PRACTICAL 5

AIM: Develop an android application that create, update, save and delete data in database.

CODE:

MainActivity.java

package com.example.practical5;

import android.content.Intent;

import android.os.Bundle;

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 {

private EditText employeeNameEdt , designationEdt;

private Button addEmployeeBtn,showEmployeesBtn;

private DBHandler dbHandler;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

employeeNameEdt = findViewById(R.id.idEdtEmployeeName);

showEmployeesBtn=findViewById(R.id.idBtnShowEmployees);

designationEdt = findViewById(R.id.idEdtDesignation);

addEmployeeBtn = findViewById(R.id.idBtnCreateEmployee);

dbHandler = new DBHandler(MainActivity.this);

addEmployeeBtn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

String employeeName = employeeNameEdt.getText().toString();

String employeeDesignation = designationEdt.getText().toString();

if (employeeName.isEmpty() && employeeDesignation.isEmpty()) {

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

return;

}

dbHandler.addEmployee(employeeName,employeeDesignation);

Toast.makeText(MainActivity.this, "Employee has been added.", Toast.LENGTH\_SHORT).show();

employeeNameEdt.setText("");

designationEdt.setText("");

}

});

showEmployeesBtn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

// opening a new activity via a intent.

Intent i = new Intent(MainActivity.this, ViewEmployee.class);

startActivity(i);

}

});}}

DBHandler.java

package com.example.practical5;  
import android.content.ContentValues;  
import android.content.Context;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteOpenHelper;  
import java.util.ArrayList;  
public class DBHandler extends SQLiteOpenHelper {  
 private static final String *DB\_NAME* = "employeedb";  
 private static final int *DB\_VERSION* = 1;  
 private static final String *TABLE\_NAME* = "employees";  
 private static final String *ID\_COL* = "id";  
 private static final String *NAME\_COL* = "name";  
 private static final String *DESIGNATION\_COL* = "designation";  
 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,"  
 + *DESIGNATION\_COL* + " TEXT)";  
 db.execSQL(query);  
 }  
 public void addEmployee(String employeeName, String designation) {  
 SQLiteDatabase db = this.getWritableDatabase();  
 ContentValues values = new ContentValues();  
 values.put(*NAME\_COL*, employeeName);  
 values.put(*DESIGNATION\_COL*, designation);  
 db.insert(*TABLE\_NAME*, null, values);  
 db.close();  
 }  
 public ArrayList<EmployeeModal> viewEmployees()  
 {  
 SQLiteDatabase db = this.getReadableDatabase();  
 Cursor cursorEmployee  
 = db.rawQuery("SELECT \* FROM " + *TABLE\_NAME*, null);  
 ArrayList<EmployeeModal> employeeModalArrayList  
 = new ArrayList<>();  
 if (cursorEmployee.moveToFirst()) {  
 do {  
 employeeModalArrayList.add(new EmployeeModal(  
 cursorEmployee.getString(1),  
 cursorEmployee.getString(2)  
 ));  
 } while (cursorEmployee.moveToNext());  
 }  
 cursorEmployee.close();  
 return employeeModalArrayList;  
 }  
 public void updateEmployee(String originalEmployeeName, String employeeName, String designation) {  
 SQLiteDatabase db = this.getWritableDatabase();  
 ContentValues values = new ContentValues();  
 values.put(*NAME\_COL*, employeeName);  
 values.put(*DESIGNATION\_COL*, designation);  
 db.update(*TABLE\_NAME*, values, "name=?", new String[]{originalEmployeeName});  
 db.close();  
 }  
 public void deleteEmployee(String employeeName) {  
 SQLiteDatabase db = this.getWritableDatabase();  
  
 db.delete(*TABLE\_NAME*, "name=?", new String[]{employeeName});  
 db.close();  
 }  
 @Override  
 public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {  
 *// this method is called to check if the table exists already.* db.execSQL("DROP TABLE IF EXISTS " + *TABLE\_NAME*);  
 onCreate(db);  
 }  
}

ViewEmployee.java

package com.example.practical5;   
import android.os.Bundle;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.recyclerview.widget.LinearLayoutManager;  
import androidx.recyclerview.widget.RecyclerView;  
import java.util.ArrayList;   
public class ViewEmployee extends AppCompatActivity {  
 private ArrayList<EmployeeModal> employeeModalArrayList;  
 private DBHandler dbHandler;  
 private EmployeeRVAdapter employeeRVAdapter;  
 private RecyclerView employeeRV;   
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_view\_employee*);employeeModalArrayList = new ArrayList<>();  
 dbHandler = new DBHandler(ViewEmployee.this);employeeModalArrayList = dbHandler.viewEmployees();employeeRV = findViewById(R.id.*idRVEmployees*);employeeRVAdapter = new EmployeeRVAdapter(employeeModalArrayList, ViewEmployee.this);LinearLayoutManager linearLayoutManager = new LinearLayoutManager(ViewEmployee.this, RecyclerView.*VERTICAL*, false);  
 employeeRV.setLayoutManager(linearLayoutManager);employeeRV.setAdapter(employeeRVAdapter);  
 }  
}

activity\_view\_employee.xml

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout  
 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"  
 tools:context=".ViewEmployee">  
 <androidx.recyclerview.widget.RecyclerView  
 android:id="@+id/idRVEmployees"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent" />  
</RelativeLayout>

Employee\_rv\_item.xml

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.cardview.widget.CardView  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="5dp"  
 android:elevation="8dp"  
 app:cardCornerRadius="4dp">  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="3dp"  
 android:orientation="vertical">  
 <TextView  
 android:id="@+id/idTVEmployeeName"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:padding="3dp"  
 android:text="Employee Name" />  
 <TextView  
 android:id="@+id/idTVEmployeeDesignation"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:padding="3dp"  
 android:text="Designation" />  
 </LinearLayout>  
</androidx.cardview.widget.CardView>

UpdateEmployeeActivity.java

package com.example.practical5;  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;   
import androidx.appcompat.app.AppCompatActivity;  
public class UpdateEmployeeActivity extends AppCompatActivity {  
private EditText EmployeeNameEdt, DesignationEdt;  
 private Button updateEmployeeBtn,deleteEmployeeBtn;  
 private DBHandler dbHandler;  
 String EmployeeName, Designation;   
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_update\_employee*);EmployeeNameEdt = findViewById(R.id.*idEdtEmployeeName*);  
 DesignationEdt = findViewById(R.id.*idEdtEmployeeDesignation*);  
 updateEmployeeBtn = findViewById(R.id.*idBtnUpdateEmployee*);  
 deleteEmployeeBtn = findViewById(R.id.*idBtnDelete*);dbHandler = new DBHandler(UpdateEmployeeActivity.this);EmployeeName = getIntent().getStringExtra("name");  
 Designation = getIntent().getStringExtra("designation");EmployeeNameEdt.setText(EmployeeName);  
 DesignationEdt.setText(Designation);   
 updateEmployeeBtn.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 dbHandler.updateEmployee(EmployeeName, EmployeeNameEdt.getText().toString(), DesignationEdt.getText().toString());  
 Toast.*makeText*(UpdateEmployeeActivity.this, "Employee Updated..", Toast.*LENGTH\_SHORT*).show();  
 Intent i = new Intent(UpdateEmployeeActivity.this, MainActivity.class);  
 startActivity(i);  
 }  
 });deleteEmployeeBtn.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {dbHandler.deleteEmployee(EmployeeName);  
 Toast.*makeText*(UpdateEmployeeActivity.this, "Deleted the employee", Toast.*LENGTH\_SHORT*).show();  
 Intent i = new Intent(UpdateEmployeeActivity.this, MainActivity.class);  
 startActivity(i);  
 }  
 });}}

EmployeeRVAdapter.java

package com.example.practical5;   
import android.content.Context;  
import android.content.Intent;  
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 EmployeeRVAdapter extends RecyclerView.Adapter<EmployeeRVAdapter.ViewHolder> {private ArrayList<EmployeeModal> EmployeeModalArrayList;  
 private Context context;public EmployeeRVAdapter(ArrayList<EmployeeModal> EmployeeModalArrayList, Context context) {  
 this.EmployeeModalArrayList = EmployeeModalArrayList;  
 this.context = context;  
 }  
 @NonNull  
 @Override  
 public ViewHolder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {  
  
 View view = LayoutInflater.*from*(parent.getContext()).inflate(R.layout.*employee\_rv\_item*, parent, false);  
 return new ViewHolder(view);  
 }  
  
 @Override  
 public void onBindViewHolder(@NonNull ViewHolder holder, int position) {  
 EmployeeModal modal = EmployeeModalArrayList.get(position);  
 holder.EmployeeNameTV.setText(modal.getEmployeeName());  
 holder.DesignationTV.setText(modal.getDesignation());holder.itemView.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {Intent i = new Intent(context, UpdateEmployeeActivity.class);i.putExtra("name", modal.getEmployeeName());  
 i.putExtra("designation", modal.getDesignation());context.startActivity(i);  
 }  
 });  
 }  
 @Override  
 public int getItemCount() {return EmployeeModalArrayList.size();  
 }  
 public class ViewHolder extends RecyclerView.ViewHolder {  
 private TextView EmployeeNameTV, DesignationTV;  
 public ViewHolder(@NonNull View itemView) {  
 super(itemView);  
 EmployeeNameTV = itemView.findViewById(R.id.*idTVEmployeeName*);  
 DesignationTV = itemView.findViewById(R.id.*idTVEmployeeDesignation*);  
  
}}}

Activity\_main.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/idEdtEmployeeName"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter Employee Name" />

<EditText

android:id="@+id/idEdtDesignation"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:hint="Enter Designation" />

<Button

android:id="@+id/idBtnCreateEmployee"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:backgroundTint="@color/black"

android:text="Create Employee"/>

<Button

android:id="@+id/idBtnShowEmployees"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:backgroundTint="@color/black"

android:text="Show Employees"/>

</LinearLayout>

OUTPUT:

  