

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

**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>

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

</body>

</html>
```

**Output:**

The screenshot shows a web application interface titled "My College". At the top, there is a header bar with the title "My College" and a "Grade Evaluation" section. Below this, there are several input fields for student information and course marks. The student name is listed as "Jack" and the roll number as "123". There are five course marks listed: Course 1 Marks (100), Course 2 Marks (95), Course 3 Marks (98), Course 4 Marks (89), and Course 5 Marks (85). A blue "Find Grade" button is located below these input fields. At the bottom of the page, there is a "Grade Details" section with two green bars. The first bar shows "Average Marks" with a value of "93.4". The second bar shows "Grade" with a value of "A+". The entire application has a clean, modern design with a white background and blue accents.

**Result:**

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