# CMPS 312 Mobile Application Development
# Assessment # 1
# Deadline Thursday, September 9, 2021 At 3:00PM

## Question 1 [50%]

1. Create a new project and name it **BooksDonation**.
2. Copy the **data** folder under your lab repo **assignments/assignment1** into the root directory of your **BooksDonation** project. The **catalog-books.json** file contains the list of books that you will be to solve the questions listed in the table below.
3. Create a class named **Book** that is going to hold the objects of the **catalog-books.json.**

**[Hint:** This is similar to the exercise we did in Lab 3, Part B, reading a JSON file and parsing it]

4. Create an object named **BooksRepo** object in a new Kotlin file named **BooksRepo**
5. Inside the **BooksRepo**
    I. read the **catalog-books**.json and parse them into a list of Book objects.
    II. implement the functions shown in the table below
6. Create a test file called **BooksTest** that tests all **BooksRepo** methods.

| | |
|---|---|
| getBook(name: String) | Returns the book object if found otherwise "Not found" exception. |
| getBooksByPageCount(pageCount : Int) | Returns the books with pages >= the pageCount parameters. E.g. Calling the function with pageCount=200 should return all the books with pages >= 200. |
| getBooksByAuthor(author: String) | Returns all the books authored by that specific author.<br>**Note**: some books have more than one author. You should consider those too and return them as well. |
| getBooksbyCatagory(category: String) | Returns the books for a particular category.<br>E.g. Calling the function with *category = Programming* should return all the programming books. |

<table>
<tr>
<td>getAuthorsBookCount()</td>
<td>Returns a map that contains the author name and the number of books they have authored. E.g.
<table>
<tr><th>Author Name</th><th>Book Count</th></tr>
<tr><td>James</td><td>2</td></tr>
<tr><td>Ali</td><td>4</td></tr>
</table>
</td>
</tr>
</table>

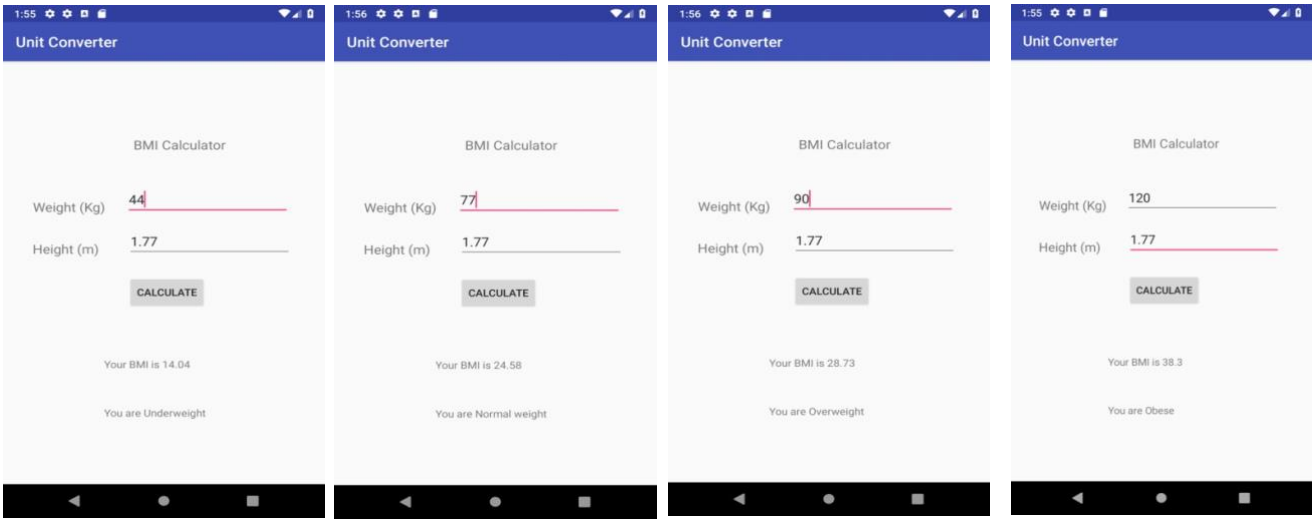
You should use built-in collection functions (.map, .reduce, .filter, .sort…), in your implementation. You should not use traditional loops such as while loops, for loops etc…. to solve the above questions

## Question 2 [50%]

Implement the following application that allows users to calculate their BMI and displays one of the following four message [**Underweight, Normal Weight, Overweight or Obesity** ]. You can use the following formulas to calculate the BMI of the user.

- **Underweight** = BMI<18.5 ,
- **Overweight** = BMI between 25–29.9 ,
- **Normal weight** = BMI between 18.5–24.9
- **Obesity** = BMI of 30 or greater

Below are the screenshots of the application.




## Deliverables:

After you complete the lab, fill in the **Lab1-TestingDoc-Grading-Sheet.docx** and save it inside the Assignments/Assignment1 folder in your repository. Your submission should be containing the **source code Android Studio project** and **the Testing Sheet**. Finally, sync your repository to push your work to Github.