Subject: 20CS2036L – Web Technology Lab
Lab Exercise: 8. Web Application Development using AngularJS Framework(Duration: 2 hours)

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Instructions: Odd no's (Q1, Q3), Even no's (Q2, Q4)
Note: Apply your creativity to design the templates

Aim:
To develop website using HTML, CSS, and AngularJS client-side Model View Controller Framework.
Description:
AngularJS Architecture:
AngularJS is an open-source JavaScript framework developed and maintained by Google. It implements the MVC (Model View Controller) pattern to separate data, presentation, and logical components.

- The model is the driving force of the application. This is generally the data behind the application, usually fetched from the server.
- The view is the UI that the user sees and interacts with. It is dynamic, and generated based on the current model of the application.
- The controller is the business logic and presentation layer, which performs actions such as fetching data and makes decisions such as how to present the model, which parts of it to display, etc.

AngularJS Extends HTML:
AngularJS extends HTML with ng-directives.
The ng-app
o directive defines an AngularJS application
The ng-init
o directive used to create initial value(model) for the angular JS application.
The ng-model
o directive binds the value of HTML controls (input, select, textarea) to application data.
The ng-bind
o directive binds application data to the HTML view
ng-click
o used to trigger Angular JS function when the button is clicked
ng-repeat
o used to repeat the view data. Example; used for generating table rows, list items, etc
How to integrate AngularJS in HTML

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
    <script>
      var app = angular.module("myApp", []);
      app.controller("control", function ($scope) {
         //logic
      });
    </script>
  </head>
  <body ng-app="myApp" ng-controller="control">

  </body>
</html>
```

Q1: Employee Payroll Calculator

Create a web application for Employee Payroll calculation using AngularJS. Calculate the Employee payroll as given below when Calculate Salary button is clicked.

a. Calculate the gross salary = Basic Salary + HRA + DA

b. Calculate the net salary = gross salary – tax amount

c. Apply tax rate as follows

- for gross salary >20000 then tax rate is 5% of gross salary,
- for gross salary >40000 then tax rate is 10% of gross salary,
- for gross salary >60000 then tax rate is 15% of gross salary,
- for above 80000 then tax rate is 20% of gross salary,

Q2: Budget Calculator

Create a web application to develop the following Budget Calculator using AngularJS as given below. Here, the room rent, accessories, emergency and saving get as percentage (%), then divide the given amount based on the percentage and display each value in the place provided when the "Evaluate My Money" button is clicked.

Q3: Country matching filter

Design a matching filter using AngularJS. Filter the list of items that are matching with the input content. In AngularJS, filter is used get filtered subset of items from array items list based on user input filter key text.

Q4: Name matching filter

Design a matching filter using AngularJS. Filter the list of items that are matching with the input content. In AngularJS, filter is used get filtered subset of items from array items list based on user input filter key text.

SOURCE CODE:

Budget Calculator:

```
<!DOCTYPE html>
<html ng-app="budgetCalculatorApp">
<head>
  <title>Budget Calculator</title>
  <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #f0f0f0;
      margin: 0;
      padding: 0;
    }

    .container {
      max-width: 600px;
      margin: 50px auto;
      padding: 20px;
      background-color: #fff;
      border-radius: 10px;
```

```
            box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
        }

        .result-container {
            margin-top: 20px;
            text-align: center;
        }

        .result-box {
            display: inline-block;
            width: calc(25% - 20px);
            margin: 10px;
            padding: 10px;
            background-color: #007bff;
            color: #fff;
            border-radius: 5px;
            box-shadow: 0 0 5px rgba(0, 0, 0, 0.2);
        }

        h2 {
            text-align: center;
        }

        label {
            display: inline-block;
            width: 200px;
        }

        input[type="number"] {
            width: 150px;
            padding: 5px;
            border-radius: 5px;
            border: 1px solid #ccc;
        }

        button {
            margin-top: 10px;
            padding: 10px 20px;
            background-color: #007bff;
            color: #fff;
            border: none;
            border-radius: 5px;
            cursor: pointer;
        }

        button:hover {
            background-color: #0056b3;
        }

        p {
            margin: 5px 0;
        }
    </style>
</head>
```

```
<body>

<div class="container" ng-controller="BudgetController">
  <h2>Budget Calculator</h2>
  <label for="totalAmount">Total Amount:</label>
  <input type="number" id="totalAmount" ng-model="totalAmount">
  <br>

  <label for="roomRentPercentage">Room Rent Percentage (%):</label>
  <input type="number" id="roomRentPercentage" ng-model="roomRentPercentage">
  <br>

  <label for="accessoriesPercentage">Accessories Percentage (%):</label>
  <input type="number" id="accessoriesPercentage" ng-model="accessoriesPercentage">
  <br>

  <label for="emergencyPercentage">Emergency Percentage (%):</label>
  <input type="number" id="emergencyPercentage" ng-model="emergencyPercentage">
  <br>

  <label for="savingsPercentage">Savings Percentage (%):</label>
  <input type="number" id="savingsPercentage" ng-model="savingsPercentage">
  <br>

  <button ng-click="evaluateBudget()">Evaluate My Money</button>

  <div class="result-container">
    <h3>Results:</h3>
    <div class="result-box" style="background-color: #007bff;">Room Rent: {{ roomRent
}}</div>
    <div class="result-box" style="background-color: #ffc107;">Accessories: {{ accessories
}}</div>
    <div class="result-box" style="background-color: #28a745;">Emergency: {{ emergency
}}</div>
    <div class="result-box" style="background-color: #dc3545;">Savings: {{ savings }}</div>
  </div>
</div>

<script>
  angular.module('budgetCalculatorApp', [])
    .controller('BudgetController', function ($scope) {
      $scope.evaluateBudget = function () {
        var roomRentPercentage = $scope.roomRentPercentage / 100;
        var accessoriesPercentage = $scope.accessoriesPercentage / 100;
        var emergencyPercentage = $scope.emergencyPercentage / 100;
        var savingsPercentage = $scope.savingsPercentage / 100;

        var totalAmount = $scope.totalAmount;

        $scope.roomRent = totalAmount * roomRentPercentage;
        $scope.accessories = totalAmount * accessoriesPercentage;
        $scope.emergency = totalAmount * emergencyPercentage;
        $scope.savings = totalAmount * savingsPercentage;
      };
```

```
    });
</script>

</body>
</html>
```

Matching Filters:

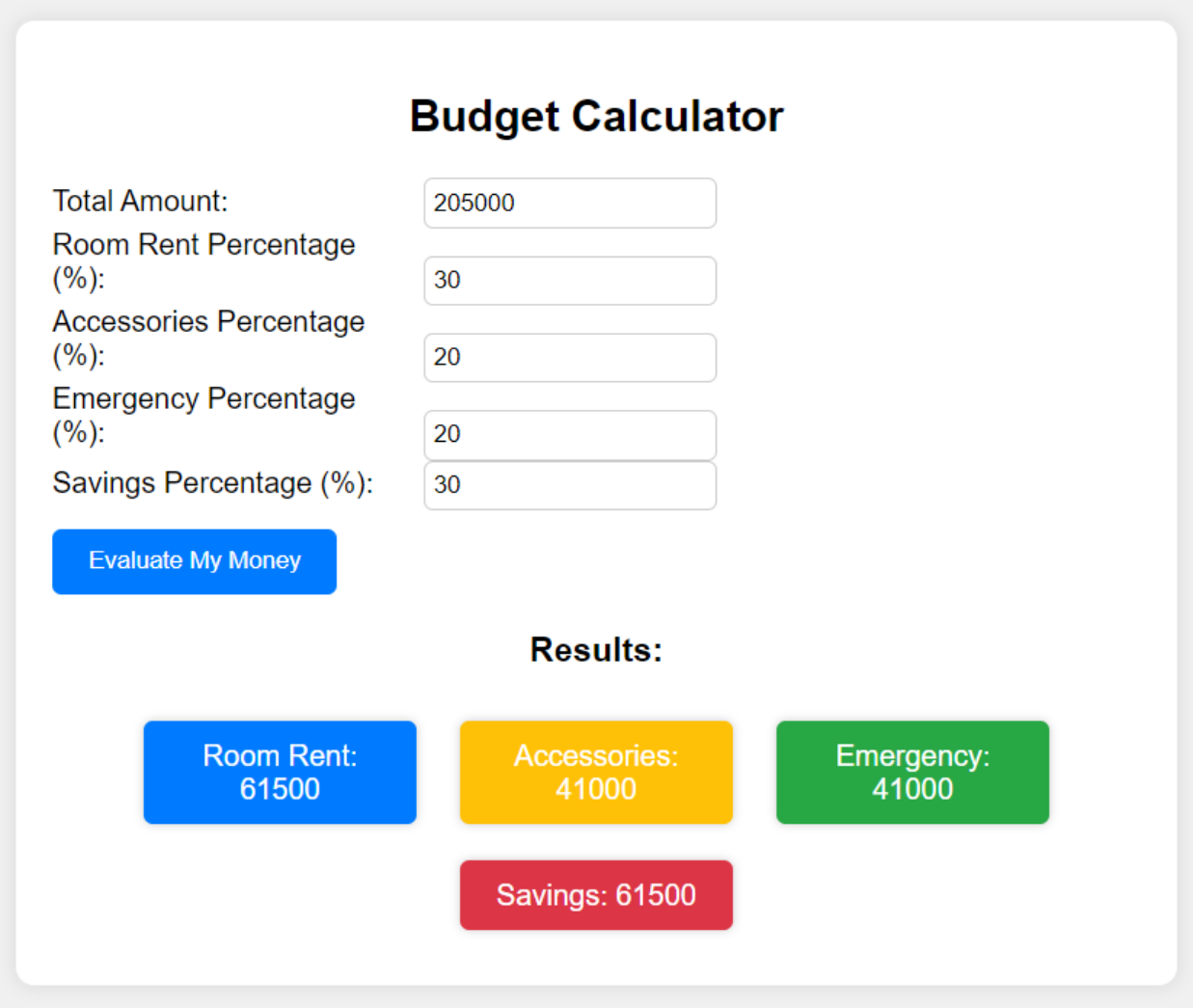
```
<!DOCTYPE html>
<html ng-app="matchingFilterApp">
<head>
  <title>Matching Filter</title>
  <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #f8f9fa;
      margin: 0;
      padding: 0;
    }

    .container {
      max-width: 600px;
      margin: 50px auto;
      padding: 20px;
      background-color: #fff;
      border-radius: 10px;
      box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
    }

    h2 {
      text-align: center;
      color: #007bff;
    }

    label {
      font-size: 18px;
      color: #333;
    }

    input[type="text"] {
      width: 100%;
      padding: 10px;
      font-size: 16px;
      border-radius: 5px;
      border: 1px solid #ccc;
      transition: border-color 0.3s ease-in-out;
    }

    input[type="text"]:focus {
      border-color: #007bff;
      outline: none;
```

```
        }

        ul {
            list-style-type: none;
            padding: 0;
        }

        li {
            display: none;
            padding: 10px;
            margin: 5px 0;
            background-color: #f9f9f9;
            border-radius: 5px;
            box-shadow: 0 2px 5px rgba(0, 0, 0, 0.1);
            transition: background-color 0.3s ease-in-out;
            cursor: pointer;
        }

        li:hover {
            background-color: #e9ecef;
        }

        li.show {
            display: block;
        }
    </style>
</head>
<body>

<div class="container" ng-controller="FilterController">
    <h2>Matching Filter</h2>
    <label for="searchInput">Search:</label>
    <input type="text" id="searchInput" ng-model="searchText" placeholder="Search for
items...">
    <br><br>

    <ul>
        <li ng-repeat="item in items | matchingFilter:searchText" ng-click="selectItem(item)" ng-
class="{ 'show': searchText }">
            {{ item }}
        </li>
    </ul>
</div>

<script>
    angular.module('matchingFilterApp', [])
        .controller('FilterController', function ($scope) {
            $scope.items = [
                'Aanama',
                'Madhu',
                'Bharath',
                'Manu',
                'Princy',
                'Aron',
```

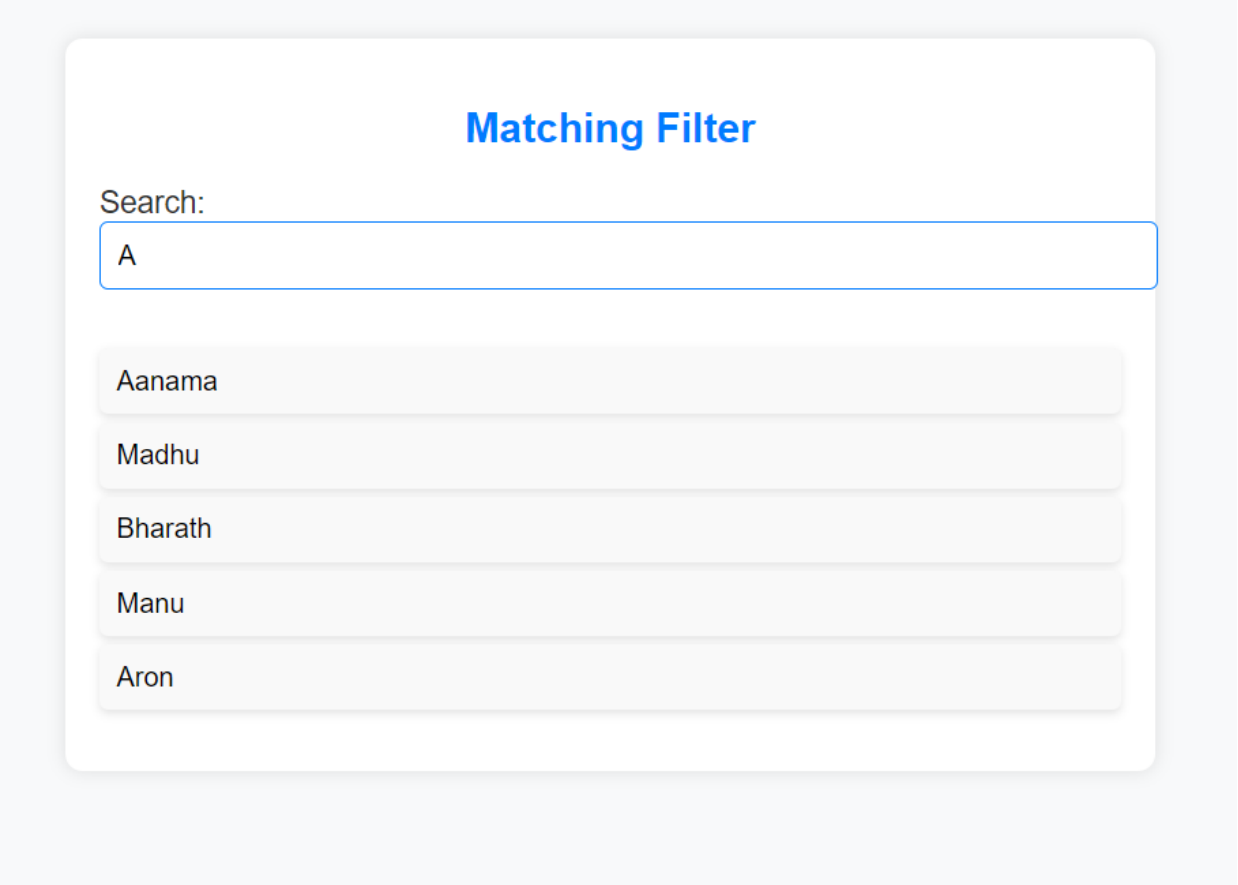
```
            'Dhuruv'
        ];

        $scope.selectItem = function (item) {
            alert('You selected: ' + item);
        };
    })
    .filter('matchingFilter', function () {
        return function (items, searchText) {
            if (!searchText) {
                return [];
            }

            searchText = searchText.toLowerCase();

            return items.filter(function (item) {
                return item.toLowerCase().includes(searchText);
            });
        };
    });
</script>

</body>
</html>
```

Output:

Budget Calculator:



Matching Filters:



Result:

Successfully developed Matching filter and Budget Calculator website using HTML, CSS, and AngularJS client-side Model View Controller Framework.