Ex.No:	10	MINI PROJECT (Class Scheduling system)
Date:		

Aim:

- Class Scheduling System (Small Scale): Manages the schedule of classes, instructors, and students. (RDBMS: Courses, Instructors, Schedules, Enrollments; Backend: Schedule display, enrollment management).

Code:

TABLES CREATED:

- Class table:

```
CREATE TABLE classes (
    id INT AUTO_INCREMENT PRIMARY KEY,
    class_name VARCHAR(100)
);
```

- Teacher table:

```
CREATE TABLE teachers (
    id INT AUTO_INCREMENT PRIMARY KEY,
    teacher_name VARCHAR(100)
);
```

- Subject table:

```
CREATE TABLE subjects (
    id INT AUTO_INCREMENT PRIMARY KEY,
    subject_name VARCHAR(100)
);
```

- Schedule Table:

```
CREATE TABLE schedule (
    id INT AUTO_INCREMENT PRIMARY KEY,
    class_id INT,
    subject_id INT,
    teacher_id INT,
    day VARCHAR(20),
    start_time TIME,
    end_time TIME,
    FOREIGN KEY (class_id) REFERENCES classes(id),
    FOREIGN KEY (subject_id) REFERENCES subjects(id),
    FOREIGN KEY (teacher_id) REFERENCES teachers(id)
);
```

add_class.php

```php
<?php          //
add_class.php
include 'db.php';

if (isset($_POST['submit'])) {
   $class_name = $_POST['class_name'];

   // Check if the class name already exists in the database
   $result = $conn->query("SELECT * FROM classes WHERE class_name = '$class_name'");

   // If the class name exists, show an error message and prevent insertion
   if ($result->num_rows > 0) {
      $error_message = "Class name already exists. Please choose a different name.";
   } else {
      // Insert the class name if it doesn't exist
      $conn->query("INSERT INTO classes (class_name) VALUES ('$class_name')");
      header("Location: index.php"); // Redirect to the homepage
      exit;
   }
}
?>

<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Add Class</title>
   <!-- Bootstrap CSS -->
   <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css"
rel="stylesheet">
   <style>
      body {
         background: #f0f4f8;
      }
      .card {
         max-width: 500px;
         margin: 100px auto;
         padding: 30px;
         border-radius: 10px;
         box-shadow: 0 8px 16px rgba(0, 0, 0, 0.1);
      }
      h1 {
         font-weight: 700;
         color: #343a40;
      }
```

```html
    .alert {
        margin-bottom: 20px;
    }
  </style>
</head>
<body>

  <div class="container">
    <div class="card">
      <h1 class="text-center mb-4">Add Class</h1>

      <!-- Show error message if class name already exists -->
      <?php if (isset($error_message)): ?>
      <div class="alert alert-danger">
          <?= $error_message ?>
        </div>
      <?php endif; ?>

      <form method="POST">
        <div class="mb-3">
          <label for="class_name" class="form-label">Class Name</label>
          <input type="text" name="class_name" id="class_name" class="form-control"
placeholder="Enter Class Name" required>
        </div>
        <button type="submit" name="submit" class="btn btn-primary w-100">Add Class</button>
      </form>
      <a href="index.php" class="btn btn-secondary mt-3 w-100">Back to Home</a>
    </div>
  </div>

  <!-- Bootstrap JS -->
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html> class_schedule_system\add_class.php
 -
```

add_subject.php:

```php
<?php
// add_subject.php
include 'db.php';

if (isset($_POST['submit'])) {
    $subject_name = $_POST['subject_name'];
    $conn->query("INSERT INTO subjects (subject_name) VALUES ('$subject_name')");
    header("Location: index.php");
}
?>
```

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Add Subject</title>
    <!-- Bootstrap CSS -->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css"
rel="stylesheet">
    <style>
        body {
            background: #f0f4f8;
        }
        .card {
            max-width: 500px;
            margin: 100px auto;
            padding: 30px;
            border-radius: 10px;
            box-shadow: 0 8px 16px rgba(0, 0, 0, 0.1);
        }
        h1 {
            font-weight: 700;
            color: #343a40;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="card">
            <h1 class="text-center mb-4">Add Subject</h1>
            <form method="POST">
                <div class="mb-3">
                    <label for="subject_name" class="form-label">Subject Name</label>
                    <input type="text" name="subject_name" id="subject_name" class="form-control"
placeholder="Enter Subject Name" required>
                </div>
                <button type="submit" name="submit" class="btn btn-primary w-100">Add Subject</button>
            </form>
            <a href="index.php" class="btn btn-secondary mt-3 w-100">Back to Home</a>
        </div>
    </div>

    <!-- Bootstrap JS -->
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>
```
 - \class_schedule_system\add_subject.php

add_teacher.php:

```php
<?php
// add_teacher.php
include 'db.php';

if (isset($_POST['submit'])) {
    $teacher_name = $_POST['teacher_name'];
    $conn->query("INSERT INTO teachers (teacher_name) VALUES ('$teacher_name')");
    header("Location: index.php");
}
?>
```

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Add Teacher</title>
    <!-- Bootstrap CSS -->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css" rel="stylesheet">
    <style>
        body {
            background: #f0f4f8;
        }
        .card {
            max-width: 500px;
            margin: 100px auto;
            padding: 30px;
            border-radius: 10px;
            box-shadow: 0 8px 16px rgba(0, 0, 0, 0.1);
        }
        h1 {
            font-weight: 700;
            color: #343a40;
        }
    </style>
</head>
<body>
    <div class="container">
        <div class="card">
            <h1 class="text-center mb-4">Add Teacher</h1>
            <form method="POST">
                <div class="mb-3">
                    <label for="teacher_name" class="form-label">Teacher Name</label>
                    <input type="text" name="teacher_name" id="teacher_name" class="form-control" placeholder="Enter Teacher Name" required>
```

```html
</div>
        <button type="submit" name="submit" class="btn btn-primary w-100">Add Teacher</button>
    </form>
    <a href="index.php" class="btn btn-secondary mt-3 w-100">Back to Home</a>
  </div>
</div>

<!-- Bootstrap JS -->
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>
```
- \class_schedule_system\add_teacher.php

create_schedule.php

```php
<?php
// create_schedule.php
include 'db.php';

if (isset($_POST['submit'])) {
    $class_id = $_POST['class_id'];
    $teacher_id = $_POST['teacher_id'];
    $subject_id = $_POST['subject_id'];
    $day = $_POST['day'];
    $start_time = $_POST['start_time'];
    $end_time = $_POST['end_time'];

    // Check for schedule conflict: no same class, teacher, subject, and day with overlapping periods
    $query = "
        SELECT * FROM schedule
        WHERE class_id = '$class_id' AND day = '$day'
        AND ((start_time < '$end_time' AND end_time > '$start_time') OR start_time = '$start_time' OR end_time = '$end_time')
    ";

    $result = $conn->query($query);

    if ($result->num_rows > 0) {
        // There is a schedule conflict
        echo "<script>alert('Schedule conflict: The selected time overlaps with an existing schedule for this class.'); window.history.back();</script>";
        exit;
    } else {
        // No conflict, insert the new schedule
        $conn->query("INSERT INTO schedule (class_id, teacher_id, subject_id, day, start_time, end_time)
                VALUES ('$class_id', '$teacher_id', '$subject_id', '$day', '$start_time', '$end_time')");
```

```php
        // Redirect to index.php after successful insertion
        header("Location: view_schedule.php");
    exit;
    }
}

// Fetch classes, teachers, and subjects from the database
$classes = $conn->query("SELECT * FROM classes");
$teachers = $conn->query("SELECT * FROM teachers");
$subjects = $conn->query("SELECT * FROM subjects");
?>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Create Schedule</title>
    <!-- Bootstrap CSS -->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css"
rel="stylesheet">
    <style>
        body {
            background: #f0f4f8;
        }
        .card {
            max-width: 600px;
            margin: 100px auto;
            padding: 30px;
            border-radius: 10px;
            box-shadow: 0 8px 16px rgba(0, 0, 0, 0.1);
        }
        h1 {
            font-weight: 700;
            color: #343a40;
        }
    </style>
</head>
<body>

    <div class="container">
        <div class="card">
            <h1 class="text-center mb-4">Create Schedule</h1>
            <form method="POST">
                <div class="mb-3">
                    <label for="class_id" class="form-label">Select Class</label>
                    <select name="class_id" id="class_id" class="form-select" required>
                        <?php while ($row = $classes->fetch_assoc()): ?>
```

```php
      <option value="<?= $row['id'] ?>"><?= $row['class_name'] ?></option>
            <?php endwhile; ?>
          </select>
      </div>

      <div class="mb-3">
        <label for="teacher_id" class="form-label">Select Teacher</label>
        <select name="teacher_id" id="teacher_id" class="form-select" required>
          <?php while ($row = $teachers->fetch_assoc()): ?>
            <option value="<?= $row['id'] ?>"><?= $row['teacher_name'] ?></option>
          <?php endwhile; ?>
        </select>
      </div>

      <div class="mb-3">
        <label for="subject_id" class="form-label">Select Subject</label>
        <select name="subject_id" id="subject_id" class="form-select" required>
          <?php while ($row = $subjects->fetch_assoc()): ?>
            <option value="<?= $row['id'] ?>"><?= $row['subject_name'] ?></option>
          <?php endwhile; ?>
        </select>
      </div>

      <div class="mb-3">
        <label for="day" class="form-label">Day</label>
        <input type="text" name="day" id="day" class="form-control" placeholder="Enter Day (e.g.,
Monday)" required>
      </div>

      <div class="mb-3">
        <label for="start_time" class="form-label">Start Time</label>
        <input type="time" name="start_time" id="start_time" class="form-control" required>
      </div>

      <div class="mb-3">
        <label for="end_time" class="form-label">End Time</label>
        <input type="time" name="end_time" id="end_time" class="form-control" required>
      </div>

      <button type="submit" name="submit" class="btn btn-primary w-100">Create
Schedule</button>
    </form>
    <a href="view_schedule.php" class="btn btn-secondary mt-3 w-100">View Schedule</a>
  </div>
</div>
```

```html
 <!-- Bootstrap JS -->
    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>
```
- C:\xampp\htdocs\class_schedule_system\create_schedule.php ,

edit_schedule.php:

```php
<?php
// edit_schedule.php
include 'db.php';

if (isset($_GET['id'])) {
    $id = $_GET['id'];

    // Fetch schedule details by id
    $sql = "SELECT * FROM schedule WHERE id = $id";
    $result = $conn->query($sql);
    $schedule = $result->fetch_assoc();

    if (isset($_POST['submit'])) {
        // Get updated values from the form
        $class_id = $_POST['class_id'];
        $teacher_id = $_POST['teacher_id'];
        $subject_id = $_POST['subject_id'];
        $day = $_POST['day'];
        $start_time = $_POST['start_time'];
        $end_time = $_POST['end_time'];

        // Update schedule in the database
        $conn->query("UPDATE schedule
                SET class_id = '$class_id', teacher_id = '$teacher_id', subject_id = '$subject_id', day = '$day',
start_time = '$start_time', end_time = '$end_time'
                WHERE id = $id");

        // Redirect back to view_schedule.php after updating
        header("Location: view_schedule.php");
        exit;
    }
}

// Fetch classes, teachers, and subjects for the form
$classes = $conn->query("SELECT * FROM classes");
$teachers = $conn->query("SELECT * FROM teachers");
$subjects = $conn->query("SELECT * FROM subjects");

?>
```

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Edit Schedule</title>
    <!-- Bootstrap CSS -->
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css"
rel="stylesheet">
</head>
<body>

    <div class="container">
        <div class="card" style="max-width: 600px; margin-top: 50px;">
            <h1 class="text-center mb-4">Edit Schedule</h1>
            <form method="POST">
                <div class="mb-3">
                    <label for="class_id" class="form-label">Select Class</label>
                    <select name="class_id" id="class_id" class="form-select" required>
                        <?php while ($row = $classes->fetch_assoc()): ?>
                            <option value="<?= $row['id']; ?>" <?= $schedule['class_id'] == $row['id'] ? 'selected' : '';
?>><?= $row['class_name']; ?></option>
                        <?php endwhile; ?>
                    </select>
                </div>

                <div class="mb-3">
                    <label for="teacher_id" class="form-label">Select Teacher</label>
                    <select name="teacher_id" id="teacher_id" class="form-select" required>
                        <?php while ($row = $teachers->fetch_assoc()): ?>
                            <option value="<?= $row['id']; ?>" <?= $schedule['teacher_id'] == $row['id'] ? 'selected' :
''; ?>><?= $row['teacher_name']; ?></option>
                        <?php endwhile; ?>
                    </select>
                </div>

                <div class="mb-3">
                    <label for="subject_id" class="form-label">Select Subject</label>
                    <select name="subject_id" id="subject_id" class="form-select" required>
                        <?php while ($row = $subjects->fetch_assoc()): ?>
                            <option value="<?= $row['id']; ?>" <?= $schedule['subject_id'] == $row['id'] ? 'selected' :
''; ?>><?= $row['subject_name']; ?></option>
                        <?php endwhile; ?>
                    </select>
                </div>
```

```html
<div class="mb-3">
            <label for="day" class="form-label">Day</label>
            <input type="text" name="day" id="day" class="form-control" value="<?= $schedule['day'];
?>" required>
        </div>

        <div class="mb-3">
          <label for="start_time" class="form-label">Start Time</label>
          <input type="time" name="start_time" id="start_time" class="form-control" value="<?=
$schedule['start_time']; ?>" required>
        </div>

        <div class="mb-3">
          <label for="end_time" class="form-label">End Time</label>
          <input type="time" name="end_time" id="end_time" class="form-control" value="<?=
$schedule['end_time']; ?>" required>
        </div>

        <button type="submit" name="submit" class="btn btn-primary w-100">Update
Schedule</button>
      </form>
    </div>
  </div>

  <!-- Bootstrap JS -->
  <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"></script>
</body>
</html>
```
- \class_schedule_system\edit_schedule.php

delete_schedule.php:
```php
<?php
// delete_schedule.php
include 'db.php';

if (isset($_GET['id'])) {
    $id = $_GET['id'];

    // Delete the schedule by ID
    $conn->query("DELETE FROM schedule WHERE id = $id");

    // Redirect to the view_schedule.php after deletion
    header("Location: view_schedule.php");
    exit;
}
?>
```
- class_schedule_system\delete_schedule.php

Result:

Thus the Class Scheduling System mini project has been successfully implemented.