

2019 SEMESTER 2 – Assignment 1

Course : DBI / DFI

Module : IT2656 / IT3645 – Mobile Services & Applications

<b>Name:</b>	
<b>Admin No.:</b>	
<b>Module Group:</b>	

**INSTRUCTIONS**

- 1) This is an **individual** assignment. The assignment is **75 marks** and constitutes **10%** of the total module marks.
- 2) Submit your Ionic **src** folder in a **zip** file to **Blackboard**. Do **NOT** submit the whole Ionic project folder.
- 3) **Late** submission will be **penalized**.
- 4) You will be graded for correctness of text and images, following the **screenshots**.
- 5) You will also be graded for **meaningful naming convention**. For e.g., use "course" and "comparePage", instead of "product" or "page1".

## Setup

1. Using **Ionic Command Line Interface (CLI)**, create an Ionic project.

```
D:

cd D:\IonicTest

set PATH=D:\Dev\nodejs;%PATH%

ionic start courseApp sidemenu
```

2. Download the zip file from **Blackboard**.  
Extract the **assets** folder from the zip file into **courseApp > src**.

3. Run your mobile app.

```
cd D:\IonicTest\courseApp

ionic serve
```

## Section A – List (20 marks)

1. Ensure that the **image** files are placed in **src/assets/img** folder.
2. In **src > app > shared > models**, create a **model** class **Course** with the following properties.

Course
<pre>title: string price: number picture: string rating: number icon: string</pre>

(2m)

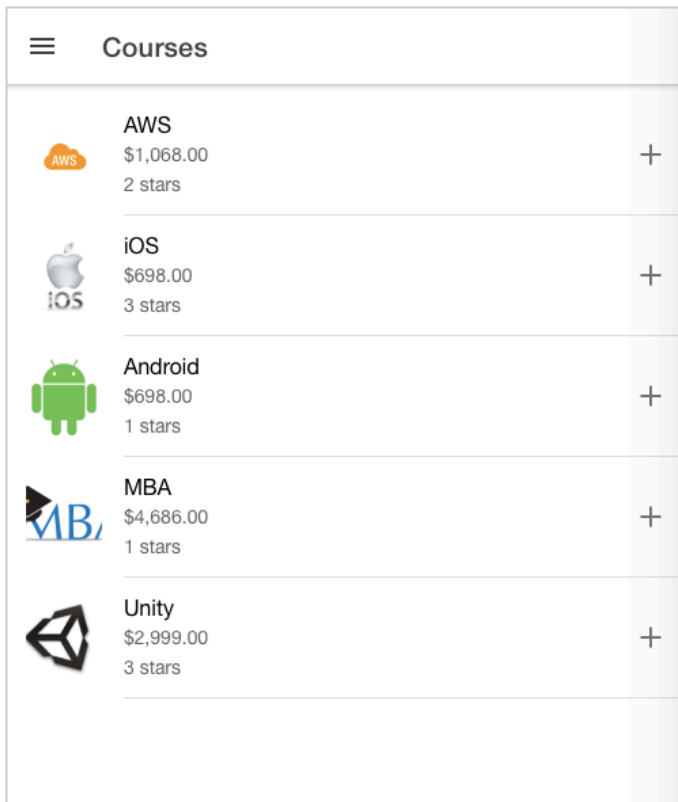
3. Open **List Page** **src > app > list > list.page.ts**, create a property **courseList**, an array of **Course**.

(1m)

4. In **ngOnInit()**, initialize the array **courseList** with the following **Course** objects.

title	price	picture	rating	icon
AWS	1068	assets/img/aws.png	2	add
iOS	698	assets/img/iOS.jpg	3	add
Android	698	assets/img/android.png	1	add
MBA	4688	assets/img/mba.png	1	add
Unity	2999	assets/img/unity.jpg	3	add

(2m)



5. Open **List Page** `src > app > list > list.page.html`, change the `<ion-title>` to `'Courses'`.

(1m)

6. In the **List Page HTML**, use `*ngFor` to display the list items from the array `courseList` as shown in the screenshot.

(5m)

7. Use `currency Pipe` to format each item's price.

(1m)

8. Add an icon at the right, with the icon name using the item's `icon` property. When the icon is clicked, it will toggle the `icon` property between `'add'` and `'add-circle'`. When the icon changes from `'add'` to `'add-circle'`, show a toast such as `'iOS added to Compare'`, with the message containing the item's `name`. When the icon changes from `'add-circle'` to `'add'`, show a toast such as `'AWS removed from Compare'`, with the message containing the item's `name`.

(5m)

9. Add a 'Pull to Refresh' feature. On refresh, change the icons of all the list items to `'add'`.

(3m)

## Section B – Grid (15 marks)

1. In `src > app > shared > models`, create a `model` class `Review` with the following properties.

Review
<pre> course: string comment: string name: string rating: number </pre>

(2m)

2. Use `ionic generate` to create a new service.

```
ionic generate service shared/services/review
```

(1m)

3. Copy the following code into **ReviewService**.

```
import { Injectable } from '@angular/core';
import { Review } from '../models/review';

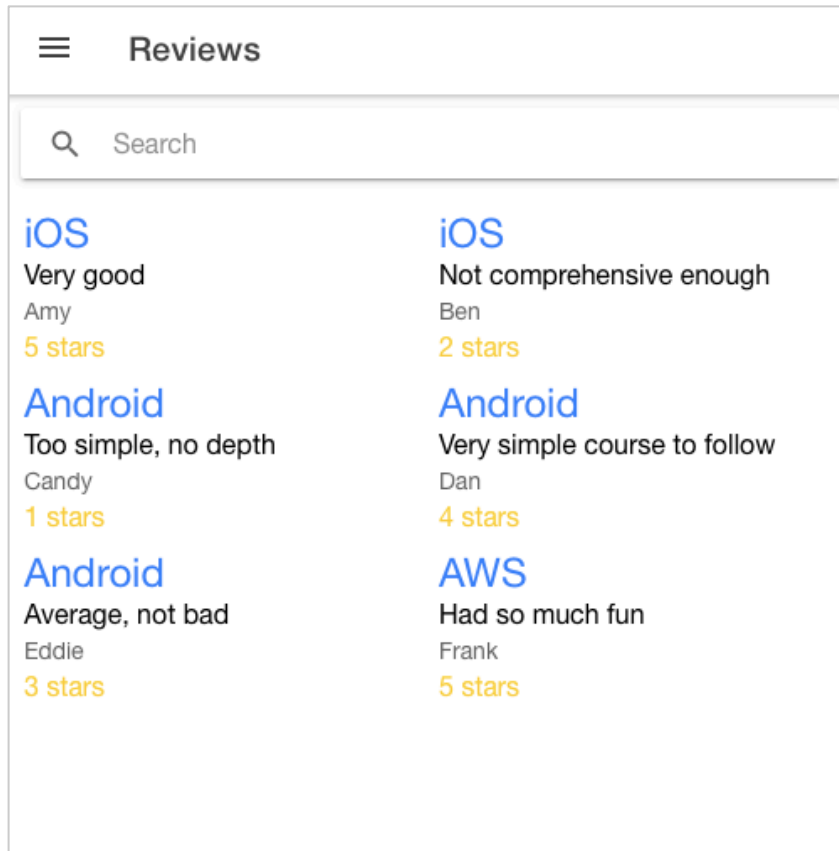
@Injectable({
  providedIn: 'root'
})
export class ReviewService {
  reviews: Review[];

  constructor() {
    this.reviews = [
      new Review('iOS', 'Very good', 'Amy', 5),
      new Review('iOS', 'Not comprehensive enough', 'Ben', 2),
      new Review('Android', 'Too simple, no depth', 'Candy', 1),
      new Review('Android', 'Very simple course to follow', 'Dan', 4),
      new Review('Android', 'Average, not bad', 'Eddie', 3),
      new Review('AWS', 'Had so much fun', 'Frank', 5)
    ];
  }

  getAll() {
    const promise = new Promise<Review[]>((resolve, reject) => {
      resolve(this.reviews);
    });
    return promise;
  }
}
```

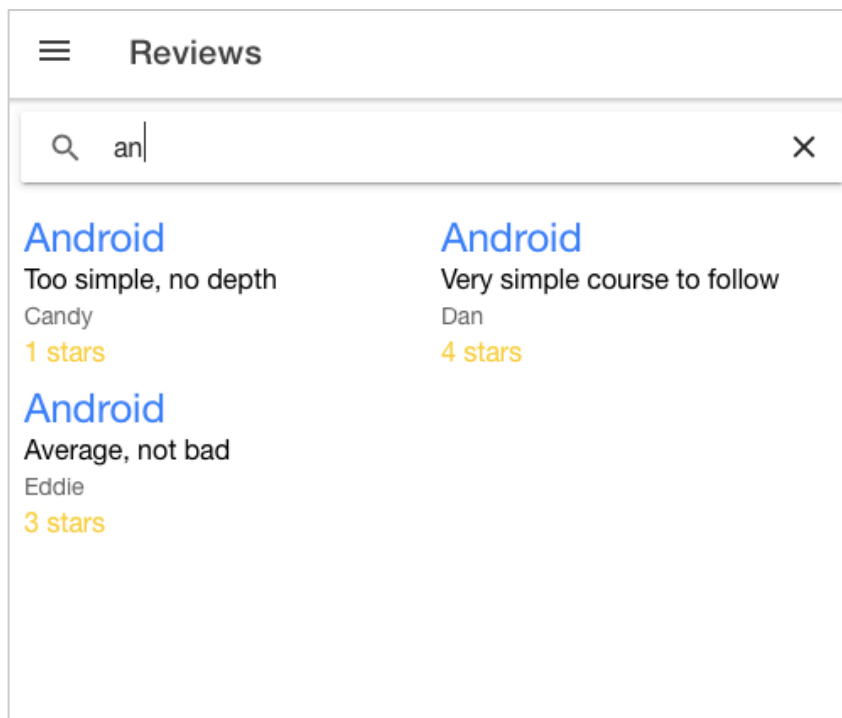
4. Open **Home Page** `src > app > home > home.page.ts`, inject **ReviewService** into **Home Page**.  
(1m)
5. Open **List Page** `src > app > list > list.page.html`, change the `<ion-title>` to `'Reviews'`.  
(1m)
6. In **Home Page**, call **ReviewService** `getAll()` method in `ngOnInit()` to initialize an array of **Review**.

Use `*ngFor` to show the reviews in a grid as shown in the following screenshot.



Hint: Use `<ion-label>`, `<h1>`, `<p>`, `color="primary"` and `color="warning"`. (5m)

7. Add a search bar to search by the **Review course** as seen in the following screenshot.



(5m)

## Section C – Service (30 marks)

1. Use `ionic generate service` to create a new service.

```
ionic generate service shared/services/compare
```

(1m)

2. In `CompareService`, add a property `compareItems`, methods `getCourses()`, `isInCompare()`, `add()` and `remove()`.

CompareService
<code>compareItems: Course[]</code>
<code>getCourses(): Course[]</code> <code>isInCompare(Course): boolean</code> <code>add(Course)</code> <code>remove(Course)</code>

The property `compareItems` is an array of `Course`.

The method `getCourses()` returns the `compareItems`.

The method `isInCompare()` returns `true` if the `compareItems` contains a `Course` with the same `title`. Else, it returns `false`.

The method `add()` adds a **Course** to `compareItems` if not already added.

The method `remove()` removes a **Course** from `compareItems` if it found in the array.  
(10m)

3. In **List Page**, inject **CompareService**.

When the user clicks on the item with icon `'add'`, in addition to the icon change to `'add-circle'`, call **CompareService** `add()` method.

When the user clicks on the item with icon `'add-circle'`, in addition to the icon change to `'add'`, call **CompareService** `remove()` method.

In 'Pull to Refresh', in addition to changing all the icons to `'add'`, call **CompareService** `remove()` method for all the items.

In `ngOnInit()`, call **CompareService** `isInCompare()` method. If the course is in compare, change the item icon to `'add-circle'`  
(5m)

4. Use `ionic generate` to create a new page **Compare Page**

```
ionic generate page compare
```

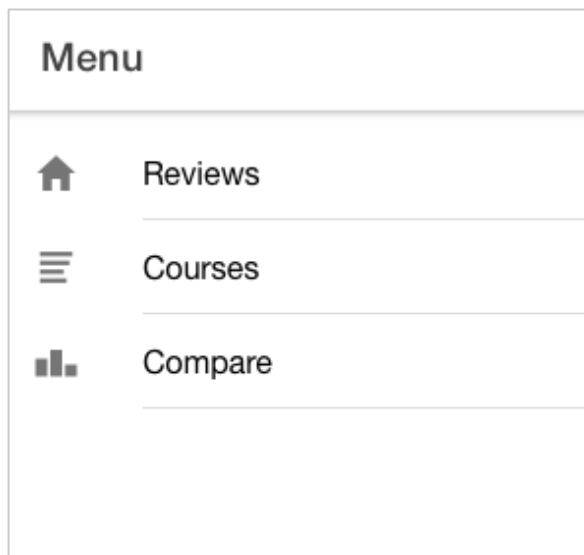
(1m)

5. Open `src > app > app.component.ts`.

Add **Compare Page** to side menu by adding to the array `appPages`.

Change the page titles as show in the screenshot.

**Hint:** Use the icon name `'podium'`.



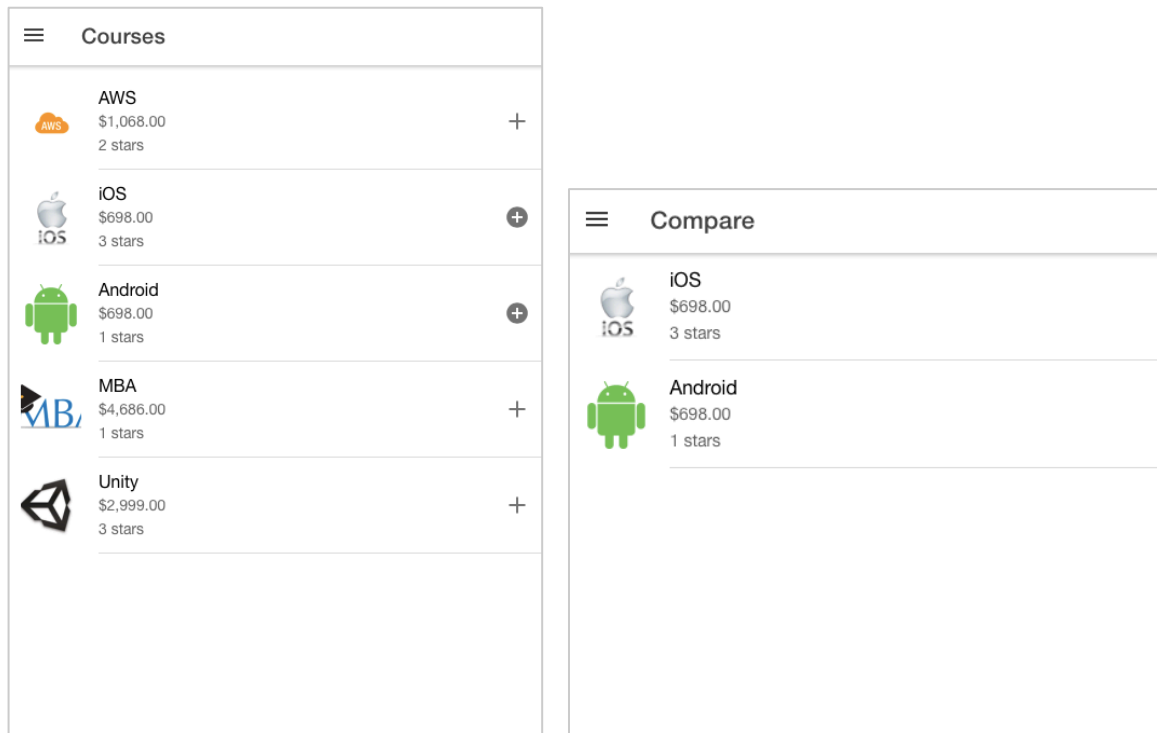
(3m)

6. In **Compare Page**, inject **CompareService**.

Change the `<ion-title>` to `'Compare'`.

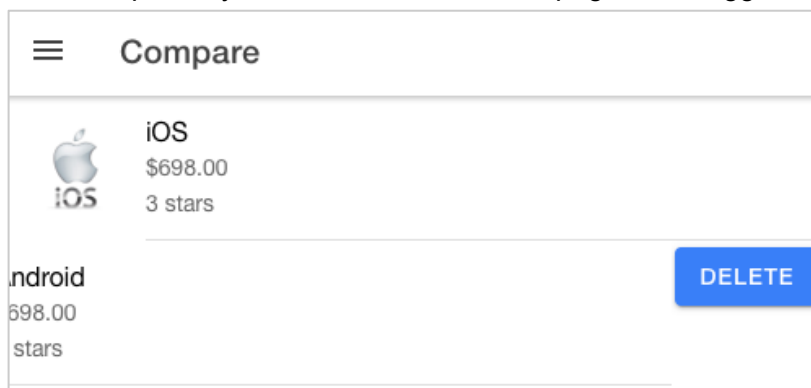
In `ngOnInit()`, call **CompareService** `getCourses()` method.

Use `*ngFor` to display the items added to compare from the **List Page**.



(5m)

7. In **Compare Page**, add 'Swipe to delete' to the sliding list in **Compare Page**.  
Swipe to reveal **"Delete"** option button on the **right**.  
When **"Delete"** button clicked, call **CompareService.remove()** method to remove the selected item.  
When swiped beyond half the width of the page, also trigger the delete function.



(5m)