

National University of Computer and Emerging Sciences
Lahore Campus

Software for Mobile Devices (CS4039)

Date: May 22nd 2024

Course Instructor(s)

Mr. Waqas Ali

Final Exam

Total Time (Hrs.): 3

Total Marks: 85

Total Questions: 3

Roll No

Section

Student Signature

NOTE: This paper is open book and open notes. Cell Phones are not allowed.
Do not write below this line

Q1: Attempt all the parts.

[22 marks]


- Differentiate between the use of **SQLite Database** and **Google Firebase** in terms of their implementation and their data storage mechanism along with some **pros** and **cons** as well. [8 mark]
- Why we use **FirestoreOptions** while implementing **FirestoreAdapter**. Suppose you are going to fetch information of **CallLogs** from **Firestore**. Make object of **FirestoreOptions** for it with proper syntax. [7 marks]
- Write code snippet to show banner ads on **MainActivity** on **AdView** Tag while id of **AdView** tag is "avBanner". Write necessary code in **Manifest** file also if needed. [7 marks]


Q2: Write the **XML code** to design the given screen as shown right. Write complete necessary **backend code** in such a way that information of users should be saved in **SQLiteDatabase** so we can use it in future for the purpose of login. [20 marks]


Note: icons names in drawable file are:


- ic_person
- ic_email
- ic_lock

SIGN UP

 Alif Emu

 user123@gmail.com

 *****

 *****

SIGN UP

already have an account? Sign in

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Q3: Suppose you are going to develop an application to store following information in the firebase realtime database. **[43 Marks]**

- Full Name (e.g. Ali)
- Address (e.g. G.E.C.H.S Phase 2, Link Road Model Town Lahore)
- Ride Starting Point (e.g. Model Town)
- Ride End Point (e.g. Lake City)
- Fare (e.g. 1,500)
- CNIC (e.g. 12345-6789012-3)
- Date (Current system's date)

NOTE: Don't write XML code for this question. Only backend required. You can assume ids of all Views in backend by your own. For example, id for full name is etFName.

1. When user will click on the Save button, your code should add the current record under "**Rider**" node in firebase with unique parent node for each record. **[8 marks]**
2. Write java code to check record from firebase having "**35202-2368060-3**" as value of cnic that from where he/she booked the ride. **[10 marks]**
3. Take two dates from user and show all riders in this range on an Activity using recyclerview in such a way that if user will long click on any customer, it will show a dialog form to user which will show the clicked record on it having two buttons "delete" and "update". If user will click on delete button, this record must be deleted from the firebase, while if user click on update button, the record should be updated accordingly with updated values. **[20 marks]**
Note: For part-3, don't need to update values of all the attributes of Rider, you need to think that which attribute can be updated. For example, Date of rider can't be updated because it was system's date, so you don't need EditText for it to show on the dialog.
4. Show interstitial Ads to user when dialog (from part 3) will be closed. No need to write callback methods of Ad such as AdClosed(), etc. **[5 marks]**