Integrated Mobile Applications Development

Lab 5 AngularJS Controllers, Filters

Part 1 - Controllers

1. Write an AngularJS application that has a Controller which is associated with an element.
   The Controller should contain code to print out "Hello from Controller" in an alert box.

   ```
   <body ng-app="myApp" ng-controller="MainController">
     </body>
   ```
   *************************** JS **********************************
   ```
   var app = angular.module("myApp", []);

   app.controller('MainController', function() {
     alert("Hello from Controller");
   });
   ```

2. Write an Angular JS application that has 2 Controllers – `MainController` and `SecondController`. Each Controller displays an alert saying "Hello from *ControllerName*" i.e. MainController or SecondController.
   The View (HTML) has 2 div elements - one of which is associated with the `MainController` and one which is not associated with any Controller.
   What alerts are shown and why?
   Just the MainContoller as the other is not called or referenced in the HTML file

3. Using the AngularJS application from the previous question associate the 2nd `div` element with `SecondController`.
   Now add a new `div` element which is also associated with `SecondController`.
   What alerts are shown and why?
   Both as both are mentioned in the HTML file

4. Write an AngularJS application that has the a $scope variable called myName which is your name.

   In the view show the value of myName and its length.

   Add another $scope variable called age which is your age.

   In the view show the age you were last year by using an expression.

```html
<div ng-controller="MainController">
    {{myName}}
    {{myName.length}}
    Age = {{age}}
 </div>
```

```
************************ JS ********************************
var app = angular.module("myApp", []);

app.controller('MainController', function($scope) {
  $scope.myName="James";
  $scope.age = 32;
});
```

5. Write an AngularJS application that has a $scope object called Connaught, which has the following properties:
   - population: 545000
   - numCounties: 5
   - counties: An array consisting of "Galway", "Leitrim", "Mayo", "Roscommon" and "Sligo".
   - largestTown: Galway
   - founded: November 12th 988
   - avgIndWage: 36500.00

   In the View, the following should be displayed:

Population: 545,000
Number of Counties: 5

1. Galway
2. Leitrim
3. Mayo
4. Roscommon
5. Sligo

Largest Town: GALWAY
Founded: AD 988
Average Industrial Wage: EUR 36,500.00

only text in **bold** should be hard-coded in the view.

```
<body ng-app="myApp">
    <div ng-controller="MainController">
     <b>Popluation:</b> {{Connaught.popluation}}
     <br>
     <b>Number of Counties:</b> {{Connaught.numCounties}}
     <ol>
      <li ng-repeat="x in Connaught.counties">
       {{x}}
      </li>
     </ol>
     <b>Largest Town:</b> {{Connaught.largestTown | uppercase}}
     <br>
     <b>Founded:</B> {{Connaught.founded | date :'GG y'}}
     <br>
     <b>Average Industrial Wage:</b> {{Connaught.avgIndWage | currency :"Eur ":
2}}
    </div>
 </body>
************************ JS ********************************
var app = angular.module("myApp", []);

app.controller('MainController', function($scope) {
 $scope.Connaught = {
   popluation: 545000,
   numCounties: 5,
   counties: ["Galway","Leitrim","Mayo","Roscommon", "Sligo"],
   largestTown: "Galway",
   founded: new Date('988-11-12'),
   avgIndWage: 36500.00
 }
});
```

6. Write an AngularJS application that allows the user to enter a name. Each time the "Add Name" button is pressed, the name just entered is added to an array of names which is then displayed in the view along with the number of characters in the name, as an ordered list.

The heading of the list should state the number of names in the array.

A "Remove Last Name" button should remove the last item in the array when pressed.

Tommy   Add Name

Remove Last Name

4 Names:

1. Paddy (5)
2. John (4)
3. Mickey (6)
4. Tommy (5)

var app = angular.module("myApp", []);

```
app.controller('MainController', function($scope) {
  $scope.list = [];
  $scope.addName = function(person) {
    $scope.list.push(person);
  }
  $scope.removeName = function() {
    $scope.list.pop();
  }
});
```

*********************** HTML **********************************

```
<body ng-app="myApp" ng-controller="MainController">
  <input type="text" ng-model="person"></input>
  <button ng-click="addName(person)">Add Name</button>
  <br><br>
  <button ng-click="removeName()">Remove Last
Name</button>
  <br><br>
  {{list.length}} Names:
  <ol>
  <li ng-repeat="name in list">{{name}}
({{name.length}})</li>
  </ol>
<body>
```

7. Write an AngularJS Shopping Basket Application that looks as follows:

Bread €1.99 [Add] [Remove]
Wine €10.12 [Add] [Remove]
Cheese €3.45 [Add] [Remove]

Bread Items: 1 Wine Items: 2 Cheese Items: 5
Total Price: €39.48

When the *Add* button is pressed, the relevant product is added to the shopping basket, the item count for that item increases by one, and the total price of items in the shopping basket is also increased by the price of the product.

When the *Remove* button is pressed, the relevant product is removed from the shopping basket – but only if at least one such product already exists in the shopping basket, the item count for that item decreases by one, and the total price of items in the shopping basket is also decreased by the price of the product.

The Product Name and Price can be hardcoded in the JS (not the HTML) part of the application.

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

app.controller('MainController', function($scope) {
  $scope.bread = 1.99;
  $scope.bCount = 0;
  $scope.wine = 10.12;
  $scope.wCount = 0;
  $scope.cheese = 3.45;
  $scope.cCount = 0;
  $scope.total = 0;
  $scope.addBread = function() {
    $scope.bCount++;
    $scope.total += $scope.bread;
  };
  $scope.removeBread = function() {
    if($scope.bCount>0){
      $scope.bCount--;
      $scope.total -= $scope.bread;
    }
  };
  $scope.addWine = function() {
    $scope.wCount++;
```

```javascript
      $scope.total += $scope.wine;
    };
    $scope.removeWine = function() {
      if($scope.wCount>0){
        $scope.wCount--;
        $scope.total -= $scope.wine;
      }
    };
    $scope.addCheese = function() {
      $scope.cCount++;
      $scope.total += $scope.cheese;
    };
    $scope.removeCheese = function() {
      if($scope.cCount>0){
        $scope.cCount--;
        $scope.total -= $scope.cheese;
      }
    };

});
```

*************************** HTML ********************************

```html
<body ng-app="myApp" ng-controller="MainController">
Bread {{bread | currency:"€"}}<button ng-click="addBread()">Add</button>
<button ng-click="removeBread()">Remove</button>
<br>
Wine {{wine|currency:"€"}} <button ng-click="addWine()">Add</button>
<button ng-click="removeWine()">Remove</button>
<br>
Cheese {{cheese|currency:"€"}}<button ng-click="addCheese()">Add</button>
<button ng-click="removeCheese()">Remove</button>
<br><br>
Bread Items: {{bCount}} Wine Items: {{wCount}} Cheese Items: {{cCount}}
<br>
Total Price: {{total | number : 2}}
<body>
```

8. Write an AngularJS Application that looks as follows:

Get Name | gerard.harrison@gmit.ie

First Char: g

Length: 23

Show every | 2 | character(s) | Go

eadhrio@mti

And has the following behaviour:
- The *Get Name* button, when pressed, allows the user to enter their name/email or any string, which is then displayed next to the button.

- The First character of the string entered, along with its length, is displayed.

- An input field allows the user to enter the characters of the name to be printed e.g. Every 1st, 2nd 3rd etc. character.

- If an invalid/negative number is entered the entire string is displayed.

- If a valid number is entered, e.g. 3, every 3rd character of the string should be displayed.

```html
<body ng-app="myApp" ng-controller="MainController">
    <button ng-click="getName()">Get Name</button>{{string}}
    <br>
    First Char: {{char}}
    <br>
    Length: {{num}}
    <br>
    Show every<input id="input" type="number"></input>Character(s)<button ng-click="go()">Go</button>
 <br>
 {{charGo}}
        </body>
```

```
************************* JS ********************************

var app = angular.module("myApp", []);
app.controller('MainController', function($scope) {
  $scope.getName = function() {
    $scope.string=(prompt("Enter name/email here:"));
    $scope.char = $scope.string[0];
    $scope.num = $scope.string.length;
  }
    $scope.go = function() {
      var count = parseInt(document.getElementById("input").value);
      $scope.charGo = "";
      if(count>0) {
        for(i=0;i<$scope.num;)
          {
            i=i+count;
            if(i>$scope.num) break;
            $scope.charGo += $scope.string[i-1];
          }
      }
      else {$scope.charGo = $scope.string;}
    }

});
```