Android Assignment 5

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Q1. Create Following Table:
Emp (emp_no, emp_name, address, phone, salary)
Dept (dept_no, dept_name, location)
Emp-Dept is related with many-one relationship. Create a java android application for performing the following operations on the table.
(Using sqlite database)
1) Add Records into Emp and Dept table.
2) Accept Department name from User and delete employee information which belongs to that department.

MainActivity.java

package com.example.a5q1;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

```java
    Button empInsertBtn, deptInsertBtn, deleteBtn, viewEmpBtn,
viewDeptBtn;
    EditText empNo, empName, empAddr, empPhone, empSal, FK,
deptNo, deptName, deptLoc;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        empNo = findViewById(R.id.empNo);
        empName = findViewById(R.id.empName);
        empAddr = findViewById(R.id.empAddr);
        empPhone = findViewById(R.id.empPhone);
        empSal = findViewById(R.id.empSal);
        FK = findViewById(R.id.FK);
        deptNo = findViewById(R.id.deptNo);
        deptName = findViewById(R.id.deptName);
        deptLoc = findViewById(R.id.deptLoc);

        empInsertBtn = findViewById(R.id.empInsertBtn);
        deptInsertBtn = findViewById(R.id.deptInsertBtn);
        deleteBtn = findViewById(R.id.deleteBtn);
        viewEmpBtn = findViewById(R.id.viewEmpBtn);
        viewDeptBtn = findViewById(R.id.viewDeptBtn);

        DatabaseHandler db = new DatabaseHandler(this);

        empInsertBtn.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {

                String empNotxt = empNo.getText().toString();
                String empNametxt = empName.getText().toString();
```

```java
            String empAddrtxt = empAddr.getText().toString();
            String empPhonetxt = empPhone.getText().toString();
            String empSaltxt = empSal.getText().toString();
            String FKtxt = FK.getText().toString();

            boolean insertResult = db.insertEmpRecord(empNotxt,
empNametxt, empAddrtxt, empPhonetxt, empSaltxt, FKtxt);

            if(insertResult == true) {
                Toast.makeText(MainActivity.this, "Record inserted
successfully!", Toast.LENGTH_LONG).show();
            }
            else {
                Toast.makeText(MainActivity.this, "Record not
inserted!", Toast.LENGTH_LONG).show();
            }
        }
    });

    deptInsertBtn.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {

            String deptNotxt = deptNo.getText().toString();
            String deptNametxt = deptName.getText().toString();
            String deptLoctxt = deptLoc.getText().toString();

            boolean insertResult = db.insertDeptRecord(deptNotxt,
deptNametxt, deptLoctxt);

            if(insertResult == true) {
                Toast.makeText(MainActivity.this, "Record inserted
successfully!", Toast.LENGTH_LONG).show();
            }
```

```java
            else {
                Toast.makeText(MainActivity.this, "Record not
inserted!", Toast.LENGTH_LONG).show();
            }
        }
    });

    viewEmpBtn.setOnClickListener(new
View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Cursor curResult = db.getData1();
            if(curResult.getCount()==0) {
                Toast.makeText(MainActivity.this, " Employee table
is empty !", Toast.LENGTH_LONG).show();
                return;
            }
            StringBuffer buffer = new StringBuffer();
            while (curResult.moveToNext()) {
                buffer.append("EmpNo: " + curResult.getString(0)+
"\n");
                buffer.append("EmpName: " +
curResult.getString(1)+ "\n");
                buffer.append("Address: " + curResult.getString(2)+
"\n");
                buffer.append("Phone No.: " +
curResult.getString(3)+ "\n");
                buffer.append("Salary: " + curResult.getString(4)+ "\
n");
                buffer.append("Dept_no:" + curResult.getString(5)+
"\n\n");
            }

            AlertDialog.Builder builder = new
AlertDialog.Builder(MainActivity.this);
```

```java
            builder.setCancelable(true);
            builder.setTitle("Employee data: ");
            builder.setMessage(buffer);
            builder.show();
        }
    });

        viewDeptBtn.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Cursor curResult = db.getData2();
                if(curResult.getCount()==0) {
                    Toast.makeText(MainActivity.this, " Department table
is empty !", Toast.LENGTH_LONG).show();
                    return;
                }
                StringBuffer buffer = new StringBuffer();
                while (curResult.moveToNext()) {
                    buffer.append("Dept_No: " + curResult.getString(0)+
"\n");
                    buffer.append("Dept_Name: " +
curResult.getString(1)+ "\n");
                    buffer.append("Dept_Loc: " + curResult.getString(2)+
"\n\n");
                }

                AlertDialog.Builder builder = new
AlertDialog.Builder(MainActivity.this);
                builder.setCancelable(true);
                builder.setTitle("Department data: ");
                builder.setMessage(buffer);
                builder.show();
            }
        });
```

```java
        deleteBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String deptNotxt = deptNo.getText().toString();
                Boolean deleteData = db.deleteData(deptNotxt);
                if(deleteData == true)
                {
                    Toast.makeText(MainActivity.this,"Employee Deleted
successfully",Toast.LENGTH_LONG).show();
                }
                else
                {
                    Toast.makeText(MainActivity.this," NOT deleted
",Toast.LENGTH_LONG).show();
                }
            }
        });
    }
}
```

DatabaseHandler.java

```java
package com.example.a5q1;

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

import androidx.annotation.Nullable;

public class DatabaseHandler extends SQLiteOpenHelper {
```

```java
public DatabaseHandler(@Nullable Context context) {
    super(context, "Emp_Dept_DB", null, 1);
}

@Override
public void onCreate(SQLiteDatabase db) {
    db.execSQL("create table employee(emp_no INTEGER primary key, emp_name VARCHAR(30), address TEXT, phone INTEGER, salary FLOAT, dept_no INTEGER NOT NULL, FOREIGN KEY (dept_no) REFERENCES department(dept_no))");
    db.execSQL("create table department(dept_no INTEGER primary key, dept_name VARCHAR(30), location VARCHAR(20))");
}

@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
    db.execSQL("DROP table if exists employee");
    db.execSQL("DROP table if exists department");
}

public boolean insertEmpRecord(String eno, String ename, String eaddr, String ephone, String esal, String fk_dept_no) {
    SQLiteDatabase sqldb = this.getWritableDatabase();
    ContentValues cv = new ContentValues();
    cv.put("emp_no", eno);
    cv.put("emp_name", ename);
    cv.put("address", eaddr);
    cv.put("phone", ephone);
    cv.put("salary", esal);
    cv.put("dept_no", fk_dept_no);

    long result = sqldb.insert("employee", null, cv);
```

```java
        if(result == -1) {
            return false;
        }
        else {
            return true;
        }
    }

    public boolean insertDeptRecord(String dno, String dname,
String dloc) {
        SQLiteDatabase sqldb = this.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put("dept_no", dno);
        cv.put("dept_name", dname);
        cv.put("location", dloc);

        long result = sqldb.insert("department", null, cv);

        if(result == -1) {
            return false;
        }
        else {
            return true;
        }
    }

    public Cursor getData1() {
        SQLiteDatabase sqldb = this.getWritableDatabase();
        Cursor cursor = sqldb.rawQuery("Select * from employee",
null);
        return cursor;
    }
    public Cursor getData2() {
        SQLiteDatabase sqldb = this.getWritableDatabase();
```

```java
        Cursor cursor = sqldb.rawQuery("Select * from department", null);
        return cursor;
    }


    public boolean deleteData(String dept_No) {

        SQLiteDatabase db=this.getWritableDatabase();

        Cursor cursor=db.rawQuery("Select * from employee where dept_no=?",new String[]{dept_No});
        if(cursor.getCount()>0) {
            long result = db.delete("employee", "dept_no=?", new String[]{dept_No});
            if (result == -1) {
                return false;
            } else {
                return true;
            }
        }
        else
        {
            return false;
        }
    }
}
```

Activity_main.xml

```xml
<?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"
```

```xml
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="416dp"
        android:layout_height="34dp"
        android:layout_marginTop="16dp"
        android:text="Employee-Department DB"
        android:textAlignment="center"
        android:textColor="#000000"
        android:textSize="22sp"
        android:textStyle="normal"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.666"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="100dp"
        android:layout_height="32dp"
        android:layout_marginTop="28dp"
        android:text="Employee :"
        android:textColor="#000000"
        android:textSize="20sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.051"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="118dp"
```

```xml
    android:layout_height="29dp"
    android:layout_marginTop="28dp"
    android:text="Department :"
    android:textColor="#000000"
    android:textSize="20sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.054"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/FK" />

<EditText
    android:id="@+id/empNo"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Emp No."
    android:inputType="number"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView2" />

<EditText
    android:id="@+id/empName"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Emp Name "
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/empNo" />

<EditText
```

```xml
    android:id="@+id/empAddr"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Address"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/empName" />

<EditText
    android:id="@+id/empPhone"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Phone"
    android:inputType="number"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/empAddr" />

<EditText
    android:id="@+id/empSal"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Salary"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toBottomOf="@+id/empPhone" />
```

```xml
<EditText
    android:id="@+id/FK"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Dept No."
    android:inputType="number"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/empSal" />

<EditText
    android:id="@+id/deptNo"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Dept No."
    android:inputType="number"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView3" />

<EditText
    android:id="@+id/deptName"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Dept Name"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.079"
    app:layout_constraintStart_toStartOf="parent"
```

```xml
        app:layout_constraintTop_toBottomOf="@+id/deptNo" />

    <EditText
        android:id="@+id/deptLoc"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Location"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.079"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/deptName" />

    <Button
        android:id="@+id/empInsertBtn"
        android:layout_width="137dp"
        android:layout_height="58dp"
        android:text="Insert into Emp"
        android:textSize="13sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.604"
        app:layout_constraintStart_toEndOf="@+id/empAddr"
        app:layout_constraintTop_toBottomOf="@+id/textView"
        app:layout_constraintVertical_bias="0.258" />

    <Button
        android:id="@+id/deptInsertBtn"
        android:layout_width="123dp"
        android:layout_height="64dp"
        android:text="Insert into Dept"
        android:textSize="13sp"
        app:layout_constraintBottom_toTopOf="@+id/deleteBtn"
        app:layout_constraintEnd_toEndOf="parent"
```

```xml
        app:layout_constraintHorizontal_bias="0.645"
        app:layout_constraintStart_toEndOf="@+id/deptNo"
        app:layout_constraintTop_toBottomOf="@+id/textView3"
        app:layout_constraintVertical_bias="0.158" />

    <Button
        android:id="@+id/viewEmpBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="56dp"
        android:text="View Employee"
        app:backgroundTint="#00897B"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.129"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/deptLoc"
        app:layout_constraintVertical_bias="0.0" />

    <Button
        android:id="@+id/viewDeptBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="56dp"
        android:text="View Department"
        app:backgroundTint="#00897B"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.892"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/deptLoc"
        app:layout_constraintVertical_bias="0.0" />

    <Button
        android:id="@+id/deleteBtn"
```

```xml
        android:layout_width="120dp"
        android:layout_height="61dp"
        android:layout_marginStart="8dp"
        android:layout_marginLeft="8dp"
        android:layout_marginBottom="56dp"
        android:text="Delete Employee"
        android:textSize="13sp"
        app:backgroundTint="#C62828"
        app:layout_constraintBottom_toTopOf="@+id/viewEmpBtn"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.561"
        app:layout_constraintStart_toEndOf="@+id/deptName" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

Output:

A5Q1

Employee-Department DB

Employee :

Emp No.

Emp Name

Address   INSERT INTO
                           EMP

Phone

Salary

Dept No.

Department :

Dept No.   INSERT INTO
                           DEPT

Dept Name
                           DELETE
Location   EMPLOYEE

VIEW EMPLOYEE   VIEW DEPARTMENT

A5Q1

Employee-Department DB

Employee :

2

Employee data:

EmpNo: 1
EmpName: Rugvedi
Address: Pune
Phone No.: 7411223344
Salary: 12000
Dept_no:201

EmpNo: 2
EmpName: Digambar
Address: Pune
Phone No.: 6811223344
Salary: 13000
Dept_no:202

Cloud Analyst
                           DELETE
Pune   EMPLOYEE

VIEW EMPLOYEE   VIEW DEPARTMENT

A5Q1

Employee-Department DB

Employee :

2

Digambar

Department data:

Dept_No: 201
Dept_Name: software developer
Dept_Loc: Pune

Dept_No: 202
Dept_Name: Cloud Analyst
Dept_Loc: Pune

202

Cloud Analyst

Pune

INSERT INTO DEPT

DELETE EMPLOYEE

VIEW EMPLOYEE   **VIEW DEPARTMENT**

After Deleting

A5Q1

Employee-Department DB

Employee :

2

Digambar

Employee data:

EmpNo: 1
EmpName: Rugvedi
Address: Pune
Phone No.: 7411223344
Salary: 12000
Dept_no:201

202

Cloud Analyst

Pune

INSERT INTO DEPT

DELETE EMPLOYEE

VIEW EMPLOYEE   **VIEW DEPARTMENT**

2. Create table Customer (id, name, address, phno). Create a java android application for Performing the following operations on the table.

(using sqlite database)
i) Insert New Customer Details.
ii) Show All the Customer Details

MainActivity.java

```java
package com.example.a5q2;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    Button insertBtn, showbtn;
    TextView id, name, addr, phoneno;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        insertBtn = findViewById(R.id.insertBtn);
        showbtn = findViewById(R.id.showBtn);
        id = findViewById(R.id.custId);
        name = findViewById(R.id.custName);
```

```java
    addr = findViewById(R.id.custAddr);
    phoneno = findViewById(R.id.custPhone);

    DatabaseHandler db = new DatabaseHandler(this);

    insertBtn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String custID = id.getText().toString();
            String custName = name.getText().toString();
            String custAddr = addr.getText().toString();
            String custPhone = phoneno.getText().toString();

            boolean insertResult =
db.insertRecord(custID,custName,custAddr,custPhone);

            if(insertResult == true) {
                Toast.makeText(MainActivity.this, "Record inserted
successfully!", Toast.LENGTH_SHORT).show();
            }
            else {
                Toast.makeText(MainActivity.this, "Record not
inserted!", Toast.LENGTH_SHORT).show();
            }
        }
    });

    showbtn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Cursor curResult = db.getData();
            if(curResult.getCount()==0) {
                Toast.makeText(MainActivity.this, "Customer table is
empty!", Toast.LENGTH_SHORT).show();
                return;
```

```java
            }
            StringBuffer buffer = new StringBuffer();
            while (curResult.moveToNext()) {
                buffer.append("ID: " + curResult.getString(0)+ "\n");
                buffer.append("Name: " + curResult.getString(1)+ "\n");
                buffer.append("Address: " + curResult.getString(2)+ "\n");
                buffer.append("Phone No.: " + curResult.getString(3)+ "\n\n");
            }

            AlertDialog.Builder builder = new AlertDialog.Builder(MainActivity.this);
            builder.setCancelable(true);
            builder.setTitle("Your data: ");
            builder.setMessage(buffer);
            builder.show();
        }
    });
    }
}
```

DatabaseHandler.java
package com.example.a5q2;

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

import androidx.annotation.Nullable;

public class DatabaseHandler extends SQLiteOpenHelper {

```java
public DatabaseHandler(@Nullable Context context) {
    super(context, "customerDB", null, 1);
}

@Override
public void onCreate(SQLiteDatabase db) {
    db.execSQL("create table customer(id VARCHAR(20)
primary key, name TEXT, address TEXT, phno INTEGER)");
}

@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
    db.execSQL("DROP table if exists customer");
}

public boolean insertRecord(String cid, String cname, String
caddr, String cphone) {
    SQLiteDatabase sqldb = this.getWritableDatabase();
    ContentValues cv = new ContentValues();
    cv.put("id", cid);
    cv.put("name", cname);
    cv.put("address", caddr);
    cv.put("phno", cphone);

    long result = sqldb.insert("customer", null, cv);

    if(result == -1) {
        return false;
    }
    else {
        return true;
    }
}
```

```
    public Cursor getData() {
        SQLiteDatabase sqldb = this.getWritableDatabase();
        Cursor cursor = sqldb.rawQuery("Select * from customer",
null);
        return cursor;
    }
}
```

Activity_main.xml

```
<?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="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/custAddr"
        android:layout_width="365dp"
        android:layout_height="44dp"
        android:layout_marginTop="20dp"
        android:ems="10"
        android:hint="Address"
        android:inputType="textPersonName"
        android:textSize="22sp"
        android:textStyle="normal"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.347"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/custName" />

    <EditText
```

```xml
    android:id="@+id/custPhone"
    android:layout_width="365dp"
    android:layout_height="44dp"
    android:layout_marginTop="20dp"
    android:ems="10"
    android:hint="Phone No."
    android:inputType="number"
    android:textSize="22sp"
    android:textStyle="normal"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.347"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/custAddr" />

<EditText
    android:id="@+id/custId"
    android:layout_width="365dp"
    android:layout_height="44dp"
    android:layout_marginTop="28dp"
    android:ems="10"
    android:hint="Customer ID"
    android:inputType="textPersonName"
    android:textSize="22sp"
    android:textStyle="normal"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.347"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView" />

<EditText
    android:id="@+id/custName"
    android:layout_width="365dp"
    android:layout_height="44dp"
    android:layout_marginTop="20dp"
    android:ems="10"
```

```xml
    android:hint="Name"
    android:inputType="textPersonName"
    android:textSize="22sp"
    android:textStyle="normal"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.347"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/custId" />

<TextView
    android:id="@+id/textView"
    android:layout_width="213dp"
    android:layout_height="33dp"
    android:layout_marginTop="52dp"
    android:text="Customer DB"
    android:textAlignment="center"
    android:textSize="22sp"
    android:textStyle="normal|bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/insertBtn"
    android:layout_width="158dp"
    android:layout_height="51dp"
    android:text="Insert"
    android:textSize="21sp"
    app:layout_constraintBottom_toTopOf="@+id/showBtn"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/custPhone"
    app:layout_constraintVertical_bias="0.621" />

<Button
```

```
        android:id="@+id/showBtn"
        android:layout_width="362dp"
        android:layout_height="52dp"
        android:layout_marginBottom="216dp"
        android:text="Show Customer Records "
        android:textSize="21sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

Output:

Customer DB

Customer ID

Name

Address

Phone No.

INSERT

Customer DB

1

Rugvedi

Pune

1122334455

INSERT

SHOW CUSTOMER RECORDS

Record not inserted!

Your data:

ID: 101
Name: Rugvedi
Address: Pune
Phone No.: 7411121313

ID: 102
Name: Rugvedi
Address: Pune
Phone No.: 7411121313

ID: 1
Name: Rugevdi Jamgaonkar
Address: Pune
Phone No.: 1234567891

ID: 2
Name: Ritika
Address: Pune
Phone No.: 2234567891

ID: 3
Name: Radha
Address: Pune
Phone No.: 9122334455

ID: 4
Name: Raju
Address: Pune
Phone No.: 9912233445

3. Create a java android application with login module (Check username and password). On successful login, pass username to next screen And on failing login, alert user using Toast. Use Login(username, password) Table.

MainActivity.java

```java
package com.example.a5q3;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.text.method.LinkMovementMethod;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    public static final String EXTRA_USERNAME =
"com.example.a5q3.EXTRA_USERNAME";

    TextView txtView;
    EditText email, pwd;
    Button loginBtn;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        txtView = findViewById(R.id.textView);

//txtView.setMovementMethod(LinkMovementMethod.getInstance());

        email = findViewById(R.id.email);
        pwd = findViewById(R.id.pwd);
        loginBtn = findViewById(R.id.loginBtn);
```

```java
        DatabaseHandler db = new DatabaseHandler(this);

    loginBtn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String usernametxt = email.getText().toString();
            String pwdtxt = pwd.getText().toString();

            Boolean checkData = db.check(usernametxt,pwdtxt);

            if (checkData == true) {
                openActivity2();
            }
            else {
                Toast.makeText(MainActivity.this, "Invalid login
credentials !", Toast.LENGTH_SHORT).show();
            }
        }
    });

    txtView.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            //Toast.makeText(MainActivity.this, "signup clicked",
Toast.LENGTH_SHORT).show();
            String usernametxt = email.getText().toString();
            String pwdtxt = pwd.getText().toString();

            boolean insertResult = db.insertRecord(usernametxt,
pwdtxt);

            if(insertResult == true) {
                Toast.makeText(MainActivity.this, "New user signed
up successfully!", Toast.LENGTH_LONG).show();
```

```java
            }
            else {
                Toast.makeText(MainActivity.this, "Error signing
up!", Toast.LENGTH_LONG).show();
            }
          }
      });
    }

    public void openActivity2() {
        email = findViewById(R.id.email);

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

        Intent intent = new Intent(this, MainActivity2.class);
        intent.putExtra(EXTRA_USERNAME, username);
        startActivity(intent);
    }
}
```

activity_main.xml

```xml
<?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="match_parent"
    tools:context=".MainActivity" >

    <EditText
        android:id="@+id/email"
        android:layout_width="263dp"
        android:layout_height="47dp"
```

```xml
        android:layout_marginTop="112dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="Email"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.493"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/loginBtn"
        android:layout_width="141dp"
        android:layout_height="47dp"
        android:layout_marginTop="64dp"
        android:text="Login"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/pwd" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="296dp"
        android:layout_height="35dp"
        android:layout_marginTop="64dp"
        android:text="@string/hyperlink"
        android:textAlignment="center"
        android:textSize="19sp"
        android:textStyle="normal"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.495"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/loginBtn" />

    <EditText
        android:id="@+id/pwd"
```

```xml
        android:layout_width="266dp"
        android:layout_height="47dp"
        android:layout_marginTop="48dp"
        android:ems="10"
        android:inputType="textPassword"
        android:hint="Password"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/email" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

DatabaseHandler.java

```java
package com.example.a5q3;

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

import androidx.annotation.Nullable;

public class DatabaseHandler extends SQLiteOpenHelper {
    public DatabaseHandler(@Nullable Context context) {
        super(context, "loginDB", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table login(username VARCHAR(50)
primary key, password VARCHAR(50))");
    }

    @Override
```

```java
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
        db.execSQL("DROP table if exists login");
    }

    public boolean insertRecord(String username, String pwd) {
        if (username!="" && pwd!="") {
            SQLiteDatabase sqldb = this.getWritableDatabase();
            ContentValues cv = new ContentValues();
            cv.put("username", username);
            cv.put("password", pwd);

            long result = sqldb.insert("login", null, cv);

            if (result == -1) {
                return false;
            } else {
                return true;
            }
        }
        else {
            return false;
        }
    }

    public boolean check(String uname, String pwd) {
        SQLiteDatabase db = this.getWritableDatabase();

        Cursor cursor=db.rawQuery("Select * from login where
username=? and password=?",new String[]{uname, pwd});
        if(cursor.getCount()>0) {
            return true;
        }
        else
        {
```

```java
            return false;
        }
    }
}
```

MainActivity2.java

```java
package com.example.a5q3;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {

    TextView txtView2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);

        Intent intent = getIntent();
        String username =
intent.getStringExtra(MainActivity.EXTRA_USERNAME);

        txtView2 = findViewById(R.id.textView2);
        txtView2.setText(username + " logged in successfully!");
    }
}
```

activity_main2.xml

```xml
<?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="match_parent"
    tools:context=".MainActivity2">

    <TextView
        android:id="@+id/textView2"
        android:layout_width="328dp"
        android:layout_height="51dp"
        android:textAlignment="center"
        android:textSize="24sp"
        android:textStyle="normal|bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.493"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.298" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

strings.xml

```xml
<resources>
    <string name="app_name">A5Q3</string>
    <string name="hyperlink">Not a member? <a href="">Sign up
now.</a></string>
</resources>
```

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

```xml
<manifest
xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.a5q3">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.A5Q3">
        <activity android:name=".MainActivity2"
            android:parentActivityName=".MainActivity"></activity>
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category
android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```
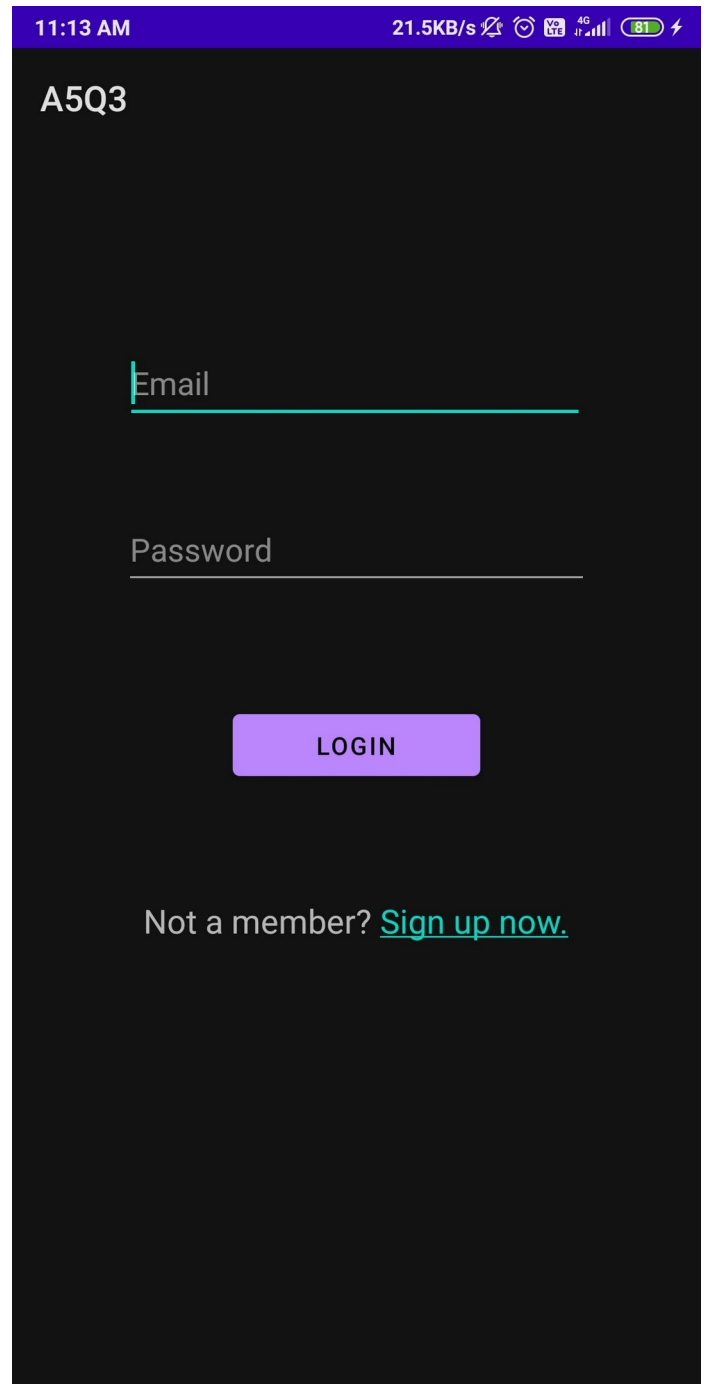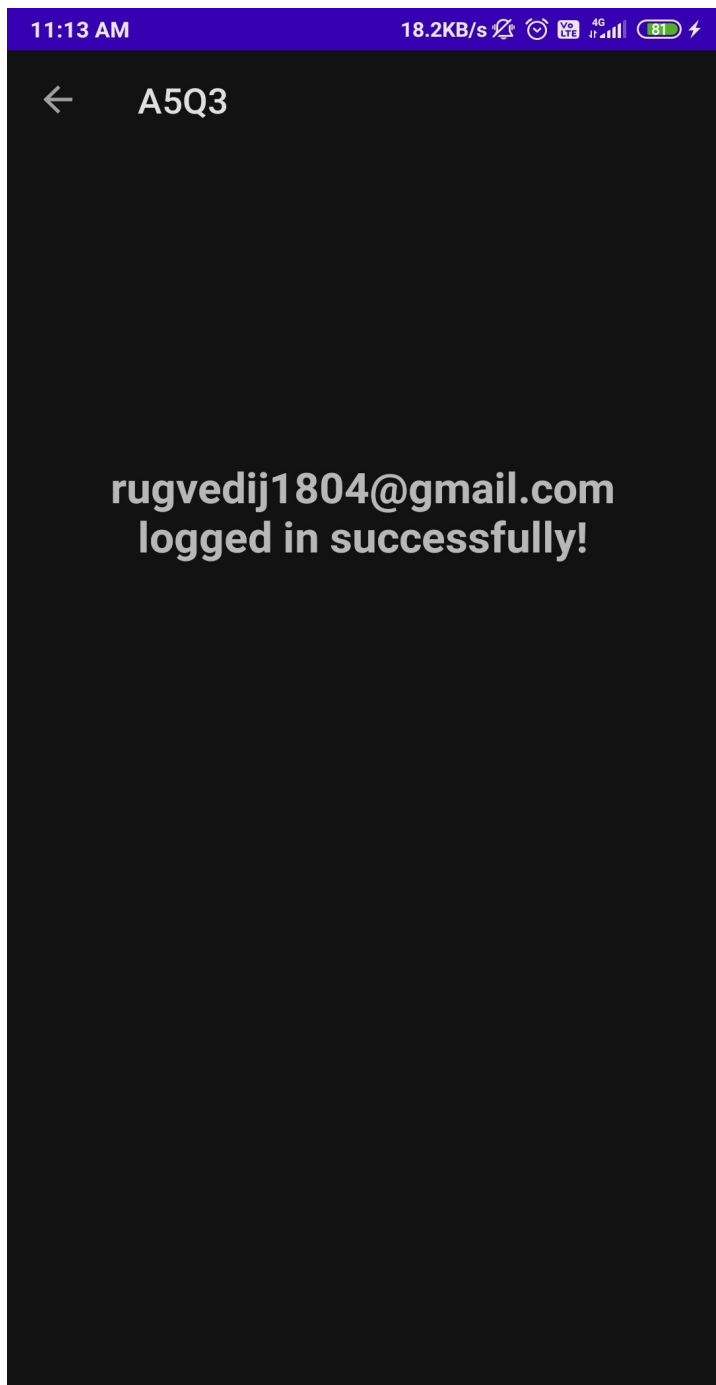
Output:

rugvedij1804@gmail.com
logged in successfully!

Email

Password

LOGIN

Not a member? Sign up now.

4. Create a java android application as shown below-

Create table Student(Sid ,Sname ,phno).
Use autoincrement for Sid. Perform following Operations.
- Add Student and display its information.
- Delete Student.

```java
MainActivity.java
package com.example.a5q4;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    Button addBtn, delBtn, viewBtn;
    EditText name, phone, delInput;
    Integer sid = 0;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        DatabaseHandler db = new DatabaseHandler(this);

        addBtn = findViewById(R.id.addBtn);
        delBtn = findViewById(R.id.deleteBtn);
        viewBtn = findViewById(R.id.view);

        name = findViewById(R.id.nameid);
        phone = findViewById(R.id.phoneid);
        delInput = findViewById(R.id.deleteInput);

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

```java
        @Override
        public void onClick(View v) {
            String nametxt = name.getText().toString();
            String phonetxt = phone.getText().toString();

            sid+=1; //Autoincrementing sid everytime add is
clicked.

            Boolean insertResult = db.insertStudent(sid, nametxt,
phonetxt);

            if(insertResult == true) {
                Toast.makeText(MainActivity.this, "Record inserted
successfully!", Toast.LENGTH_LONG).show();
            }
            else {
                Toast.makeText(MainActivity.this, "Record not
inserted!", Toast.LENGTH_LONG).show();
            }
        }
    });

    viewBtn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Cursor curResult = db.getData();
            if(curResult.getCount()==0) {
                Toast.makeText(MainActivity.this, "Student table is
empty!", Toast.LENGTH_SHORT).show();
                return;
            }
            StringBuffer buffer = new StringBuffer();
            while (curResult.moveToNext()) {
                buffer.append("Sid: " + curResult.getString(0)+ "\n");
```

```java
            buffer.append("Name: " + curResult.getString(1)+ "\
n");
            buffer.append("Phone No.: " +
curResult.getString(2)+ "\n\n");
            }

        AlertDialog.Builder builder = new
AlertDialog.Builder(MainActivity.this);
        builder.setCancelable(true);
        builder.setTitle("Student data: ");
        builder.setMessage(buffer);
        builder.show();
        }
    });

    delBtn.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String sidtxt = delInput.getText().toString();

            Boolean deleteData = db.delete(sidtxt);
            if(deleteData == true)
            {
                Toast.makeText(MainActivity.this,"Student Deleted
successfully ! ",Toast.LENGTH_LONG).show();
            }
            else
            {
                Toast.makeText(MainActivity.this,"Error in deleting !
",Toast.LENGTH_LONG).show();
            }
        }
    });
    }
}
```

DatabaseHandler.java
package com.example.a5q4;

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

import androidx.annotation.Nullable;

public class DatabaseHandler extends SQLiteOpenHelper {
    public DatabaseHandler(@Nullable Context context) {
        super(context, "studentDB", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table student(sid INTEGER primary key, sname VARCHAR(30), phno INTEGER)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        db.execSQL("DROP table if exists student");
    }

    public boolean insertStudent(Integer sid, String name, String phone) {
        SQLiteDatabase sqldb = this.getWritableDatabase();
        ContentValues cv = new ContentValues();
        cv.put("sid", sid);
        cv.put("sname", name);
```

```java
        cv.put("phno", phone);

        long result = sqldb.insert("student", null, cv);

        if(result == -1) {
            return false;
        }
        else {
            return true;
        }
    }

    public Cursor getData() {
        SQLiteDatabase sqldb = this.getWritableDatabase();
        Cursor cursor = sqldb.rawQuery("Select * from student",
null);
        return cursor;
    }

    public boolean delete(String sid) {
        SQLiteDatabase db = this.getWritableDatabase();

        Cursor cursor = db.rawQuery("select * from student where
sid=?", new String[]{sid});
        if(cursor.getCount()>0) {
            long delRes = db.delete("student", "sid=?", new String[]
{sid});
            if (delRes == -1) {
                return false;
            } else {
                return true;
            }
        }
        else {
            return false;
```

```
        }
    }
}
```

Activity_main.xml

```xml
<?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="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="37dp"
        android:shadowColor="#070404"
        android:text="Student Database"
        android:textAlignment="center"
        android:textColor="#000000"
        android:textColorHighlight="#000000"
        android:textColorLink="#D6C9C9"
        android:textSize="22sp"
        android:textStyle="normal|bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.023"
        tools:layout_editor_absoluteX="0dp" />

    <EditText
        android:id="@+id/nameid"
        android:layout_width="243dp"
        android:layout_height="45dp"
```

```xml
        android:layout_marginStart="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginTop="60dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:textSize="21sp"
        android:textStyle="normal"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.2"
        app:layout_constraintStart_toEndOf="@+id/textView4"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <EditText
        android:id="@+id/phoneid"
        android:layout_width="246dp"
        android:layout_height="46dp"
        android:layout_marginStart="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginTop="36dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:textSize="21sp"
        android:textStyle="normal"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.218"
        app:layout_constraintStart_toEndOf="@+id/textView3"
        app:layout_constraintTop_toBottomOf="@+id/nameid" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="101dp"
        android:layout_height="35dp"
        android:layout_marginStart="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginTop="48dp"
```

```xml
        android:text="Phone No.:"
        android:textAlignment="center"
        android:textColor="#000000"
        android:textSize="20sp"
        android:textStyle="normal"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView4" />

    <TextView
        android:id="@+id/textView4"
        android:layout_width="101dp"
        android:layout_height="36dp"
        android:layout_marginStart="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginTop="68dp"
        android:text="Name: "
        android:textAlignment="center"
        android:textColor="#000000"
        android:textSize="20sp"
        android:textStyle="normal"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="88dp"
        android:text="Enter Student id to delete:"
        android:textColor="#000000"
        android:textSize="20sp"
        android:textStyle="normal"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.06"
        app:layout_constraintStart_toStartOf="parent"
```

```
        app:layout_constraintTop_toBottomOf="@+id/textView3" />

    <EditText
        android:id="@+id/deleteInput"
        android:layout_width="229dp"
        android:layout_height="45dp"
        android:layout_marginTop="28dp"
        android:ems="10"
        android:inputType="number"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.06"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView5" />

    <Button
        android:id="@+id/addBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="80dp"
        android:text="Add"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.554"
        app:layout_constraintStart_toEndOf="@+id/textView5"
        app:layout_constraintTop_toBottomOf="@+id/phoneid" />

    <Button
        android:id="@+id/deleteBtn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Delete"
        app:backgroundTint="@color/teal_700"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.56"
        app:layout_constraintStart_toEndOf="@+id/deleteInput"
```
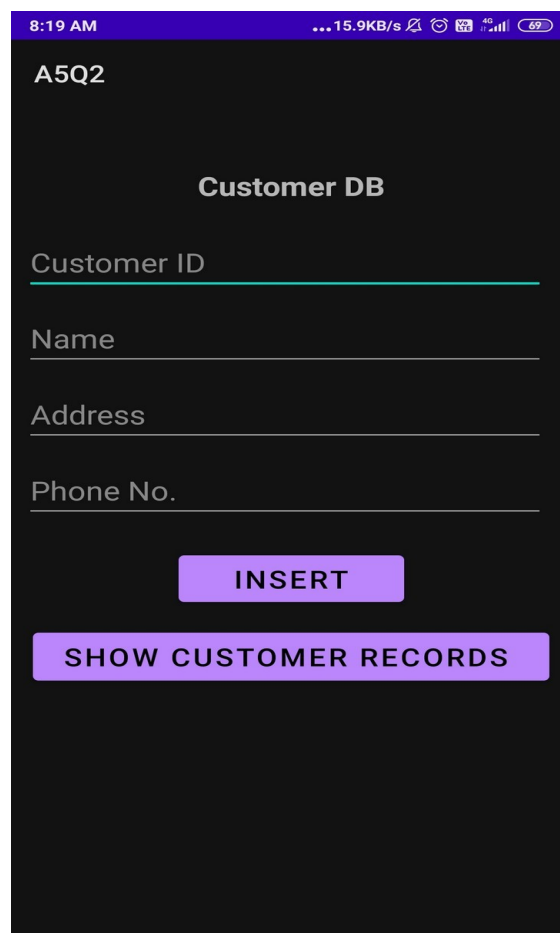
```xml
        app:layout_constraintTop_toBottomOf="@+id/addBtn"
        app:layout_constraintVertical_bias="0.022" />

    <Button
        android:id="@+id/view"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="View Student DB"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/deleteInput"
        app:layout_constraintVertical_bias="0.263" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

Output:

A5Q2

Customer DB

102

Rugvedi

Pune

7411121313

INSERT

SHOW CUSTOMER RECORDS

Record inserted successfully!

A5Q2

Customer DB

Your data:

ID: 101
Name: Rugvedi
Address: Pune
Phone No.: 7411121313

ID: 102
Name: Rugvedi
Address: Pune
Phone No.: 7411121313

ID: 1
Name: Rugevdi Jamgaonkar
Address: Pune
Phone No.: 1234567891

ID: 2
Name: Ritika
Address: Pune
Phone No.: 2234567891