Name: Likhith B A
Reg. No: 23BCE1098

Experiment 09

JavaScript

Question 01

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>23BCE1098</title>
   <style>
      table {
         width: 50%;
         border-collapse: collapse;
         margin: 20px 0;
      }
      th, td {
         border: 1px solid black;
         padding: 3px;
         text-align: center;
      }
      th {
         background-color: #f2f2f2;
      }
   </style>
</head>
<body>
   <h2>Temperature Analysis of New York</h2>
   <table>
      <tr>
         <th>Temperature (°F)</th>
         <th>Category</th>
      </tr>
      <tbody id="tempTable"></tbody>
   </table>
   <p id="summary"></p>

   <script>
      const temperatures =
[55,62,68,74,59,45,41,58,60,67,65,78,82,88,91,92,90,93,87,80,78,79,72,68,61,59,55,65];
      let hotDays = 0, pleasantDays = 0, coldDays = 0;
```

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```
    const tableBody = document.getElementById("tempTable");
    const summary = document.getElementById("summary");

    temperatures.forEach(temp => {
      let category;
      if (temp >= 85) {
        category = "HOT";
        hotDays++;
      } else if (temp >= 60) {
        category = "PLEASANT";
        pleasantDays++;
      } else {
        category = "COLD";
        coldDays++;
      }

      const row = `<tr><td>${temp}</td><td>${category}</td></tr>`;
      tableBody.innerHTML += row;
    });

    summary.innerHTML = `Hot Days: ${hotDays}, Pleasant Days: ${pleasantDays}, Cold Days:
${coldDays}`;
  </script>
</body>
</html>
```

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Output:

Temperature Analysis of New York

Temperature (°F)	Category
55	COLD
62	PLEASANT
68	PLEASANT
74	PLEASANT
59	COLD
45	COLD
41	COLD
58	COLD
60	PLEASANT
67	PLEASANT
65	PLEASANT
78	PLEASANT
82	PLEASANT
88	HOT
91	HOT
92	HOT
90	HOT
93	HOT
87	HOT
80	PLEASANT
78	PLEASANT
79	PLEASANT
72	PLEASANT
68	PLEASANT
61	PLEASANT
59	COLD
55	COLD
65	PLEASANT

Hot Days: 6, Pleasant Days: 15, Cold Days: 7

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Question 02

Code:

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

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Airline Reservation System</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      text-align: center;
      margin-top: 50px;
    }

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

    table {
      width: 50%;
      margin: 20px auto;
      border-collapse: collapse;
    }

    th,
    td {
      border: 1px solid black;
      padding: 8px;
      text-align: center;
    }

    th {
      background-color: #f2f2f2;
    }
  </style>
</head>

<body>
  <h2>Airline Reservation System</h2>
  <label for="name">Enter your name:</label>
```

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```
  <input type="text" id="name" required>
  <button onclick="reserveSeat(1)">First-Class</button>
  <button onclick="reserveSeat(2)">Economy</button>
  <p id="boardingPass"></p>

  <h3>Passenger Details</h3>
  <table>
    <thead>
      <tr>
        <th>Name</th>
        <th>Seat Number</th>
        <th>Class</th>
      </tr>
    </thead>
    <tbody id="passengerTable">
    </tbody>
  </table>

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

</html>
```

JAVASCRIPT

```
const seats = new Array(10).fill(0);

function reserveSeat(section) {
    const name = document.getElementById("name").value.trim();
    if (!name) {
        alert("Please enter your name.");
        return;
    }

    let seatAssigned = -1;

    if (section === 1) {
        seatAssigned = assignSeat(0, 4);
        if (seatAssigned === -1) {
            if (confirm("First-class is full. Would you like to be placed in economy?")) {
                seatAssigned = assignSeat(5, 9);
            }
        }
    } else {
        seatAssigned = assignSeat(5, 9);
        if (seatAssigned === -1) {
            if (confirm("Economy is full. Would you like to be placed in first-class?")) {
```

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```
            seatAssigned = assignSeat(0, 4);
        }
    }
}

if (seatAssigned !== -1) {
    document.getElementById("boardingPass").innerHTML =
        `Boarding Pass: Name: ${name}, Seat: ${seatAssigned + 1}, ` +
        `${seatAssigned < 5 ? "First-Class" : "Economy"}`;

    const table = document.getElementById("passengerTable");
    const row = `<tr><td>${name}</td><td>${seatAssigned + 1}</td><td>${seatAssigned < 5 ?
"First-Class" : "Economy"}</td></tr>`;
    table.innerHTML += row;
} else {
    alert("Sorry, the flight is fully booked.");
}
}

function assignSeat(start, end) {
for (let i = start; i <= end; i++) {
    if (seats[i] === 0) {
        seats[i] = 1;
        return i;
    }
}
return -1;
}
```

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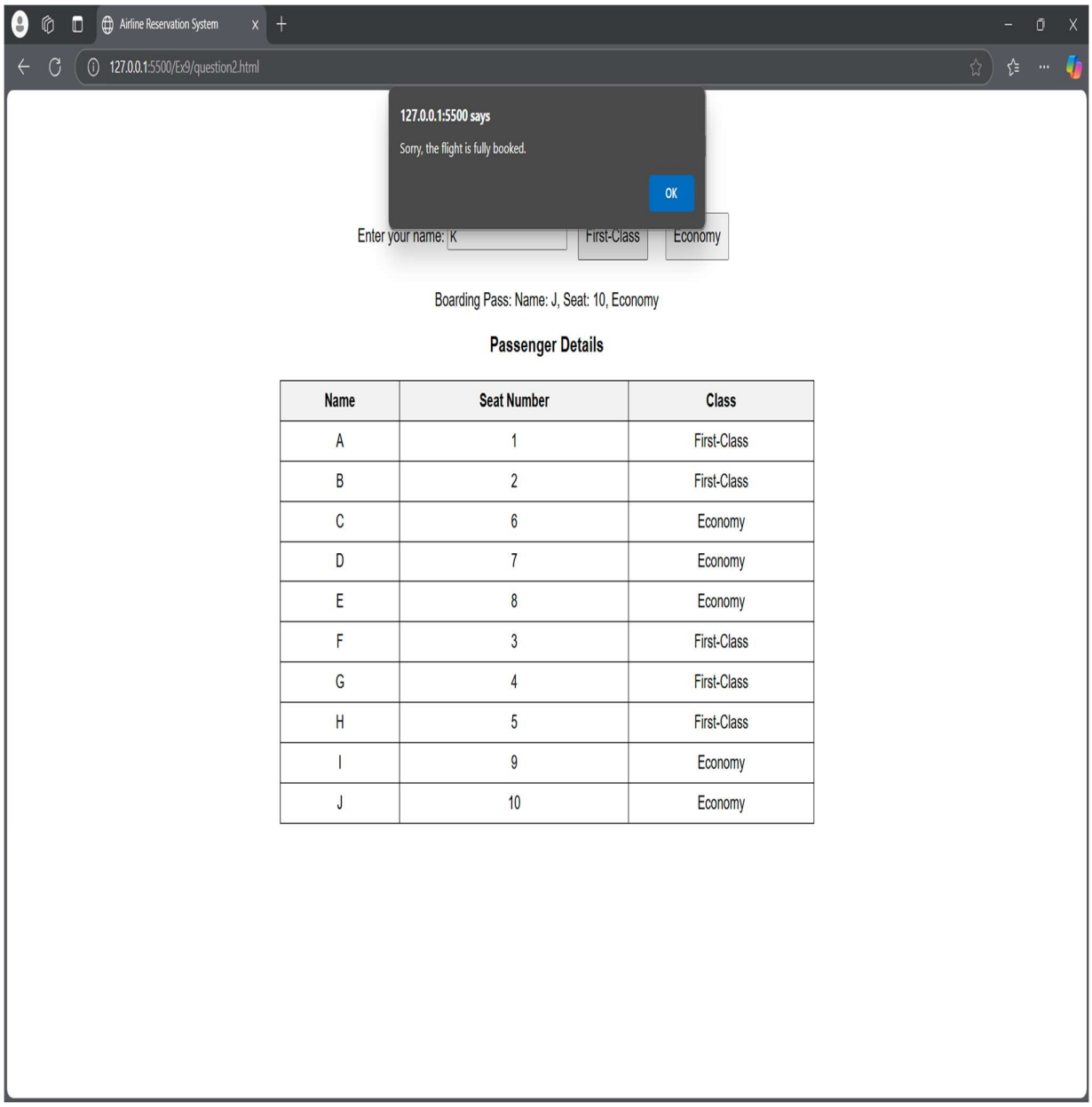
Output:



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Question 03

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>23BCE1098</title>
   <script src="bmi_script.js" defer></script>
</head>
<body>
   <h2>BMI Calculator</h2>
   <label for="gender">BMI Calculator:</label>
   <select id="gender">
      <option value="male">Male</option>
      <option value="female">Female</option>
   </select>
   <br><br>

   <label for="weight">Enter Your Weight (in pounds):</label>
   <input type="number" id="weight" required>
   <br><br>

   <label for="heightFeet">Enter Your Height (feet):</label>
   <input type="number" id="heightFeet" required>
   <br><br>

   <label for="heightInches">Enter Your Height (inches):</label>
   <input type="number" id="heightInches" required>
   <br><br>

   <button onclick="calculateBMI()">Calculate</button>

   <p><strong>YOUR BMI:</strong> <span id="bmiResult"></span></p>
</body>
</html>
```

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JAVASCRIPT

```
function calculateBMI() {
  let weight = parseFloat(document.getElementById("weight").value);
  let heightFeet = parseFloat(document.getElementById("heightFeet").value);
  let heightInches = parseFloat(document.getElementById("heightInches").value);
  let gender = document.getElementById("gender").value;

  if (isNaN(weight) || isNaN(heightFeet) || isNaN(heightInches)) {
     alert("Please enter valid values.");
     return;
  }

  let heightTotalInches = (heightFeet * 12) + heightInches;
  let bmi = (703 * weight) / (heightTotalInches * heightTotalInches);
  let status = getBMIStatus(bmi, gender);

  document.getElementById("bmiResult").innerText = bmi.toFixed(2);
  alert(status);
}

function getBMIStatus(bmi, gender) {
  if (gender === "male") {
     if (bmi < 17.50) return "Anorexia";
     if (bmi >= 17.501 && bmi <= 20.70) return "Underweight";
     if (bmi >= 20.71 && bmi <= 26.40) return "Ideal Range";
     if (bmi >= 26.41 && bmi <= 27.80) return "Marginally Overweight";
     if (bmi >= 27.81 && bmi <= 31.10) return "Overweight";
     if (bmi > 31.10) return "Very Overweight or Obese";
  } else {
     if (bmi < 17.50) return "Anorexia";
     if (bmi >= 17.51 && bmi <= 19.10) return "Underweight";
     if (bmi >= 19.11 && bmi <= 25.80) return "Ideal Range";
     if (bmi >= 25.81 && bmi <= 27.30) return "Marginally Overweight";
     if (bmi >= 27.31 && bmi <= 32.30) return "Overweight";
     if (bmi > 32.30) return "Very Overweight or Obese";
  }
  return "Unknown";
}
```

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Output: