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Division: **O**

Batch: 2

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Roll Number: 42

Subject: Mobile Application Development

Assignment 1

Problem Statement:Develop an application that makes use of database.

Program Code:

Activity.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/userid"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="user ID" />

    <EditText
```

```
        android:id="@+id/name"

        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="Name" />

<EditText

        android:id="@+id/email"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="email" />

<EditText

        android:id="@+id/username"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="username" />

<EditText

        android:id="@+id/password"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="password" />

<Button

        android:id="@+id/insert"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="3dp"
        android:text="Insert"
        android:textAllCaps="false" />

<Button
```

```
        android:id="@+id/update"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_margin="2dp"

        android:text="Update"

        android:textAllCaps="false" />

<Button

    android:id="@+id/delete"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_margin="2dp"

    android:text="delete"

    android:textAllCaps="false" />

<Button

    android:id="@+id/Read"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_margin="2dp"

    android:text="Read"

    android:textAllCaps="false" />

</LinearLayout>
```

```
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

    xmlns:app="http://schemas.android.com/apk/res-auto"

    xmlns:tools="http://schemas.android.com/tools"

    android:layout_width="match_parent"

    android:layout_height="200dp">

    <EditText
```

```
        android:id="@+id/editTextTextuserId"
        android:layout_width="301dp"
        android:layout_height="49dp"
        android:layout_marginTop="36dp"
        android:ems="10"
        android:hint="userId"
        android:inputType="text"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.354"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

DBHandler->

```
package com.example.mad_ha5;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

public class DBHandler extends SQLiteOpenHelper {

    public static final String DB_NAME = "studData";
    public static final int DB_VERSION = 1;
    public static final String TABLE_NAME = "data";
    public static final String ID_COL = "id";
    public static final String NAME_COL = "name";
    public static final String DURATION_COL = "email";
    public static final String DESCRIPTION_COL = "username";
```

```
public static final String TRACKS_COL = "tracks";  
public static final String PASS_COL = "pass";  
  
public DBHandler(Context context) {  
    super(context, DB_NAME, null, DB_VERSION);  
}  
  
@Override  
public void onCreate(SQLiteDatabase db) {  
    String query = "CREATE TABLE " + TABLE_NAME + " (" +  
        + ID_COL + " INTEGER PRIMARY KEY AUTOINCREMENT, " +  
        + NAME_COL + " TEXT, " +  
        + DURATION_COL + " TEXT, " +  
        + DESCRIPTION_COL + " TEXT, " +  
        + PASS_COL + " TEXT, " +  
        + TRACKS_COL + " TEXT)";  
    db.execSQL(query);  
}  
  
public void insert(String datauserid, String name, String email, String  
username, String passs) {  
    SQLiteDatabase db = this.getWritableDatabase();  
    ContentValues values = new ContentValues();  
    values.put(NAME_COL, datauserid);  
    values.put(DURATION_COL, name);  
    values.put(DESCRIPTION_COL, email);  
    values.put(TRACKS_COL, username);  
    values.put(PASS_COL, passs);  
    db.insert(TABLE_NAME, null, values);  
    db.close();  
}  
  
public int deleteDataByUserId(String userId) {
```

```
        SQLiteDatabase db = this.getWritableDatabase();

        String selection = NAME_COL + " = ?";

        String[] selectionArgs = {userId};

        return db.delete(TABLE_NAME, selection, selectionArgs);

    }

    public Cursor getDataByUserId(String userId) {

        SQLiteDatabase db = this.getReadableDatabase();

        String[] projection = {ID_COL, NAME_COL, DURATION_COL,
DESCRIPTION_COL, TRACKS_COL, PASS_COL};

        String selection = NAME_COL + " = ?";

        String[] selectionArgs = {userId};

        return db.query(TABLE_NAME, projection, selection, selectionArgs,
null, null, null);

    }

    @Override

    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion)
    {

        db.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME);

        onCreate(db);

    }

}
```

```
package com.example.mad_ha5;

import android.app.AlertDialog;
import android.content.DialogInterface;
import android.database.Cursor;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.View;
```

```
import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    // creating variables for our edittext, button and dbhandler
    private EditText userid, name, email, username, password;

    private Button insert, update, delete, read;

    private DBHandler dbHandler;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        userid = findViewById(R.id.userid);

        name = findViewById(R.id.name);

        email = findViewById(R.id.email);

        username = findViewById(R.id.username);

        password = findViewById(R.id.password);

        insert = findViewById(R.id.insert);

        update = findViewById(R.id.update);

        delete = findViewById(R.id.delete);

        read = findViewById(R.id.Read);

        dbHandler = new DBHandler(MainActivity.this);

        insert.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                String datauserid = userid.getText().toString();

                String dataname = name.getText().toString();
```

```
String dataemail = email.getText().toString();

String datausername = username.getText().toString();

String datapassword = password.getText().toString();


    if (datauserid.isEmpty() && dataname.isEmpty() &&
dataemail.isEmpty() && datausername.isEmpty()) {

        Toast.makeText(MainActivity.this, "Please enter all the
data..", Toast.LENGTH_SHORT).show();

        return;

    }

    dbHandler.insert(datauserid, dataname, dataemail,
datausername, datapassword);

    Toast.makeText(MainActivity.this, "Data has been added.",
Toast.LENGTH_SHORT).show();

    clearFields();

}

});

update.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        showReadDialog();

    }

});

read.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        showReadDialog();

    }

});

delete.setOnClickListener(new View.OnClickListener() {
```



```
@Override

    public void onClick(View v) {

        showDeleteDialog();

    }

});

}

private void showUpdateDialog() {

    AlertDialog.Builder dialogBuilder = new AlertDialog.Builder(this);

    LayoutInflater inflater = this.getLayoutInflater();

    View dialogView = inflater.inflate(R.layout.dialog_delete, null);

    final EditText editTextUserId =
dialogView.findViewById(R.id.editTextTextuserid);

    dialogBuilder.setView(dialogView);

    dialogBuilder.setTitle("Update Data");

    dialogBuilder.setPositiveButton("Update", new
DialogInterface.OnClickListener() {

        public void onClick(DialogInterface dialog, int whichButton) {

            String userId = editTextUserId.getText().toString();

            if(userId.isEmpty()){

                Toast.makeText(MainActivity.this, "Please enter the
data..", Toast.LENGTH_SHORT).show();

            }else{

                // Fetch data associated with the entered user ID and update
EditTexts

                // You need to implement this logic using your DBHandler
methods

            }

        }

    });

    dialogBuilder.setNegativeButton("Cancel", new
DialogInterface.OnClickListener() {
```

```
        public void onClick(DialogInterface dialog, int whichButton) {  
            // Cancelled, do nothing  
        }  
    });  
  
    AlertDialog b = dialogBuilder.create();  
    b.show();  
}  
  
private void showReadDialog() {  
    AlertDialog.Builder dialogBuilder = new AlertDialog.Builder(this);  
    LayoutInflater inflater = this.getLayoutInflater();  
    View dialogView = inflater.inflate(R.layout.dialog_delete, null);  
  
    final EditText editTextUserId =  
dialogView.findViewById(R.id.editTextTextuserId);  
  
    dialogBuilder.setView(dialogView);  
  
    dialogBuilder.setTitle("Read Data");  
  
    dialogBuilder.setPositiveButton("Read", new  
DialogInterface.OnClickListener() {  
        public void onClick(DialogInterface dialog, int whichButton) {  
            String userId = editTextUserId.getText().toString();  
            Cursor cursor = dbHelper.getDataByUserId(userId);  
            if (cursor != null && cursor.moveToFirst()) {  
                // Fetch data from cursor and set it to EditTexts  
                String name1 =  
cursor.getString(cursor.getColumnIndex(DBHandler.NAME_COL));  
                String email2 =  
cursor.getString(cursor.getColumnIndex(DBHandler.DURATION_COL));  
                String username2 =  
cursor.getString(cursor.getColumnIndex(DBHandler.DESCRPTION_COL));  
                String password2 =  
cursor.getString(cursor.getColumnIndex(DBHandler.PASS_COL));  
  
                userid.setText(userId);  
                name.setText(name1);  
                email.setText(email2);  
            }  
        }  
    });  
}
```

```
        username.setText(username2);

        password.setText(password2);

    } else {

        // No data found for the given user ID

        Toast.makeText(MainActivity.this, "No data found for the
given user ID", Toast.LENGTH_SHORT).show();

    }

    if (cursor != null) {

        cursor.close();

    }

}

});

dialogBuilder.setNegativeButton("Cancel", new
DialogInterface.OnClickListener() {

    public void onClick(DialogInterface dialog, int whichButton) {

        // Cancelled, do nothing

    }

});

AlertDialog b = dialogBuilder.create();

b.show();

}

private void showDeleteDialog() {

    AlertDialog.Builder dialogBuilder = new AlertDialog.Builder(this);

    LayoutInflater inflater = this.getLayoutInflater();

    View dialogView = inflater.inflate(R.layout.dialog_delete, null);

    final EditText editTextUserId =
dialogView.findViewById(R.id.editTextTextuserId);

    dialogBuilder.setView(dialogView);

    dialogBuilder.setTitle("Delete Data");
```

```
        dialogBuilder.setPositiveButton("Delete", new
DialogInterface.OnClickListener() {

            public void onClick(DialogInterface dialog, int whichButton) {

                String userId = editTextUserId.getText().toString();

                int rowsDeleted = dbHelper.deleteDataByUserId(userId);

                if (rowsDeleted > 0) {

                    // Data deleted successfully

                    Toast.makeText(MainActivity.this, "Data deleted
successfully", Toast.LENGTH_SHORT).show();

                    clearFields(); // Clear EditText fields after deletion

                } else {

                    // No data found for the given user ID

                    Toast.makeText(MainActivity.this, "No data found for the
given user ID", Toast.LENGTH_SHORT).show();

                }

            }

        });

        dialogBuilder.setNegativeButton("Cancel", new
DialogInterface.OnClickListener() {

            public void onClick(DialogInterface dialog, int whichButton) {

                // Cancelled, do nothing

            }

        });

        AlertDialog b = dialogBuilder.create();

        b.show();

    }

    private void clearFields() {

        userid.setText("");

        name.setText("");

        email.setText("");

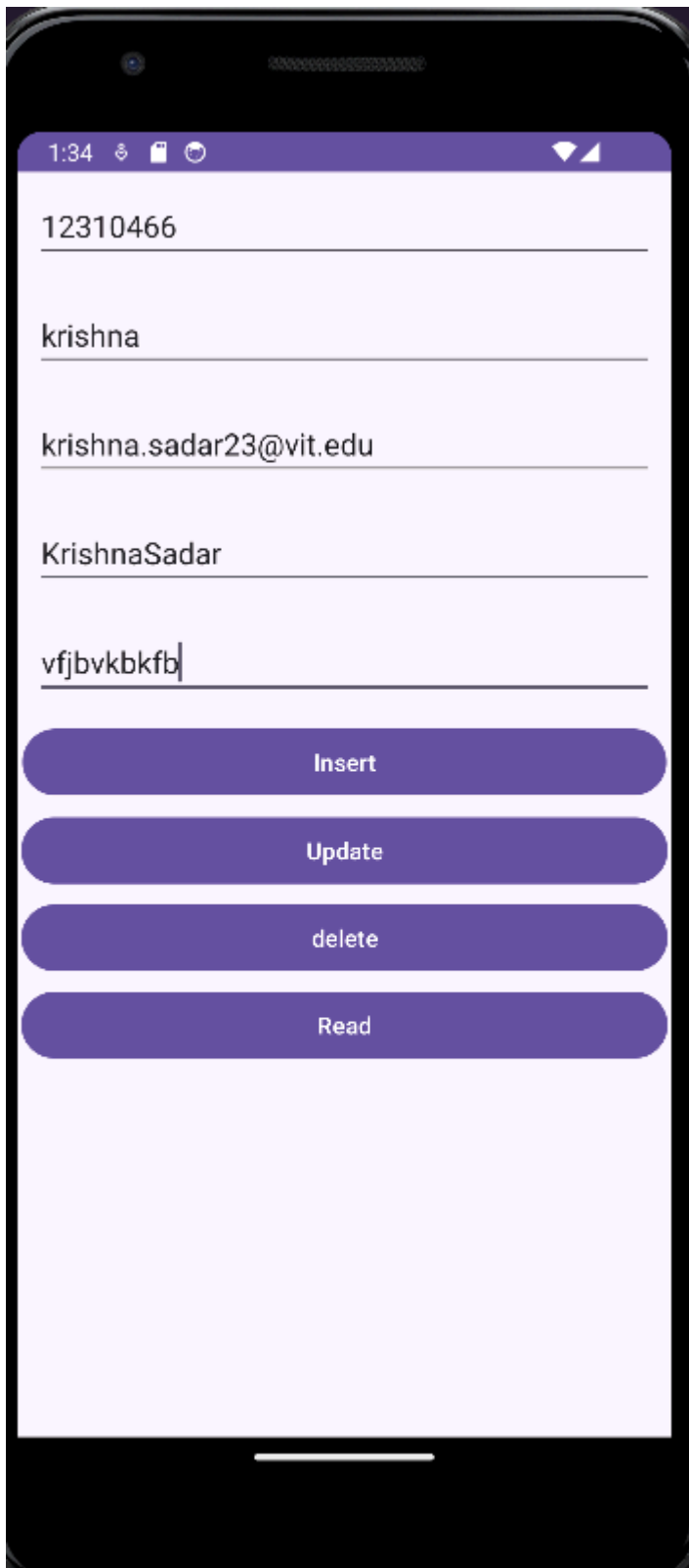
        username.setText("");

    }

}
```

```
password.setText("");  
  
}  
}
```

Output:



1:34

12310466

krishna

krishna.sadar23@vit.edu

KrishnaSadar

vfjbvkbkfb|

Insert

Update

delete

Read

