MAP524 – Mobile App Development Android
Midterm Test – Practical Section

Instructions:

- I will use **Google Pixel 4XL API 27** to run your app so make sure your app runs properly on a simulator with the same configuration. If you are on MacBook with M1 chip, you can use the emulator that is compatible on your machine but make sure that you submit the video of the app execution in the drop box.
- Besides implementing the required functionality submissions are required to use the correct coding conventions used in class, professional organization of the code, alignment, clarity of names is all going to be part of the evaluation. Comments for code snippets are recommended but not required.
- **See the attached video demo for the expected look and behavior of the app.**

Task:

You are to create an Android app named **YOURFIRSTNAME_Friends** (such as Jack_Friends) as per the specifications given below, so that the app allows the user to maintain list of their friends.

Screen 1 : Add new friend

The first screen should allow the user to input details about their new friend such as their name, address, phone number and email. You must use the appropriate keyboard type for all inputs. Use appropriate layout and aesthetics for the views displayed on screen. Make sure text is legible on all views.

You must check that the name, phone number and address of a friend cannot be empty. Also make sure that the phone number is 10-12 characters only. Show appropriate error message to the user if any of these validations fail.

After providing all the valid data and clicking on a button, confirm the addition of new friend and the new friend's info must be added to the list of friends. Use appropriate mechanism practiced in the class such as classes and arrays to maintain list of friends.

Also display an options menu in the app bar that takes the user to the next screen to view list of friends and send the data along.

Screen 2: View friends list

This screen should display all the friends' information in a RecyclerView. Each item in the RecyclerView should display friend's name, phone number, email and address as shown in the attached demo video. If email of a friends is empty use the default value of "not provided" to be displayed on RecyclerView item.

Allow user to click on any item of RecyclerView and open next screen to view friend's address and user's location on map.

Screen 3: View location on map

This screen will perform appropriate geocoding to obtain latitude and longitude for selected friend's address. Using obtained lat and lng it will display location on map with friend's name. This screen will also display user's device location on map. Look at the given demo for appropriate labels for location annotations. Try to use locations that are nearby so that you can show multiple annotation in the frame.

Rubric:

Topic	Points
UI, look and feel, Aesthetics	05
Successfully able to read inputs, perform validation and perform click events of button & options menu item	05
Successfully able to represent friend information using class object and transfer data in appropriate format between the screens	10
Successfully able to display RecyclerView with all items and click on an item to perform operation	20
Successfully perform appropriate geocoding, display device location and friend's location on map	20

Submission Checklist:

- Write the comments containing your student ID, full name at top of each file.
- Once you complete the app, create the zip of your entire project folder using following steps:
  - In Android Studio, open "**Build**" menu and select "**Clean Project**".
  - Open "**File**" menu →select "**Export**" → select "**Export to zip file**".
  - **DO NOT** run your app after completing above-mentioned steps.
- Upload the exported **.zip** file in the submission box.
- A **screen-recording** of your app execution which should demonstrate all the functionalities and/or errors if you have any.
- In the comment section of your submission, write the **reflection** (approximately a paragraph) mentioning your experience developing the app, any difficulties that you have and how you manage to resolve them.