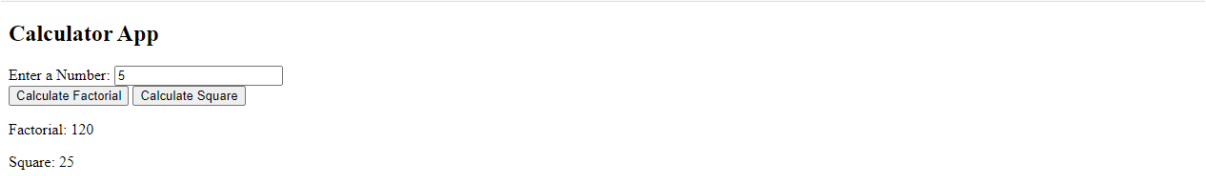
4.Write an Angular JS application that can calculate factorial and compute square based on given user input.

```
<!DOCTYPE html>
<html ng-app="calculatorApp">

<head>
  <title>AngularJS Calculator App</title>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>

<body ng-controller="calculatorCtrl">

  <h2>Calculator App</h2>

  <label for="numberInput">Enter a Number:</label>
  <input type="number" ng-model="userInput" placeholder="Enter a number">

  <br>

  <button ng-click="calculateFactorial()">Calculate Factorial</button>
  <button ng-click="calculateSquare()">Calculate Square</button>

  <br>

  <p ng-show="factorialResult">Factorial: {{ factorialResult }}</p>
  <p ng-show="squareResult">Square: {{ squareResult }}</p>

  <script>
    var app = angular.module('calculatorApp', []);

    app.controller('calculatorCtrl', function ($scope) {
      $scope.userInput = 0;
      $scope.factorialResult = null;
      $scope.squareResult = null;

      $scope.calculateFactorial = function () {
        $scope.factorialResult = getFactorial($scope.userInput);
      };

      $scope.calculateSquare = function () {
        $scope.squareResult = $scope.userInput * $scope.userInput;
      };

      function getFactorial(num) {
        if (num === 0 || num === 1) {
          return 1;
        } else {
          return num * getFactorial(num - 1);
        }
```

```
    }
  });
 </script>

</body>

</html>
```

OUTPUT:



In this Application Program, the AngularJS code creates an app named calculatorApp with a controller named calculatorCtrl. The controller has a default value for user input, and two functions, calculateFactorial and calculateSquare, that update the results based on the user input. The HTML contains input fields for the number, buttons to calculate the factorial and square, and paragraphs to display the results. The getFactorial function is a helper function to calculate the factorial recursilvely .

5. Develop AngularJS application that displays a details of students and their CGPA. Allow users to read the number of students and display the count. Note: Student details may be included in the program.

```
<!DOCTYPE html>
<html ng-app="studentApp">

<head>
  <title>AngularJS Student App</title>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>

<body ng-controller="studentCtrl">

  <h2>Student Details</h2>

  <label for="numberOfStudents">Enter the Number of Students:</label>
  <input type="number" ng-model="numberOfStudents">

  <button ng-click="displayStudentDetails()">Display Student Details</button>

  <br>

  <p ng-show="students.length > 0">Total Students: {{ students.length }}</p>

  <ul>
    <li ng-repeat="student in students">Name: {{ student.name }}, CGPA: {{ student.cgpa
}}</li>
  </ul>

  <script>
    var app = angular.module('studentApp', []);

    app.controller('studentCtrl', function ($scope) {
      $scope.students = [
        { name: 'John', cgpa: 3.5 },
        { name: 'Jane', cgpa: 3.8 },
        { name: 'Bob', cgpa: 3.2 }
      ];

      $scope.displayStudentDetails = function () {
        $scope.students = $scope.students.slice(0, $scope.numberOfStudents);
      };
    });
  </script>

</body>

</html>
```

OUTPUT:

Student Details

Enter the Number of Students: Display Student Details

Total Students: 3

- Name: John, CGPA: 3.5
- Name: Jane, CGPA: 3.8
- Name: Bob, CGPA: 3.2

Student Details

Enter the Number of Students: 2 Display Student Details

Total Students: 2

- Name: John, CGPA: 3.5
- Name: Jane, CGPA: 3.8