ASSIGNMENT 7

AIM:

Implement single page application using ng-route. Atleast four routes should be shown.

THEORY:

Angular Directives:

AngularJS 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 or even to transform the DOM element and its children.

Key Points:

Creating Custom Directives: AngularJS allows you to create custom directives to encapsulate complex DOM manipulations or reusable components. You can define a directive using the directive function of an AngularJS module.

```
angular.module('myApp', [])
.directive('myDirective', function() {
  return {
    restrict: 'E',
    template: '<div>This is my custom directive!</div>'
  };
});
```

Built-in Directives: AngularJS also provides several built-in directives for common tasks such as data binding (ng-bind), iteration (ng-repeat), conditional rendering (ng-if, ng-show, ng-hide), event handling (ng-click, ng-change), etc.

```
<div ng-controller="MyController">
  <p ng-bind="message"></p>
  <ul>
```

```
    <li ng-repeat="item in items">{{ item }}</li>
  </ul>
  <button ng-click="doSomething()">Click me</button>
</div>
```

Manipulating the DOM: Directives can manipulate the DOM, bind data to the DOM, and even create reusable components. They are useful for creating custom UI components, enhancing behavior, and separating concerns.

Angular Routing:

AngularJS provides a client-side router called ngRoute that allows you to build single-page applications with multiple views. It allows you to define different routes for different URLs and load the corresponding HTML templates and controllers dynamically without reloading the entire page.

Key Points:

Setting Up Routing: To use routing in AngularJS, you need to include the angular-route.js file and inject the ngRoute module as a dependency in your main application module.

```
<script src="angular.js"></script>
<script src="angular-route.js"></script>
```

javascript

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```
var app = angular.module('myApp', ['ngRoute']);
```

Defining Routes: Routes are defined using the $routeProvider service, which allows you to specify the URL path, template URL, controller, and other options for each route.

```
app.config(function($routeProvider) {
  $routeProvider
  .when('/home', {
```

```
    templateUrl: 'views/home.html',
    controller: 'HomeController'
  })
  .when('/about', {
    templateUrl: 'views/about.html',
    controller: 'AboutController'
  })
  .otherwise({
    redirectTo: '/home'
  });
});
```

Navigating Between Views: You can use the ng-view directive in your main HTML template to specify where the routed views should be rendered. Navigation between views is typically done using hyperlinks (<a> tags) with the href attribute pointing to the route path.

```
<a href="#/home">Home</a>
<a href="#/about">About</a>
```

Controllers and Templates: Each route can have its own controller and template. When a route is activated, AngularJS loads the specified template and associates it with the specified controller.

```
app.controller('HomeController', function($scope) {
  $scope.message = 'Welcome to the Home page!';
});
<!-- views/home.html -->
<div>{{ message }}</div>
```

AngularJS directives and routing are fundamental concepts in building dynamic and interactive web applications. Directives enable you to extend HTML with custom behavior, while routing allows you to create single-page applications with multiple views and manage navigation between them.

PROGRAM:

index.html

```
<!DOCTYPE html>
<html lang="en" ng-app="ecommerceApp">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Single Page E-commerce App</title>
    <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular-
route.min.js"></script>
    <script src="app.js"></script>
</head>
<body ng-controller="MainController">
    <header>
        <h1>Single Page E-commerce App</h1>
        <nav>
            <a href="#/">Home</a>
            <a href="#/products">Products</a>
            <a href="#/cart">Cart</a>
            <a href="#/checkout">Checkout</a>
        </nav>
    </header>

    <div ng-view></div>
</body>
</html>
```

```
var ecommerceApp = angular.module('ecommerceApp', ['ngRoute']);

ecommerceApp.config(function($routeProvider) {
    $routeProvider
    .when('/', {
        templateUrl: 'home.html',
        controller: 'HomeController'
    })
    .when('/products', {
        templateUrl: 'products.html',
        controller: 'ProductsController'
    })
    .when('/cart', {
        templateUrl: 'cart.html',
        controller: 'CartController'
    })
    .when('/checkout', {
        templateUrl: 'checkout.html',
        controller: 'CheckoutController'
    })
    .otherwise({
        redirectTo: '/'
    });
});

ecommerceApp.controller('MainController', function($scope) {
    // Main controller logic here
    $scope.message = 'Welcome to Store!';
});

ecommerceApp.controller('HomeController', function($scope) {
    // Home controller logic here
    $scope.message = 'Welcome to our Ecommerce Store!';
});

ecommerceApp.controller('ProductsController', function($scope) {
    // Products controller logic here
```

```
ecommerceApp.controller('CartController', function($scope) {
    // Cart controller logic here
    $scope.cartItems = [];

    $scope.addToCart = function(product) {
        $scope.cartItems.push(product);
    };
});

ecommerceApp.controller('CheckoutController', function($scope) {
    // Checkout controller logic here
    $scope.total = function() {
        var totalPrice = 0;
        angular.forEach($scope.cartItems, function(item) {
            totalPrice += item.price;
        });
        return totalPrice;
    };

    $scope.checkout = function() {
        // Perform checkout logic here
    };
});
```

home.html

```html
<div>
    <h2>Welcome to our store!</h2>
    <p>Explore our wide range of products.</p>
</div>

```

products.html

```html
<div>
    <h2>Our Products</h2>
    <ul>
        <li>Product 1</li>
        <li>Product 2</li>
        <li>Product 3</li>
    </ul>
</div>
```

cart.html

```html
<div>
    <h2>Your Shopping Cart</h2>
    <ul>
        <li>Product 1 - Quantity: 1</li>
        <li>Product 2 - Quantity: 2</li>
    </ul>
</div>

```

checkout.html

```html
<div>
    <h2>Checkout</h2>
    <form>
        <!-- Checkout form fields -->
    </form>
</div>
```