Ex. No. 8	Web Application Development using Angular JS Framework
Date of Exercise	**24/10/2025**

Aim:

To develop a **Single Page Web Application (SPA)** using the **AngularJS framework** that demonstrates data binding, MVC architecture, and the use of AngularJS directives to create a dynamic and interactive user interface.

Description:

AngularJS is an **open-source JavaScript framework** maintained by Google, designed to simplify the development of dynamic web applications. It follows the **Model-View-Controller (MVC)** architecture to separate the application logic, data, and presentation layers.

In AngularJS:

- The **Model** represents the data of the application, usually retrieved from the server.

- The **View** is the user interface (UI) that displays data and responds to user actions.

- The **Controller** acts as the bridge between the Model and View, containing the business logic to manipulate and present data.

AngularJS extends standard HTML with **ng-directives**, making it more powerful and expressive:

- ng-app – Defines the root of the AngularJS application.

- ng-init – Initializes application data (model values).

- ng-model – Binds the data of HTML input fields with the AngularJS model.

- ng-bind – Dynamically binds and displays data from the model into the view.

This structure allows developers to build **responsive, maintainable, and modular** single-page applications with two-way data binding, dependency injection, and reusable components.

Program:

```
<!DOCTYPE html>

<html ng-app="gradeApp">

<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Grade Evaluation System</title>

  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>

  <link rel="stylesheet" href="style.css">

</head>

<body ng-controller="gradeController">

  <div class="container">

    <!-- Header -->

    <div class="header">

      <h1>My College</h1>

    </div>

    <!-- Main Content -->

    <div class="content">

      <!-- Grade Evaluation Section -->

      <div class="evaluation-section">

        <h2 class="section-title">Grade Evaluation</h2>

        <!-- Student Information -->
```

```
<div class="form-group">

    <label for="studentName" class="label-text">Student Name</label>

    <input type="text" id="studentName" ng-model="student.name" placeholder="Enter student name" class="input-field">

</div>

<div class="form-group">

    <label for="studentRollNo" class="label-text">Student RollNo</label>

    <input type="text" id="studentRollNo" ng-model="student.rollNo" placeholder="Enter roll number" class="input-field">

</div>

<!-- Course Marks -->

<div class="form-group">

    <label for="course1" class="label-text">Course 1 Marks</label>

    <input type="number" id="course1" ng-model="student.course1" placeholder="Enter marks" class="input-field" min="0" max="100">

</div>

<div class="form-group">

    <label for="course2" class="label-text">Course 2 Marks</label>

    <input type="number" id="course2" ng-model="student.course2" placeholder="Enter marks" class="input-field" min="0" max="100">

</div>

<div class="form-group">

    <label for="course3" class="label-text">Course 3 Marks</label>

    <input type="number" id="course3" ng-model="student.course3" placeholder="Enter marks" class="input-field" min="0" max="100">
```

```
        </div>


        <div class="form-group">

            <label for="course4" class="label-text">Course 4 Marks</label>

            <input type="number" id="course4" ng-model="student.course4"
placeholder="Enter marks" class="input-field" min="0" max="100">

        </div>

        <div class="form-group">

            <label for="course5" class="label-text">Course 5 Marks</label>

            <input type="number" id="course5" ng-model="student.course5"
placeholder="Enter marks" class="input-field" min="0" max="100">

        </div>

        <!-- Find Grade Button -->

        <button ng-click="calculateGrade()" class="btn-find-grade">Find Grade</button>

    </div>

    <!-- Grade Details Section -->

    <div class="grade-details-section" ng-if="gradeCalculated">

        <h2 class="grade-details-title">Grade Details</h2>

        <div class="grade-details">

            <div class="detail-row">

                <div class="detail-label">Average Marks</div>

                <div class="detail-value">{{ averageMarks | number:1 }}</div>

            </div>

            <div class="detail-row">
```

```
                    <div class="detail-label">Grade</div>

                    <div class="detail-value grade-letter">{{ letterGrade }}</div>

                </div>

            </div>

        </div>

    </div>

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

</body>

</html>
```
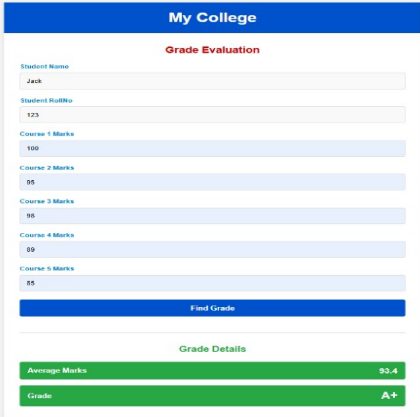
Output:

Result:

Successfully designed and implemented a web page that uses JavaScript to dynamically modify styles and create animations and executed.