**PART A**

(Part A: TO BE REFFERED BY STUDENTS)

**Experiment No. 07**

**A.1 AIM:**

Implement basics of Angular JS by using directive, controller, expression, modules etc.

**A.2 Pre requisite:**

HTML, CSS, Javascripts

**A.3 Outcome:**

After successful completion of this experiment students will be able to:

1. Understand and implement directives, expressions, controllers, scope in Angular JS.
2. Understand the principles behind data binding in Angular JS.

**A.4 Theory:**

Angular JS is an open source framework built on javascript

Directives are markers on a DOM element (such as an attribute, element name, comment or CSS class) that tell AngularJS's HTML compiler ($compile) to attach a specified behavior to that DOM element (e.g. via event listeners), or even to transform the DOM element and its children.

AngularJS comes with a set of these directives built-in, like ng-app, ngBind, ngModel, ngClass

Ex:

<body>

<h1>Sample Application</h1>

<div ng-app = "My App">

<p>Enter your Name: <input type = "text" ng-model = "name"></p>

<p>Hello <span ng-bind = "name"></span>!</p>

</div>

<script src = "https://ajax.googleapis.com/ajax/libs/angularjs/1.3.14/angular.min.js"></script>

</body>

Expressions:

Expressions are used to bind application data to html.

Expressions are written inside double braces like {{ expression}}.

Expressions behaves in same way as ng-bind directives

Controller

In AngularJS, a Controller is defined by a JavaScript constructor function that is used to augment the AngularJS Scope.

Controllers can be attached to the DOM in different ways. For each of them, AngularJS will instantiate a new Controller object, using the specified Controller's constructor function:

use the ng-controller directive. A new child scope will be created and made available as an injectable parameter to the Controller's constructor function as $scope.

<script>

var app = angular

.module("myModule", [])

.controller("myController", function($scope){

$scope.technologies = [

{"href": 'http://www.pngmart.com/files/4/Cute-Cartoon-PNG-Picture.png', likes: 0, dislikes:0}];

$scope.incrementLike = function(technology){

technology.likes++ ;

}

});

</script>

Data Binding in Angular JS works in MVC. Any changes to the view are immediately reflected in the model,and any changes in the model are propagated to the view.

AngularJS directives are used to extend HTML. They are special attributes starting with **ng**-prefix. Let us discuss the following directives −

* **ng-app** − This directive starts an AngularJS Application.
* **ng-init** − This directive initializes application data.
* **ng-model** − This directive defines the model that is variable to be used in AngularJS.
* **ng-repeat** − This directive repeats HTML elements for each item in a collection.

Example

**testAngularJS.htm**

<html>

<head>

<title>AngularJS Directives</title>

</head>

<body>

<h1>Sample Application</h1>

<div ng-app = "" ng-init = "countries = [{locale:'en-US',name:'United States'},

{locale:'en-GB',name:'United Kingdom'}, {locale:'en-FR',name:'France'}]">

<p>Enter your Name: <input type = "text" ng-model = "name"></p>

<p>Hello <span ng-bind = "name"></span>!</p>

<p>List of Countries with locale:</p>

<ol>

<li ng-repeat = "country in countries">

{{ 'Country: ' + country.name + ', Locale: ' + country.locale }}

</li>

</ol>

</div>

<script src = "https://ajax.googleapis.com/ajax/libs/angularjs/1.3.14/angular.min.js">

</script>

The following directives are used to bind application data to the attributes of HTML DOM elements –

**ng-disabled**

disables a given control.

**ng-show**

shows a given control.

**ng-hide**

hides a given control.

**ng-click**

represents a AngularJS click event.

Example

The following example shows use of all the above mentioned directives.

**testAngularJS.htm**

<html>

<head>

<title>AngularJS HTML DOM</title>

</head>

<body>

<h2>AngularJS Sample Application</h2>

<div ng-app = "">

<table border = "0">

<tr>

<td><input type = "checkbox" ng-model = "enableDisableButton">Disable Button</td>

<td><button ng-disabled = "enableDisableButton">Click Me!</button></td>

</tr>

<tr>

<td><input type = "checkbox" ng-model = "showHide1">Show Button</td>

<td><button ng-show = "showHide1">Click Me!</button></td>

</tr>

<tr>

<td><input type = "checkbox" ng-model = "showHide2">Hide Button</td>

<td><button ng-hide = "showHide2">Click Me!</button></td>

</tr>

<tr>

<td><p>Total click: {{ clickCounter }}</p></td>

<td><button ng-click = "clickCounter = clickCounter + 1">Click Me!</button></td>

</tr>

</table>

</div>

<script src = "https://ajax.googleapis.com/ajax/libs/angularjs/1.3.14/angular.min.js">

</script>

</body>

**A.5 Procedure/Task:**

1. Implement following directives

ng-init, ng-model, ng-bind, ng-repeat

2. Designed angular JS application to change background color of page as per the color name entered in text box.



3. Implement 1-way and 2-way data binding

4. To create a shopping cart application with directives in Angular JS. The following directives are mandatory to use. However, students can explore more and use as per need.

* ng-app, ng-init, ng-model, ng-bind, ng-controller, ng-click, ng-repeat, ng-show, ng-hide, ng-disabled.

5. To create an application to implement likes/dislikes score change on button hit.

6. Prepare the document. Save and close the file and name it as **EXP07\_Name of Student**

**PART B**

(PART B: TO BE COMPLETED BY STUDENTS)

(Students must submit the soft copy as per following segments within two hours of the practical. The soft copy must be uploaded on the Blackboard or emailed to the concerned lab in charge faculties at the end of the practical in case the there is no Black board access available)

|  |  |
| --- | --- |
| Roll No. : | Name: |
| Class : | Batch : |
| Date of Experiment : | Date/Time of Submission : |
| Grade : |  |

**B.1 Code:**

*(Paste your Code here)*

**B.2 Output**

*(Take screen shots of the output at run time and paste it here)*

**B.3 Conclusion:**

*(Students must write the conclusion as per the attainment of individual outcome listed above)*

**B.3 Observations and Learning:**

*(Students must write their observations and learnings as per the attainment of individual outcome listed above)*