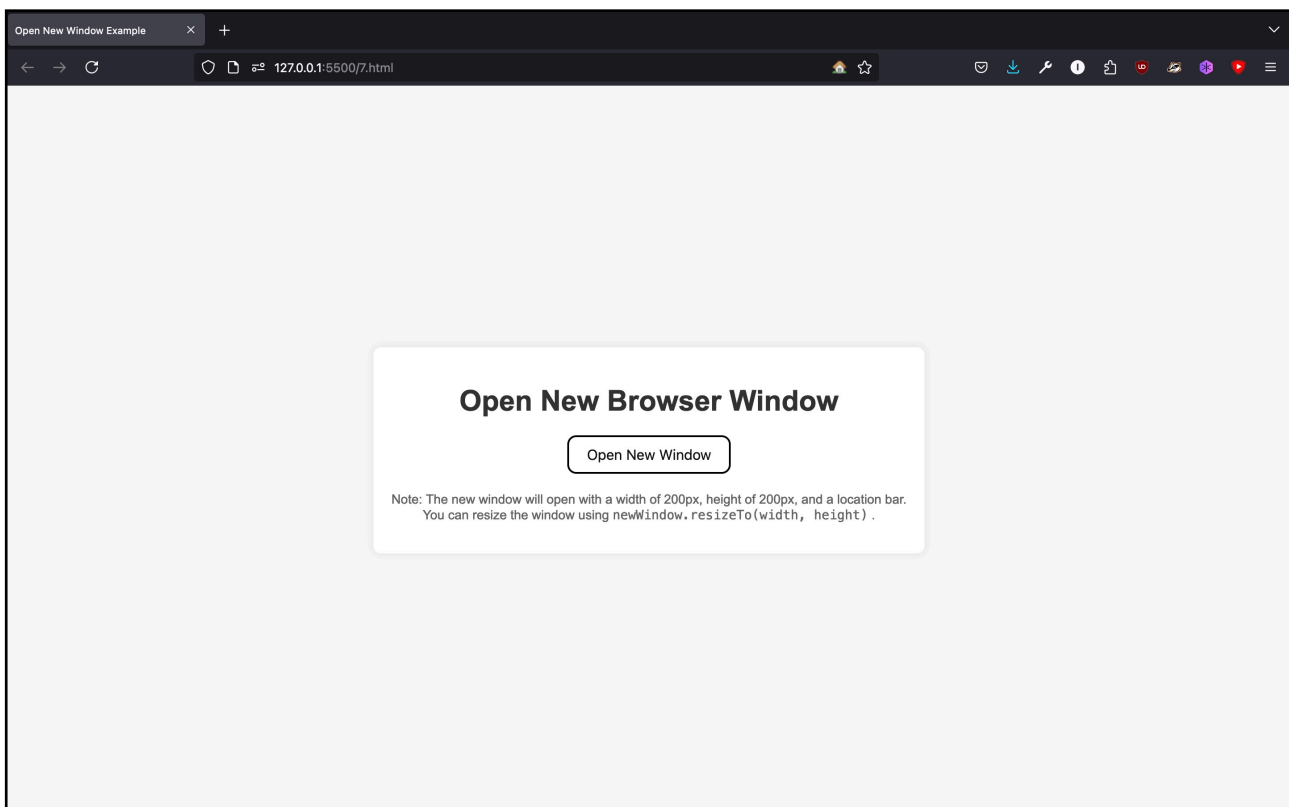


S. No.	Title of Experiment
7	Show how JavaScript can be used to open a new browser window, with a named page displayed in it. The new window should have a width of 200, a height of 200, a location bar. Add a note on resizing the created window with suitable code.

JAVASCRIPT CODE:

```
document.getElementById("openWindowButton").addEventListener("click", () => {
  // Open a new window with specified dimensions and location bar
  const newWindow = window.open(
    "https://www.google.com", // URL of the page to display
    "exampleWindow", // Name of the window
    "width=200,height=200,location=yes" // Specifications
  );
  // Resize the window (optional)
  newWindow.resizeTo(400, 400); // Resize the window to 400x400
});
```

OUTPUT:



S. No.	Title of Experiment
8	Write a multiple-choice quiz. It has five questions and the user can only select one answer for each question. After the user selects an answer, alert him or her if he or she is wrong, and show the user the correct answer in a separate textbox field. Show the simple timer to the user, upon form submission display total marks scored.

HTML CODE:

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Multiple-Choice Quiz</title>
  <link rel="stylesheet" href="8.css" />
</head>
<body>
  <div class="quiz-container">
    <h1>Multiple-Choice Quiz</h1>
    <p id="timer">Time left: <span id="time">60</span> seconds</p>
    <form id="quizForm">
      <div class="question">
        <h3>1. What is the capital of France?</h3>
        <label><input type="radio" name="q1" value="Paris" /> Paris</label>
        ><br />
        <label><input type="radio" name="q1" value="London" /> London</label>
        ><br />
        <label><input type="radio" name="q1" value="Berlin" /> Berlin</label>
        ><br />
        <label><input type="radio" name="q1" value="Madrid" /> Madrid</label>
        ><br />
        <input
          type="text"
          class="correct-answer"
          readonly
          placeholder="Correct answer will
be shown here"
        />
      </div>
      <div class="question">
        <h3>2. Who wrote 'Hamlet'?</h3>
        <label>
          ><input type="radio" name="q2" value="Shakespeare" /> William
          Shakespeare</label>
        ><br />
        <label>
          ><input type="radio" name="q2" value="Hemingway" /> Ernest
          Hemingway</label>
        ><br />
        <label>

```



```

    ><input type="radio" name="q2" value="Twain" /> Mark Twain</label>
  </div>
  <div class="question">
    <h3>2. Who wrote the book "A Christmas Carol"?</h3>
    <label><input type="radio" name="q2" value="Dickens" /> Charles
    Dickens</label>
    <label><input type="radio" name="q2" value="Twain" /> Mark Twain</label>
    <input
      type="text"
      class="correct-answer"
      readonly
      placeholder="Correct answer will
be shown here"
    />
  </div>
  <div class="question">
    <h3>3. What is the largest planet in our solar system?</h3>
    <label><input type="radio" name="q3" value="Jupiter" /> Jupiter</label>
    <label><input type="radio" name="q3" value="Saturn" /> Saturn</label>
    <label><input type="radio" name="q3" value="Mars" /> Mars</label>
    <label><input type="radio" name="q3" value="Venus" /> Venus</label>
    <input
      type="text"
      class="correct-answer"
      readonly
      placeholder="Correct answer will
be shown here"
    />
  </div>
  <div class="question">
    <h3>4. What is the boiling point of water?</h3>
    <label><input type="radio" name="q4" value="100" /> 100°C</label>
    <label><input type="radio" name="q4" value="90" /> 90°C</label>
    <label><input type="radio" name="q4" value="120" /> 120°C</label>
    <label><input type="radio" name="q4" value="110" /> 110°C</label>
    <input
      type="text"
      class="correct-answer"
      readonly
      placeholder="Correct answer will
be shown here"
    />
  </div>
  <div class="question">
    <h3>5. Who painted the Mona Lisa?</h3>

```

```

<label
  ><input type="radio" name="q5" value="Da Vinci" /> Leonardo da
  Vinci</label>
><br />
<label
  ><input type="radio" name="q5" value="Van Gogh" /> Vincent van
  Gogh</label>
><br />
<label
  ><input type="radio" name="q5" value="Picasso" /> Pablo
  Picasso</label>
><br />
<label
  ><input type="radio" name="q5" value="Rembrandt" /> Rembrandt</label>
><br />
<input
  type="text"
  class="correct-answer"
  readonly
  placeholder="Correct answer will
be shown here"
  />
</div>
<button type="button" id="submitBtn">Submit</button>
</form>
<p id="score"></p>
</div>
<script src="8.js"></script>
</body>
</html>

```

CSS CODE:

```

body {
  font-family: "Arial", sans-serif;
  background: linear-gradient(120deg, #f6d365 0%, #fda085 100%);
  margin: 0;
  padding: 0;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh;
}
.quiz-container {
  margin-top: auto;
  background-color: #fff;
  padding: 20px;
  border-radius: 10px;
  box-shadow: 0 0 15px rgba(0, 0, 0, 0.2);
  width: 350px;
}

```

```

}
h1 {
  text-align: center;
  color: #333;
  margin-bottom: 20px;
}
#timer {
  text-align: center;
  font-size: 1.2rem;
  margin-bottom: 20px;
}
.question {
  margin-bottom: 20px;
}

.question h3 {
  margin-bottom: 10px;
  color: #555;
}
label {
  display: block;
  margin-bottom: 5px;
  font-size: 1rem;
  color: #333;
}

.correct-answer {
  margin-top: 10px;
  width: 100%;
  padding: 8px;
  border-radius: 5px;
  border: 1px solid #ddd;
  background-color: #f9f9f9;
  color: #555;
}
button {
  display: block;
  width: 100%;
  padding: 10px;
  background-color: #28a745;
  color: #fff;
  border: none;
  border-radius: 5px;
  font-size: 1rem;
  cursor: pointer;
  transition: background-color 0.3s ease;
}
button:hover {
  background-color: #218838;
}
#score {

```

```

text-align: center;
font-size: 1.2rem;
color: #333;
margin-top: 20px;
}

```

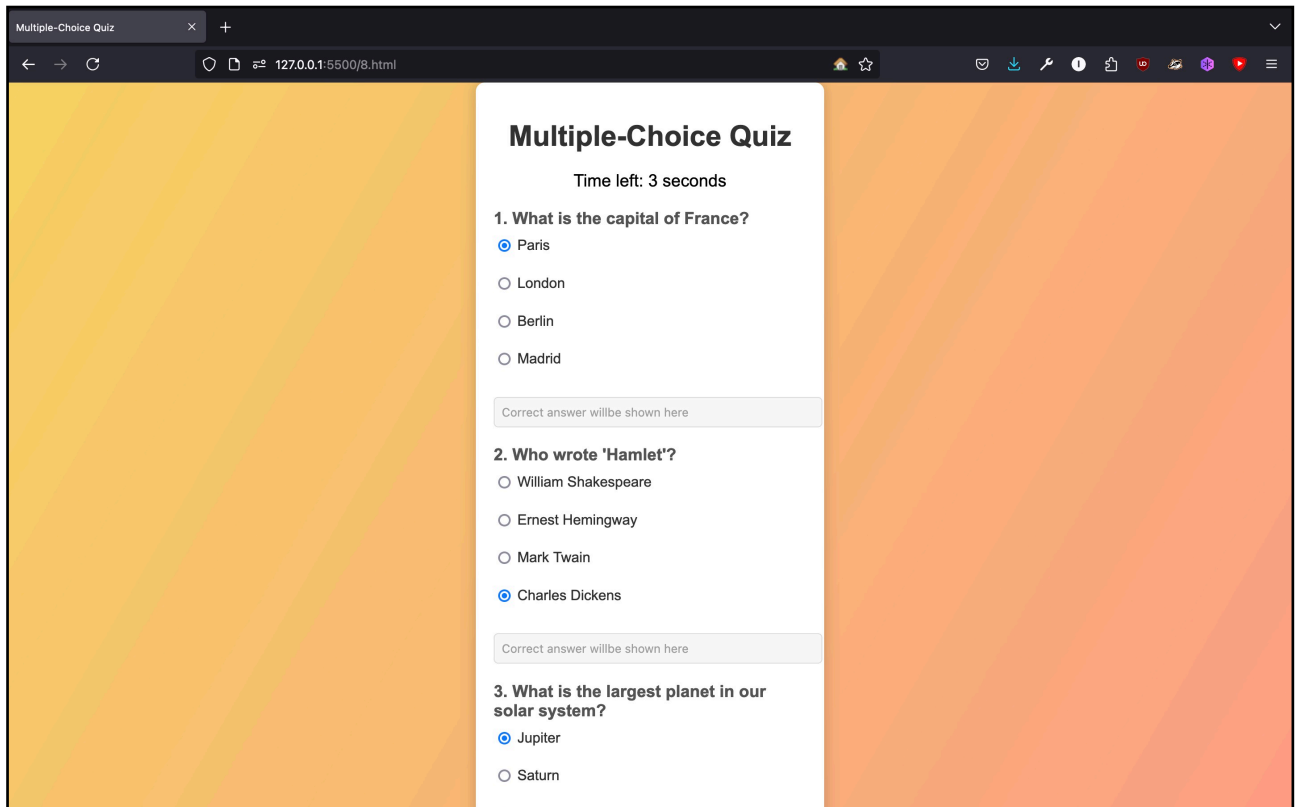
JAVASCRIPT CODE:

```

let score = 0;
let timeLeft = 60;
const timerElement = document.getElementById('time');
const quizForm = document.getElementById('quizForm');
const scoreElement = document.getElementById('score');
const startTimer = () => {
  const timerInterval = setInterval(() => {
    timeLeft--;
    timerElement.textContent = timeLeft;
    if (timeLeft <= 0) {
      clearInterval(timerInterval);
      calculateScore();
    }
  }, 1000);
};
const calculateScore = () => {
  const formData = new FormData(quizForm);
  formData.forEach((value, key) => {
    const correctAnswerField =
      quizForm.querySelector(`input[name="${key}"]`).parentElement.nextElementSibling;
    if (value === correctAnswers[key]) {
      score++;
      correctAnswerField.value = "Correct!";
      correctAnswerField.style.color = "green";
    } else {
      alert(`Wrong! The correct answer is ${correctAnswers[key]}`);
      correctAnswerField.value = correctAnswers[key];
      correctAnswerField.style.color = "red";
    }
  });
  scoreElement.textContent =
    `Your score: ${score}/5`
  ;
  quizForm.querySelectorAll('input[type="radio"]').forEach(input => input.disabled = true);
};
document.getElementById('submitBtn').addEventListener('click'
, calculateScore);
// Start the timer when the page loads
startTimer();

```

OUTPUT:



S. No.	Title of Experiment
9	Add and Remove elements from array in javascript.

HTML CODE:

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Array Manipulation</title>
    <link rel="stylesheet" href="styles.css" />
  </head>
  <body>
    <div class="container">
      <h1>Array Manipulation</h1>
      <input type="text" id="itemInput" placeholder="Enter an item" />
      <button id="addButton">Add Item</button>
      <button id="removeButton">Remove Last Item</button>
      <ul id="itemList"></ul>
    </div>
    <script src="script.js"></script>
  </body>
</html>

```

CSS CODE:

```

body {
  font-family: Arial, sans-serif;
  background-color: #f4f4f4;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh;
  margin: 0;
}

.container {
  background: white;
  padding: 20px;
  border-radius: 8px;
  box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
  text-align: center;
}

h1 {
  margin-bottom: 20px;
}

input {

```

```

padding: 10px;
margin-right: 10px;
width: 200px;
border: 1px solid #ccc;
border-radius: 4px;
}

button {
padding: 10px 15px;
border: none;
border-radius: 4px;
background-color: #28a745;
color: white;
cursor: pointer;
}

button:hover {
background-color: #218838;
}

ul {
list-style-type: none;
padding: 0;
margin-top: 20px;
}

li {
background: #eee;
padding: 10px;
margin: 5px 0;
border-radius: 4px;
}

```

JAVASCRIPT CODE:

```

document.addEventListener("DOMContentLoaded", () => {
  const itemInput = document.getElementById("itemInput");
  const addButton = document.getElementById("addButton");
  const removeButton = document.getElementById("removeButton");
  const itemList = document.getElementById("itemList");

  let items = [];

  addButton.addEventListener("click", () => {
    const newItem = itemInput.value.trim();
    if (newItem) {
      items.push(newItem);
      itemInput.value = "";
      renderList();
    }
  })

```

```

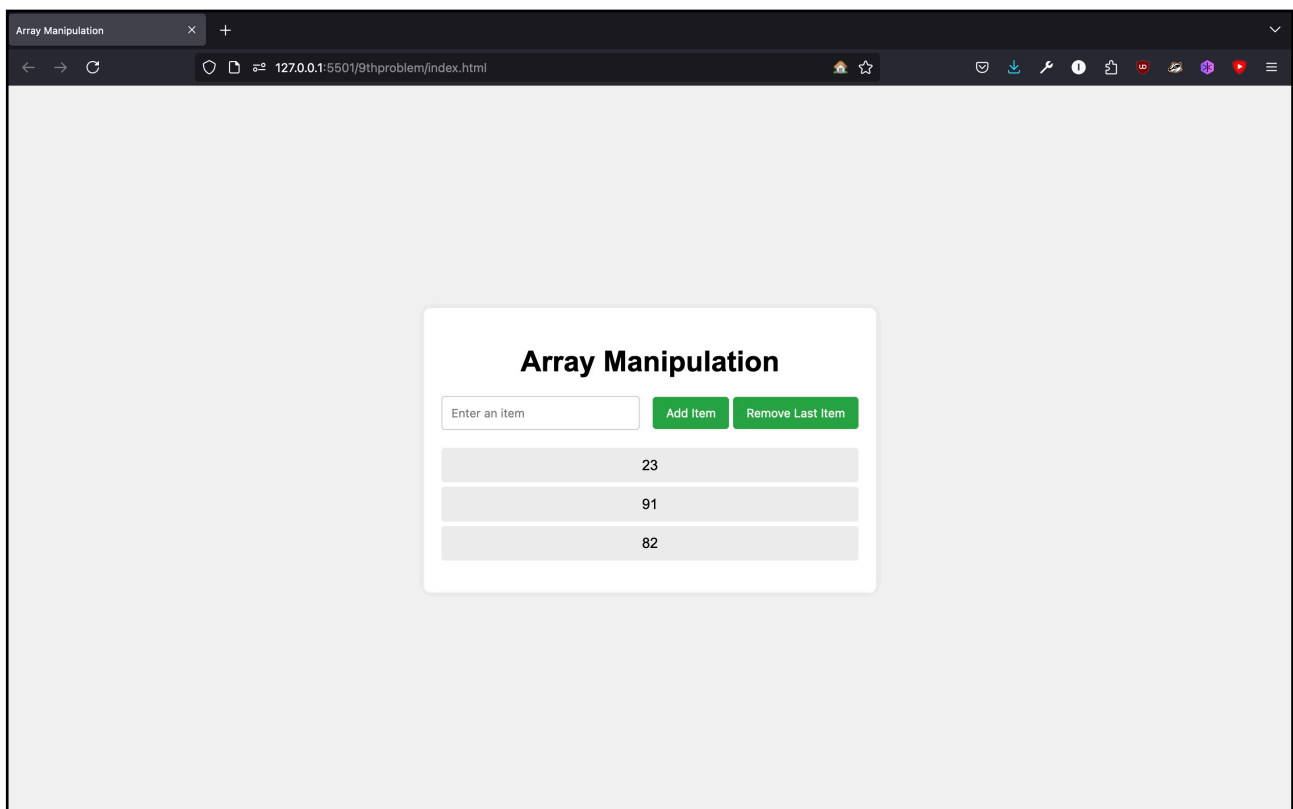
});

removeButton.addEventListener("click", () => {
  items.pop();
  renderList();
});

function renderList() {
  itemList.innerHTML = "";
  items.forEach((item) => {
    const li = document.createElement("li");
    li.textContent = item;
    itemList.appendChild(li);
  });
}
});

```

OUTPUT:



S. No.	Title of Experiment
10	Create a simple Program to build the Calculator in JavaScript using with HTML and CSS web languages. website and improve the website using HTML.

HTML CODE:

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>iPad Style Calculator</title>
  <link rel="stylesheet" href="10.css" />
</head>
<body>
  <div class="calculator">
    <input type="text" id="display" readonly />
    <div class="buttons">
      <button class="function" onclick="clearDisplay()">AC</button>
      <button class="function" onclick="toggleSign()">±</button>
      <button class="function" onclick="appendOperator('%')">%</button>
      <button class="operator" onclick="appendOperator('/')">÷</button>
      <button class="number" onclick="appendNumber('7')">7</button>
      <button class="number" onclick="appendNumber('8')">8</button>
      <button class="number" onclick="appendNumber('9')">9</button>
      <button class="operator" onclick="appendOperator('*')">×</button>
      <button class="number" onclick="appendNumber('4')">4</button>
      <button class="number" onclick="appendNumber('5')">5</button>
      <button class="number" onclick="appendNumber('6')">6</button>
      <button class="operator" onclick="appendOperator('-')">−</button>
      <button class="number" onclick="appendNumber('1')">1</button>
      <button class="number" onclick="appendNumber('2')">2</button>
      <button class="number" onclick="appendNumber('3')">3</button>
      <button class="operator" onclick="appendOperator('+')">+</button>
      <button class="number zero" onclick="appendNumber('0')">0</button>
      <button class="number" onclick="appendOperator('.')">.</button>
      <button class="operator equals" onclick="calculate()">=</button>
    </div>
  </div>
  <script src="10.js"></script>
</body>
</html>

```

CSS CODE:

```

body {
  font-family: "Arial", sans-serif;
  background-color: #282c34;
  display: flex;

```

```

    justify-content: center;
    align-items: center;
    height: 100vh;
    margin: 0;
}
.calculator {
    width: 400px;
    background-color: #1c1c1c;
    border-radius: 20px;
    padding: 20px;
    box-shadow: 0 10px 20px rgba(0, 0, 0, 0.3);
}
#display {
    width: 100%;
    padding: 20px;
    font-size: 2.5rem;
    text-align: right;
    border: none;
    border-radius: 15px;
    margin-bottom: 20px;
    background-color: #000;
    color: #fff;
    box-sizing: border-box;
}
.buttons {
    display: grid;
    grid-template-columns: repeat(4, 1fr);
    grid-gap: 15px;
}
button {
    padding: 20px;
    font-size: 1.5rem;
    border: none;
    border-radius: 20px;
    cursor: pointer;
    transition: background-color 0.3s ease;
}
button.number {
    background-color: #333;
    color: #fff;
}
button.operator {
    background-color: #f39c12;
    color: #fff;
}
button.function {
    background-color: #a5a5a5;
    color: #000;
}
button.zero {
    grid-column: span 2;

```

```

    border-radius: 20px;
}
button.equals {
    background-color: #3498db;
    grid-column: span 2;
    border-radius: 20px;
}
button:hover {
    filter: brightness(1.2);
}
button:active {
    filter: brightness(0.8);
}

```

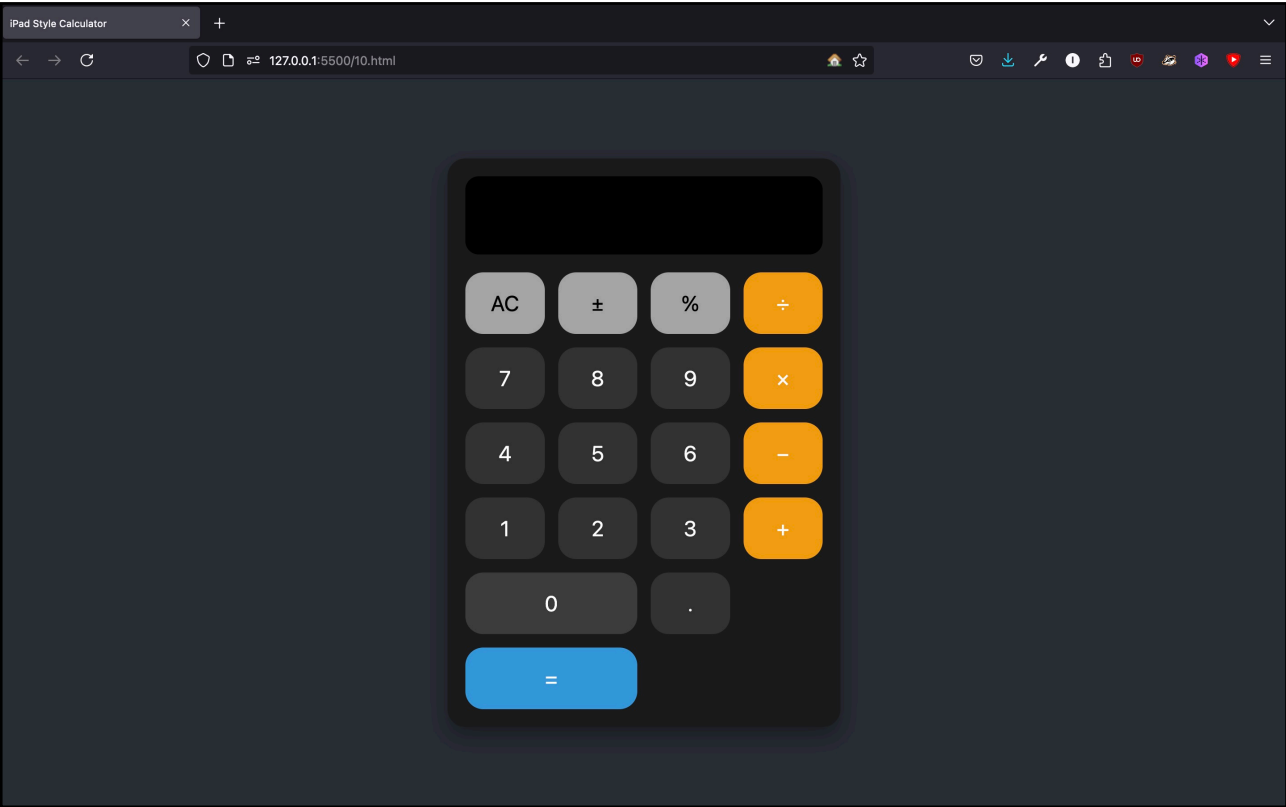
JAVASCRIPT CODE:

```

let display = document.getElementById("display");
function clearDisplay() {
    display.value = "";
}
function toggleSign() {
    if (display.value.startsWith("-")) {
        display.value = display.value.substring(1);
    } else {
        display.value = "-" + display.value;
    }
}
function appendNumber(number) {
    display.value += number;
}
function appendOperator(operator) {
    display.value += operator;
}
}
function calculate() {
    try {
    } catch (e) {
        display.value = eval(
            display.value
                .replace("÷", alert("Invalid Expression"), "/")
                .replace("×", "*")
        );
    }
}

```

OUTPUT:



S. No.	Title of Experiment
11	Develop an online quiz application using PHP where the questions and answers are maintained in database.

Handling Quiz Submission and Storing the Score

PHP CODE:

```
<?php
session_start();
// Database connection
$conn = new mysqli('localhost', 'root', '', 'quiz_db');
// Check for connection errors
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
// Retrieve the user ID from the session
$user_id = $_SESSION['user_id'];
$score = 0;
// Loop through the POST data (questions and selected options)
foreach ($_POST as $question_id => $selected_option_id) {
    // Remove the 'question_' prefix to get the actual question ID
    $question_id = str_replace('question_', '', $question_id);
    // Retrieve the correct option ID for the current question
    $sql = "SELECT correct_option_id FROM answers WHERE question_id = $question_id";
    $result = $conn->query($sql);
    if ($result) {
        $row = $result->fetch_assoc();

        // Compare the selected option with the correct option
        if ($row['correct_option_id'] == $selected_option_id) {
            $score++;
        }
    }
}
// Insert the score into the scores table
$sql = "INSERT INTO scores (user_id, score) VALUES ($user_id, $score)";
$conn->query($sql);
// Output the user's score
echo "Your score is: $score";
// Close the database connection
$conn->close();
?>
```

Retrieving Quiz Questions and Options

PHP CODE:

```
<?php
// Database connection
$conn = new mysqli('localhost', 'root', '', 'quiz_db');
```

```

// Check for connection errors
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
// Query to retrieve all questions
$questions_sql = "SELECT * FROM questions";
$result = $conn->query($questions_sql);
$questions = [];
// Loop through each question
while ($row = $result->fetch_assoc()) {
    $question_id = $row['id'];
    // Query to retrieve the options for the current question
    $options_sql = "SELECT * FROM options WHERE question_id = $question_id";
    $options_result = $conn->query($options_sql);
    $options = [];
    // Loop through each option and add it to the options array
    while ($option_row = $options_result->fetch_assoc()) {
        $options[] = [
            'id' => $option_row['id'],
            'option_text' => $option_row['option_text']
        ];
    }
    // Add the question and its options to the questions array
    $questions[] = [
        'id' => $question_id,
        'question_text' => $row['question_text'],
        'options' => $options
    ];
}
// Output the questions as a JSON object
echo json_encode($questions);
// Close the database connection
$conn->close();
?>

```

OUTPUT:

The screenshot displays a database management tool interface. The top bar indicates 'Local instance 3306 - Warning - not supported'. The left sidebar shows a tree view of schemas, with 'quiz_db' selected. The main area shows a query editor with the text 'SELECT * FROM scores;'. Below the query editor, the 'Result Grid' is visible, showing a table with columns 'id', 'user_name', 'score', and 'submission_time'. The table is currently empty. The bottom status bar shows 'Query Completed' and '0 row(s) returned'.

Schema: quiz_db

id	user_name	score	submission_time
----	-----------	-------	-----------------

Query 1: `SELECT * FROM scores;`

Result Grid: 0 row(s) returned

Action Output: 2 20:37:28 SELECT * FROM scores LIMIT 0, 1000

S. No.	Title of Experiment
12	Create a hospital registration form and validate the fields using JavaScript store in database.

HTML CODE:

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Hospital Registration Form</title>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <h1>Hospital Registration Form</h1>
  <form id="registrationForm" method="POST" action="process_registration.php"
onsubmit="return validateForm()">
    <label for="firstName">First Name:</label>
    <input type="text" id="firstName" name="firstName" required>

    <label for="lastName">Last Name:</label>
    <input type="text" id="lastName" name="lastName" required>

    <label for="email">Email:</label>
    <input type="email" id="email" name="email" required>

    <label for="phone">Phone Number:</label>
    <input type="text" id="phone" name="phone" required>

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

    <label for="gender">Gender:</label>
    <select id="gender" name="gender" required>
      <option value="">Select Gender</option>
      <option value="Male">Male</option>
      <option value="Female">Female</option>
      <option value="Other">Other</option>
    </select>

    <label for="address">Address:</label>
    <textarea id="address" name="address" required></textarea>

    <label for="medicalHistory">Medical History:</label>
    <textarea id="medicalHistory" name="medicalHistory"></textarea>

    <button type="submit">Register</button>
  </form>

```



```
<script src="script.js"></script>
</body>
</html>
```

CSS CODE:

```
body {
  font-family: Arial, sans-serif;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh;
  background-color: #f0f0f0;
}

h1 {
  text-align: center;
}

form {
  background-color: #fff;
  padding: 20px;
  border-radius: 8px;
  box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
  max-width: 400px;
  width: 100%;
}

label {
  display: block;
  margin-bottom: 5px;
  font-weight: bold;
}

input[type="text"],
input[type="email"],
input[type="date"],
select,
textarea {
  width: 100%;
  padding: 10px;
  margin-bottom: 20px;
  border: 1px solid #ccc;
  border-radius: 4px;
  box-sizing: border-box;
}

button {
  width: 100%;
  padding: 10px;
```

```

background-color: #007bff;
color: #fff;
border: none;
border-radius: 4px;
cursor: pointer;
}

button:hover {
  background-color: #0056b3;
}

```

JAVASCRIPT CODE:

```

function validateForm() {
  let firstName = document.getElementById('firstName').value.trim();
  let lastName = document.getElementById('lastName').value.trim();
  let email = document.getElementById('email').value.trim();
  let phone = document.getElementById('phone').value.trim();
  let dob = document.getElementById('dob').value;
  let gender = document.getElementById('gender').value;
  let address = document.getElementById('address').value.trim();

  if (firstName === "" || lastName === "" || email === "" || phone === "" || dob === "" || gender
  === "" || address === "") {
    alert("All fields marked as required must be filled out.");
    return false;
  }

  if (!validateEmail(email)) {
    alert("Please enter a valid email address.");
    return false;
  }

  if (!validatePhone(phone)) {
    alert("Please enter a valid phone number.");
    return false;
  }

  return true;
}

function validateEmail(email) {
  // Basic email validation pattern
  const pattern = /^[^\s@]+@[^\s@]+\.[^\s@]+$/;
  return pattern.test(email);
}

function validatePhone(phone) {
  // Basic phone number validation pattern (for 10-digit numbers)
  const pattern = /^[0-9]{10}$/;

```

```
    return pattern.test(phone);
}
```

PHP CODE:

```
<?php
// Database connection
$conn = new mysqli('localhost', 'root', '', 'hospital_db');

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Retrieve form data
$firstName = $conn->real_escape_string($_POST['firstName']);
$lastName = $conn->real_escape_string($_POST['lastName']);
$email = $conn->real_escape_string($_POST['email']);
$phone = $conn->real_escape_string($_POST['phone']);
$dob = $conn->real_escape_string($_POST['dob']);
$gender = $conn->real_escape_string($_POST['gender']);
$address = $conn->real_escape_string($_POST['address']);
$medicalHistory = $conn->real_escape_string($_POST['medicalHistory']);

// SQL query to insert data into the database
$sql = "INSERT INTO patients (first_name, last_name, email, phone, dob, gender, address,
medical_history)
    VALUES ('$firstName', '$lastName', '$email', '$phone', '$dob', '$gender', '$address',
'$medicalHistory')";

// Execute the query
if ($conn->query($sql) === TRUE) {
    echo "Registration successful!";
} else {
    echo "Error: " . $sql . "<br>" . $conn->error;
}

// Close the database connection
$conn->close();
?>
```

OUTPUT:

Hospital Registration Form

127.0.0.1:5500/12.html

First Name:

Please fill out this field.

Email:

Phone Number:

Date of Birth:

dd / mm / yyyy

Gender:

Select Gender

Address:

Medical History:

Register

Hospital Registration Form

S. No.	Title of Experiment
13	Write a PHP program for sending and receiving plain text message (email).

HTML CODE:

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Send Email</title>
</head>
<body>
<div class="container">
<h2>Send an Email</h2>
<form action="" method="POST">
<label for="from">From:</label>
<input type="email" id="from" name="from" required>
<label for="to">To:</label>
<input type="email" id="to" name="to" required>
<label for="subject">Subject:</label>
<input type="text" id="subject" name="subject" required>
<label for="message">Message:</label>
<textarea id="message" name="message" rows="5" required></textarea>
<input type="submit" value="Send Email">
</form>
</div>
</body>
</html>
```

CSS CODE:

```
body {
font-family: Arial, sans-serif;
margin: 0;
padding: 20px;
background-color: #f4f4f4;
}
.container {
max-width: 500px;
margin: 0 auto;
background-color: #fff;
padding: 20px;
border-radius: 10px;
box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}
h2 {
text-align: center;
color: #333;
}
input[type="text"], input[type="email"], textarea {
width: 100%;
padding: 10px;
margin: 10px 0;
border-radius: 5px;
border: 1px solid #ccc;
}
```

```

input[type="submit"] {
background-color: #4CAF50;
color: white;
padding: 10px 20px;
border: none;
border-radius: 5px;
cursor: pointer;
}
input[type="submit"]:hover {
background-color: #45a049;
}

```

PHP CODE:

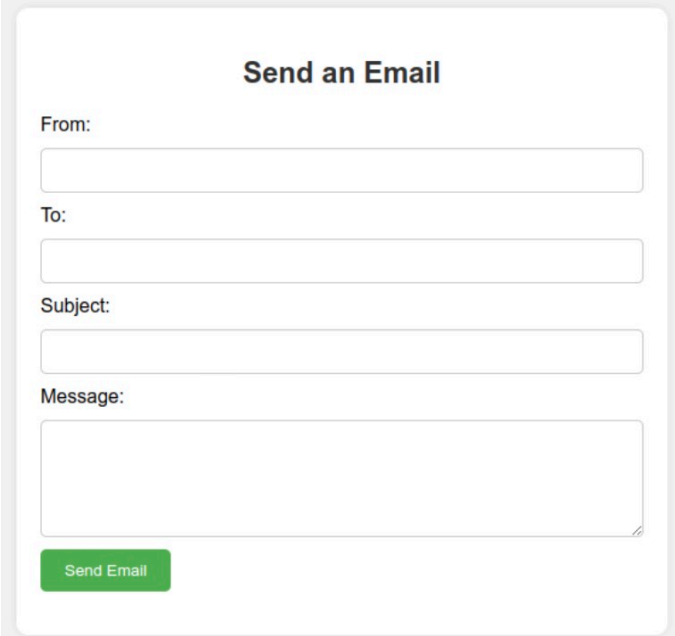
```

<?php
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // Email information
    $to = $_POST['to'];
    $subject = $_POST['subject'];
    $message = $_POST['message'];
    $headers = "From: " . $_POST['from'];

    // Send email
    if (mail($to, $subject, $message, $headers)) {
        echo "Email sent successfully to $to";
    } else {
        echo "Failed to send email to $to";
    }
}

```

OUTPUT:



The image shows a web form titled "Send an Email". It contains four input fields: "From:", "To:", "Subject:", and "Message:". The "Message:" field is a larger text area. At the bottom of the form is a green button labeled "Send Email". The form is styled with a light gray border and a white background.