Experiment 3:

a) Write a JavaScript program to find the area of a circle using radius (var and let - reassign and observe the difference with var and let) and PI (const)

b) Write JavaScript code to display the movie details such as movie name, starring, language, and ratings. Initialize the variables with values of appropriate types. Use template literals wherever necessary.

c) Write JavaScript code to book movie tickets online and calculate the total price, considering the number of tickets and price per ticket as Rs. 150. Also, apply a festive eason discount of 10% and calculate the discounted amount.

d) Write a JavaScript code to make online booking of theatre tickets and calculate the total price based on the below conditions(use conditional statements):
   - If seats to be booked are not more than 2, the cost per ticket remains $9.
   - If seats are 5 or more, booking is not allowed.
   - If seats to be booked are more than 2 but less than 5, based on the number of seats booked, do the following:
     Calculate total cost by applying discounts of 5, 7, 9, 11 percent, and so on for customer 1,2,3 and 4.

   The output should be

   Ticket for customer 1 gets 5% discount, cost is:$8.54

   Ticket for customer 2 gets 7% discount, cost is:$8.37

   Ticket for customer 3 gets 9% discount, cost is:$8.19

   Ticket for customer 4 gets 11% discount, cost is:$8.01

   For 4 tickets, you need to pay:$33.12 instead of $36

   e. Repeat the experiment 3d using loops

Program:

Exp3a)

```
/*
Write a JavaScript program to find the area of a circle using radius (var and let -
reassign and observe the difference with var and let) and PI (const) */

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```html
    <title>Circle Area Calculator</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            text-align: center;
            margin-top: 50px;
        }
        input, button {
            padding: 10px;
            margin: 5px;
            font-size: 16px;
        }
    </style>
</head>
<body>
    <h1>Calculate the Area of a Circle</h1>
    <p>Enter the radius of the circle:</p>
    <input type="number" id="radius" placeholder="Enter radius" >
    <button onclick="calculateAndDisplayArea()">Calculate Area</button>
    <p id="result" style="font-size: 18px; color: blue;"></p>

    <script>
        // Declare the constant PI
        const PI = 3.14159;

        // Function to calculate the area of a circle
        function calculateArea(radius) {
            if (radius < 0) {
                return "Radius cannot be negative.";
            }
            return PI * radius * radius;
        }

        // Function to get input, calculate, and display the area
        function calculateAndDisplayArea() {
            let radiusInput = document.getElementById("radius").value;
            let radius = parseFloat(radiusInput);

            if (isNaN(radius)) {
                document.getElementById("result").textContent = "Please enter a valid number
for radius.";
                return;
            }

            let area = calculateArea(radius);
            if (typeof area === "string") {
                document.getElementById("result").textContent = area;
            } else {
                document.getElementById("result").textContent = `The area of a circle with
radius ${radius} is ${area.toFixed(2)}.`;
```

```
        }
      }
    </script>
  </body>
</html>
```

Exp3b)

```html
<!--
Write JavaScript code to display the movie details such as movie name, starring,
language, and ratings. Initialize the variables with values of appropriate types. Use
template literals wherever necessary.
-->

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Movie Details</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 20px;
    }
    .movie-details {
      padding: 20px;
      border: 2px solid #ddd;
      border-radius: 8px;
      background-color: #f9f9f9;
      max-width: 400px;
      margin: auto;
    }
    h2 {
      color: #333;
    }
    p {
      margin: 5px 0;
    }
  </style>
</head>
<body>
  <div class="movie-details">
    <h2>Movie Details</h2>
    <p id="movieName"></p>
    <p id="starring"></p>
    <p id="language"></p>
    <p id="ratings"></p>
  </div>
```

```
<script>
    // Initialize variables with movie details
    const movieName = "Maya Bazaar";
    const starring = ["NTR", "ANR", "SVR", "Savitri"];
    const language = "Telugu";
    const ratings = 8.8;

    // Use template literals to create the movie details
            document.getElementById("movieName").textContent  =  `Movie  Name:
${movieName}`;
    document.getElementById("starring").textContent = `Starring: ${starring.join(", ")}`;
    document.getElementById("language").textContent = `Language: ${language}`;
    document.getElementById("ratings").textContent = `Ratings: ${ratings}/10`;
</script>
</body>
</html>
```

Exp3c)

```
<!--Write JavaScript code to do online booking of theatre tickets and calculate the total price,
considering
the price per ticket as $9. Also, apply a festive season discount of 10% and calculate the
discounted amount. -->

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Movie Ticket Booking</title>
    <style>
        body {
            font-family: Arial, sans-serif;
            text-align: center;
            margin-top: 50px;
        }
        input, button {
            padding: 10px;
            margin: 10px;
            font-size: 16px;
        }
        .result {
            margin-top: 20px;
            font-size: 18px;
            color: green;
        }
```

```
        .hidden {
            display: none;
        }
    </style>
</head>
<body>
    <h1>Online Movie Ticket Booking</h1>
    <div id="form">
    <p>Price per ticket: &dollar;9</p>
    <label for="tickets">Enter the number of tickets:</label>
    <input type="number" id="tickets" placeholder="Number of tickets" min="1">
    <button onclick="calculateTotal()">Book Tickets</button>
    </div>
    <div class="result">
        <p id="totaltickets"></p>
        <p id="totalPrice"></p>
        <p id="discount"></p>
        <p id="discountedPrice"></p>
    </div>

    <script>
        // Function to calculate total price and discounted price
        function calculateTotal() {
            const pricePerTicket = 9; // Price of one ticket
            const discountRate = 0.10; // 10% discount

            // Get the number of tickets from user input
            const tickets = parseInt(document.getElementById("tickets").value);

            // Validate the input
            if (isNaN(tickets) || tickets <= 0) {
              document.getElementById("totalPrice").textContent = "Please enter a valid number
of tickets.";
                document.getElementById("discountedPrice").textContent = "";
                return;
            }

            // Calculate the total price and discounted price
            const totalPrice = tickets * pricePerTicket;
            const discount = totalPrice * discountRate;
            const discountedPrice = totalPrice - discount;

            document.getElementById("form").classList.add("hidden");

            // Display the results
                document.getElementById("totaltickets").textContent = `Total number of seats
booked: ${tickets}`;
                document.getElementById("totalPrice").textContent = `Total Cost of ${tickets}
Tickets (before discount): $. ${totalPrice}`;
```

```
          document.getElementById("discount").textContent = `Festive season discount
is:10%`;
          document.getElementById("discountedPrice").textContent = `Total cost after 10%
discount: $. ${discountedPrice.toFixed(2)}`;
      }
   </script>
</body>
</html>
```

Exp3d)

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Theatre Ticket Booking</title>
   <style>
     body {
        font-family: Arial, sans-serif;
        text-align: center;
        margin-top: 50px;
     }
     input, button {
        padding: 10px;
        margin: 10px;
        font-size: 16px;
     }
     .result {
        margin-top: 20px;
        font-size: 18px;
        color: green;
        text-align: center;
        display: inline-block;
        white-space: pre-line; /* Allows newlines to display as line breaks */
     }
     .error {
        color: red;
     }

     .hidden{
        display:none;
     }
   </style>
</head>
<body>
```

```html
<h1>Theatre Ticket Booking</h1>
<div id="form">
<p>Price per ticket: $9</p>
<label for="seats">Enter the number of seats to book:</label>
<input type="number" id="seats" placeholder="Number of seats" min="1">
<button onclick="bookTickets()">Book Tickets</button>
</div>
<div class="result">
    <p id="breakdown"></p>
    <p id="totalPrice"></p>
    <p id="errorMessage" class="error"></p>
</div>

<script>
    function bookTickets() {
        const costPerTicket = 9; // Base cost per ticket
        const discountRates = [5, 7, 9, 11]; // Discounts for customer1, customer2, etc.
        const seats = parseInt(document.getElementById("seats").value);

        // Clear previous messages
        document.getElementById("breakdown").textContent = "";
        document.getElementById("totalPrice").textContent = "";
        document.getElementById("errorMessage").textContent = "";

        document.getElementById("form").classList.add("hidden");
        // Validate input
        if (isNaN(seats) || seats <= 0) {
            document.getElementById("errorMessage").textContent = "Please enter a valid number of seats.";
            return;
        }

        // Booking is not allowed for 5 or more seats
        if (seats >= 5) {
            document.getElementById("errorMessage").textContent = "Booking is not allowed for 5 or more seats.";
            return;
        }

        // Handle cases without loops
        let totalCost = 0;
        let breakdown = "";

        if (seats >= 1) {
            const discount1 = costPerTicket * discountRates[0] / 100;
            const price1 = costPerTicket - discount1;
            breakdown += `Ticket for customer 1 gets ${discountRates[0]}% discount, cost is: $${price1.toFixed(2)}\n`;
            totalCost += price1;
        }
```

```
        if (seats >= 2) {
            const discount2 = costPerTicket * discountRates[1] / 100;
            const price2 = costPerTicket - discount2;
             breakdown += `Ticket for customer 2 gets ${discountRates[1]}% discount, cost
is: $${price2.toFixed(2)}\n`;
            totalCost += price2;
        }
        if (seats >= 3) {
            const discount3 = costPerTicket * discountRates[2] / 100;
            const price3 = costPerTicket - discount3;
             breakdown += `Ticket for customer 3 gets ${discountRates[2]}% discount, cost
is: $${price3.toFixed(2)}\n`;
            totalCost += price3;
        }
        if (seats >= 4) {
            const discount4 = costPerTicket * discountRates[3] / 100;
            const price4 = costPerTicket - discount4;
             breakdown += `Ticket for customer 4 gets ${discountRates[3]}% discount, cost
is: $${price4.toFixed(2)}\n`;
            totalCost += price4;
        }

        const originalCost = seats * costPerTicket; // Original cost without discount
        const savings = originalCost - totalCost; // Total savings

        // Update the page with results
        document.getElementById("breakdown").textContent = breakdown;
        document.getElementById("totalPrice").textContent = `For ${seats} tickets, you need
to pay: $${totalCost.toFixed(2)} instead of $${originalCost.toFixed(2)} (You save
$${savings.toFixed(2)})`;
        }
    </script>
</body>
</html>
```

Exp3e)

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Theatre Ticket Booking</title>
    <style>
        body {
            font-family: Arial, sans-serif;
```

```
            text-align: center;
            margin-top: 50px;
        }
        input, button {
            padding: 10px;
            margin: 10px;
            font-size: 16px;
        }
        .result {
            margin-top: 20px;
            font-size: 18px;
            color: green;
            text-align: center;
            display: inline-block;
            white-space: pre-line; /* Allows newlines to display as line breaks */
        }
        .error {
            color: red;
        }

        .hidden {
            display: none;
        }
    </style>
</head>
<body>
    <h1>Theatre Ticket Booking</h1>
    <div id="form">
        <p>Price per ticket: $9</p>
        <label for="seats">Enter the number of seats to book:</label>
        <input type="number" id="seats" placeholder="Number of seats" min="1">
        <button onclick="bookTickets()">Book Tickets</button>
    </div>
    <div class="result">
        <p id="breakdown"></p>
        <p id="totalPrice"></p>
        <p id="errorMessage" class="error"></p>
    </div>

    <script>
    function bookTickets() {
        const costPerTicket = 9; // Base cost per ticket
        const discountRates = [5, 7, 9, 11]; // Discounts for customer1, customer2, etc.
        const seats = parseInt(document.getElementById("seats").value);

        // Clear previous messages
        document.getElementById("breakdown").textContent = "";
        document.getElementById("totalPrice").textContent = "";
        document.getElementById("errorMessage").textContent = "";
```

```javascript
        document.getElementById("form").classList.add("hidden");

        // Validate input
        if (isNaN(seats) || seats <= 0) {
            document.getElementById("errorMessage").textContent = "Please enter a valid
number of seats.";
            document.getElementById("form").classList.remove("hidden");
            return;
        }

        // Booking is not allowed for 5 or more seats
        if (seats >= 5) {
          document.getElementById("errorMessage").textContent = "Booking is not allowed
for 5 or more seats.";
            document.getElementById("form").classList.remove("hidden");
            return;
        }

        // Handle cases with a loop
        let totalCost = 0;
        let breakdown = "";

        for (let i = 0; i < seats; i++) {
            const discount = costPerTicket * discountRates[i] / 100;
            const price = costPerTicket - discount;
            breakdown += `Ticket for customer ${i + 1} gets ${discountRates[i]}% discount,
cost is: $${price.toFixed(2)}\n`;
            totalCost += price;
        }

        const originalCost = seats * costPerTicket; // Original cost without discount
        const savings = originalCost - totalCost; // Total savings

        // Update the page with results
        document.getElementById("breakdown").textContent = breakdown;
        document.getElementById("totalPrice").textContent = `For ${seats} tickets, you need
to pay: $${totalCost.toFixed(2)} instead of $${originalCost.toFixed(2)} (You save
$${savings.toFixed(2)})`;
      }
    </script>
</body>
</html>
```