EXPERIMENT 04

CODE:

MainActivity.java

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.RadioGroup;
import android.widget.ScrollView;
import android.widget.Toast;
import com.google.android.material.textfield.TextInputEditText;
import com.google.android.material.textfield.TextInputLayout;
public class MainActivity extends AppCompatActivity {
    Context context;
    DatabaseHelper databaseHelper;
    ScrollView svRegistrationForm;
    TextInputLayout tilName, tilEmail, tilContactNo;
    TextInputEditText tietName, tietEmail, tietContactNo;
    RadioGroup rgGender;
    Button btnSignUp, btnViewUsers;
    String name, email, contactNo, gender;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        context = MainActivity.this;
        databaseHelper = new DatabaseHelper(context);
        svRegistrationForm = findViewById(R.id.sv_registration_form);
        tilName = findViewById(R.id.til_name);
        tilEmail = findViewById(R.id.til_email);
        tilContactNo = findViewById(R.id.til_contact_no);
        tietName = findViewById(R.id.tiet_name);
        tietEmail = findViewById(R.id.tiet_email);
        tietContactNo = findViewById(R.id.tiet_contact_no);
        rgGender = findViewById(R.id.rg_gender);
        btnSignUp = findViewById(R.id.btn_insert_data);
        btnViewUsers = findViewById(R.id.btn_view_users);
        rgGender.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
```

```java
                                @Override
                                public void onCheckedChanged(RadioGroup group, int
checkedId) {
                                    if(checkedId == R.id.rb_male) {
                                        gender = "Male";
                                    } else {
                                        gender = "Female";
                                    }
                                }
                            });
        btnSignUp.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if(validateForm()) {
                    name = tietName.getText().toString();
                    email = tietEmail.getText().toString();
                    contactNo = tietContactNo.getText().toString();
                    boolean insertResult = databaseHelper.insertUserDetails(email, name,
                            contactNo,
                            gender);
                    if(insertResult) {
                        Toast.makeText(context, "Data inserted succesfully",
                                Toast.LENGTH_SHORT).show();
                    } else {
                        Toast.makeText(context, "Data not inserted",
                                Toast.LENGTH_SHORT).show();
                    }
                    Intent intent = new Intent(context, MainActivity.class);
                    startActivity(intent);
                }
            }
        });
        btnViewUsers.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(context, SecondActivity.class);
                startActivity(intent);
            }
        });
    }
    public boolean validateForm() {
        if(tietName.getText().toString().isEmpty()) {
            tilName.setError("Enter Name");
            focusOnView(tilName);
```

```java
            return false;
        } else if(tietEmail.getText().toString().isEmpty()) {
            tilEmail.setError("Enter Email");
            focusOnView(tilEmail);
            return false;
        } else if(tietContactNo.getText().toString().isEmpty()) {
            tilContactNo.setError("Enter Contact no");
            focusOnView(tilContactNo);
            return false;
        } else if(rgGender.getCheckedRadioButtonId() == -1) {
            Toast.makeText(context, "Select Gender", Toast.LENGTH_SHORT).show();
            focusOnView(rgGender);
            return false;
        } else {
            return true;
        }
    }
    public void focusOnView(final View view) {
        svRegistrationForm.post(new Runnable() {
            @Override
            public void run() {
                svRegistrationForm.smoothScrollTo(0, view.getTop()-50);
            }
        });
    }
}
```

SecondActivity.java

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
import android.content.Context;
import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.ListView;
import android.widget.TextView;
import java.util.ArrayList;
public class SecondActivity extends AppCompatActivity {
    Context context;
```

```java
    DatabaseHelper databaseHelper;
    ArrayList<ModelForUsers> userList = new ArrayList();
    RecyclerView rvUserDetails;
    RecyclerView.Adapter adapter;
    TextView tvMessage;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        context = SecondActivity.this;
        databaseHelper = new DatabaseHelper(context);
        rvUserDetails = findViewById(R.id.rv_user_details);
        tvMessage = findViewById(R.id.tv_message);
        Cursor cursor = databaseHelper.getAllUserDetails();
        if(cursor.getCount() == 0) {
            tvMessage.setVisibility(View.VISIBLE);
        } else {
            tvMessage.setVisibility(View.GONE);
            while (cursor.moveToNext()) {
                ModelForUsers user = new ModelForUsers();
                user.setId(cursor.getString(0));
                user.setName(cursor.getString(1));
                user.setEmail(cursor.getString(2));
                user.setContactNo(cursor.getString(3));
                user.setGender(cursor.getString(4));
                userList.add(user);
            }
            rvUserDetails.setHasFixedSize(true);
            rvUserDetails.setLayoutManager(new LinearLayoutManager(this));
            adapter = new UserRecyclerViewAdapter(context, userList);
            rvUserDetails.setAdapter(adapter);
        }
    }
}
```

DatabaseHelper.java
```java
package com.example.myapplication;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.MatrixCursor;
import android.database.SQLException;
```

```java
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.util.Log;
import androidx.annotation.Nullable;
import java.util.ArrayList;
public class DatabaseHelper extends SQLiteOpenHelper {
    public static final String DATABASE_NAME = "User Data DB";
    public static final String TABLE_NAME = "Users";
    // COL_0 will be user Id which is AUTOINCREMENT
    public static final String COL_1 = "Email";
    public static final String COL_2 = "Name";
    public static final String COL_3= "Contact_No";
    public static final String COL_4 = "Gender";
    public DatabaseHelper(@Nullable Context context) {
        super(context, DATABASE_NAME, null, 1);
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table Users (Id INTEGER PRIMARY KEY AUTOINCREMENT,Name
TEXT, Email TEXT,Contact_No TEXT, Gender TEXT)");
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        db.execSQL("DROP TABLE IF EXISTS Users");
        onCreate(db);
    }
    // method for inserting data of a single user
    public boolean insertUserDetails(String email, String name, String contactNo, String gender) {
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(COL_1, email);
        contentValues.put(COL_2, name);
        contentValues.put(COL_3, contactNo);
        contentValues.put(COL_4, gender);
        long insertResult = db.insert(TABLE_NAME, null, contentValues);
        if(insertResult == -1) {
            return false;
        } else {
            return true;
        }
    }
    // method for get data of all users
    public Cursor getAllUserDetails() {
        SQLiteDatabase db = this.getWritableDatabase();
```

```
        Cursor cursor = db.rawQuery("SELECT * FROM " + TABLE_NAME, null);
        return cursor;
    }
}
```

ModelForUsers.java
```java
package com.example.myapplication;

public class ModelForUsers {
    String id, name, email, contactNo, gender;
    public String getId() {
        return id;
    }
    public void setId(String id) {
        this.id = id;
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
    public String getEmail() {
        return email;
    }
    public void setEmail(String email) {
        this.email = email;
    }
    public String getContactNo() {
        return contactNo;
    }
    public void setContactNo(String contactNo) {
        this.contactNo = contactNo;
    }
    public String getGender() {
        return gender;
    }
    public void setGender(String gender) {
        this.gender = gender;
    }
}
```

UserRecyclerViewAdapter.java

```java
package com.example.myapplication;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;
import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;
import java.util.ArrayList;
public class UserRecyclerViewAdapter extends
        RecyclerView.Adapter<UserRecyclerViewAdapter.UserRecyclerViewHolder> {
    Context context;
    ArrayList<ModelForUsers> usersList;
    public UserRecyclerViewAdapter(Context context, ArrayList<ModelForUsers>
            usersList) {
        this.context = context;
        this.usersList = usersList;
    }
    @NonNull
    @Override
    public UserRecyclerViewHolder onCreateViewHolder(@NonNull ViewGroup
                                        parent, int viewType) {
        LayoutInflater layoutInflater = LayoutInflater.from(parent.getContext());
        View view = layoutInflater.inflate(R.layout.row_users, parent, false);
        UserRecyclerViewHolder userRecyclerViewHolder = new
            UserRecyclerViewHolder(view);
        return userRecyclerViewHolder;
    }
    @Override
    public void onBindViewHolder(@NonNull UserRecyclerViewHolder
                        userRecyclerViewHolder, int position) {
        userRecyclerViewHolder.tvId.setText("Id: " + usersList.get(position).getId());
        userRecyclerViewHolder.tvName.setText("Name: " +
            usersList.get(position).getName());
        userRecyclerViewHolder.tvEmail.setText("Email: " +
            usersList.get(position).getEmail());
        userRecyclerViewHolder.tvContactNo.setText("Contact No: " +
            usersList.get(position).getContactNo());
        userRecyclerViewHolder.tvGender.setText("Gender: " +
            usersList.get(position).getGender());
    }
    @Override
```

```java
public int getItemCount() {
    return usersList.size();
}
class UserRecyclerViewHolder extends RecyclerView.ViewHolder {
    TextView tvId, tvName, tvEmail, tvContactNo, tvGender;
    public UserRecyclerViewHolder(@NonNull View itemView) {
        super(itemView);
        tvId = itemView.findViewById(R.id.tv_id);
        tvName = itemView.findViewById(R.id.tv_name);
        tvEmail = itemView.findViewById(R.id.tv_email);
        tvContactNo = itemView.findViewById(R.id.tv_contact_no);
        tvGender = itemView.findViewById(R.id.tv_gender);
    }}}
```

XML:

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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">
    <ScrollView
        android:id="@+id/sv_registration_form"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_margin="10dp"
            android:orientation="vertical">
            <com.google.android.material.textfield.TextInputLayout
                android:id="@+id/til_name"
                android:layout_width="match_parent"
                android:layout_height="match_parent"
```

```xml
        android:layout_marginTop="20dp">
        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/tiet_name"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Name" />
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        android:id="@+id/til_email"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="20dp">
        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/tiet_email"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Email"
            android:inputType="textEmailAddress"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        android:id="@+id/til_contact_no"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="20dp">
        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/tiet_contact_no"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:hint="Contact No."
            android:inputType="number"
            android:maxLength="10"/>
    </com.google.android.material.textfield.TextInputLayout>
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Gender"
        android:textSize="18sp"
        android:layout_marginTop="20dp"/>
    <RadioGroup
        android:id="@+id/rg_gender"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >
        <RadioButton
            android:id="@+id/rb_male"
```

```xml
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Male"
        android:textSize="15sp"/>
    <RadioButton
        android:id="@+id/rb_female"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Female"
        android:textSize="15sp"/>
</RadioGroup>
<Button
    android:id="@+id/btn_insert_data"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Insert Data"
    android:textAllCaps="false"
    android:layout_gravity="center"
    android:layout_marginTop="20dp"/>
<Button
    android:id="@+id/btn_view_users"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="View Users"
    android:textAllCaps="false"
    android:layout_gravity="center"
    android:layout_marginTop="20dp"/>
        </LinearLayout>
    </ScrollView>
</LinearLayout>
```

activity_second.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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=".SecondActivity"
    android:background="#DADADA"
    android:orientation="vertical">
    <TextView
```

```
        android:id="@+id/tv_message"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="#ffffff"
        android:layout_margin="20dp"
        android:text="No user details"
        android:textSize="30dp"
        android:gravity="center"
        android:visibility="gone"/>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:layout_margin="20dp">
        <androidx.recyclerview.widget.RecyclerView
            android:id="@+id/rv_user_details"
            android:layout_width="match_parent"
            android:layout_height="wrap_content" />
    </LinearLayout>
</LinearLayout>


```

row_users.xml
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:background="#ffffff"
    android:padding="10dp">
    <TextView
        android:id="@+id/tv_id"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="20sp"
        android:textColor="#000000"
        android:text="id"/>
    <TextView
        android:id="@+id/tv_name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="20sp"
```

```xml
            android:textColor="#000000"
            android:text="name"/>
        <TextView
            android:id="@+id/tv_email"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textSize="20sp"
            android:textColor="#000000"
            android:layout_marginTop="5dp"
            android:text="email"/>
        <TextView
            android:id="@+id/tv_contact_no"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textSize="20sp"
            android:textColor="#000000"
            android:layout_marginTop="5dp"
            android:text="contact"/>
        <TextView
            android:id="@+id/tv_gender"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:textSize="20sp"
            android:textColor="#000000"
            android:layout_marginTop="5dp"
            android:text="gender"/>
</LinearLayout>
```

AndroidManifest.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.MyApplication"
        tools:targetApi="31" >
```

```xml
        <activity android:exported="true" android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>

        <activity android:exported="true" android:name=".SecondActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>

    </application>
</manifest>
```

OUTPUT:

Ishita Hardasmalani C14-2103058

No user details

Ishita Hardasmalani C14-2103058

Name
Ishita Hardasmalani

Email
ishita@gmail.com

Contact No.
9999999999

Gender

◯ Male

◉ Female

Insert Data

View Users

Ishita Hardasmalani C14-2103058

Name

Email

Contact No.

Gender

◯ Male

◯ Female

Insert Data

View Users

Data inserted succesfully

Id: 1
Name: Ishita Hardasmalani
Email: ishita@gmail.com
Contact No: 9999999999
Gender: Female