**Slip 24**

**Q.1]** Create an Android Application to perform following string operation according to user selection of radio button.

Ans.

<?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=".MainActivity">

<EditText

android:id="@+id/editTextString" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_margin="16dp" android:hint="Enter String" android:inputType="text" />

<RadioGroup android:id="@+id/radioGroupOperations" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextString" android:orientation="vertical">

<RadioButton

android:id="@+id/radioButtonUppercase" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Uppercase" />

<RadioButton

android:id="@+id/radioButtonLowercase" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Lowercase" />

<RadioButton

android:id="@+id/radioButtonRight5" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Right 5 Characters" />

<RadioButton android:id="@+id/radioButtonLeft5" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Left 5 Characters" />

</RadioGroup>

<Button android:id="@+id/buttonClick" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/radioGroupOperations" android:layout\_centerHorizontal="true" android:layout\_marginTop="16dp" android:text="Click" android:onClick="performOperation" />

<EditText

android:id="@+id/editTextOutput" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/buttonClick" android:layout\_margin="16dp" android:hint="Output" android:inputType="text" android:enabled="false" />

</RelativeLayout> MainActivity.java-

package com.example.myapplication;

import android.os.Bundle; import android.view.View; import android.widget.EditText; import android.widget.RadioButton; import android.widget.RadioGroup;

import androidx.appcompat.app.AppCompatActivity; public class MainActivity extends AppCompatActivity {

private EditText editTextString, editTextOutput; private RadioGroup radioGroupOperations;

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

editTextString = findViewById(R.id.editTextString); editTextOutput = findViewById(R.id.editTextOutput);

radioGroupOperations = findViewById(R.id.radioGroupOperations);

}

public void performOperation(View view) {

String inputString = editTextString.getText().toString();

int selectedRadioButtonId = radioGroupOperations.getCheckedRadioButtonId();

RadioButton selectedRadioButton = findViewById(selectedRadioButtonId);

if (selectedRadioButton != null) {

String operation = selectedRadioButton.getText().toString(); String result = ""; switch (operation) { case "Uppercase":

result = inputString.toUpperCase(); break; case "Lowercase":

result = inputString.toLowerCase();

break;

case "Right 5 Characters":

result =

inputString.substring(Math.max(inputString.length() - 5, 0));

break; case "Left 5 Characters":

result = inputString.substring(0, Math.min(inputString.length(), 5));

break;

}

editTextOutput.setText(result);

}

}

}

**//Note here create car database same as student.**

**2.**Create table Student (roll\_no, name, address, percentage). Create Application for performing the following operation on the table. (Using SQLite database).

1. Insert at least 5 new student details.
2. Show all the student details.

Ans.

<?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" android:padding="16dp" tools:context=".MainActivity">

<EditText android:id="@+id/editTextRollNo" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:hint="Roll No" android:inputType="number" />

<EditText android:id="@+id/editTextName" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextRollNo" android:layout\_marginTop="16dp" android:hint="Name" />

<EditText

android:id="@+id/editTextAddress" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextName" android:layout\_marginTop="16dp" android:hint="Address" />

<EditText

android:id="@+id/editTextPercentage" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextAddress" android:layout\_marginTop="16dp" android:hint="Percentage" android:inputType="numberDecimal" />

<Button

android:id="@+id/buttonInsert" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/editTextPercentage" android:layout\_centerHorizontal="true" android:layout\_marginTop="16dp"

android:text="Insert" android:onClick="insertStudent" />

<Button

android:id="@+id/buttonShowAll" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_below="@id/buttonInsert" android:layout\_centerHorizontal="true" android:layout\_marginTop="16dp" android:text="Show All" android:onClick="showAllStudents" />

<TextView android:id="@+id/textViewStudentDetails" android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:layout\_below="@id/buttonShowAll" android:layout\_marginTop="24dp" />

</RelativeLayout>

**MainActivity.java- package** com.example.myapplication;

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

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private EditText editTextRollNo, editTextName, editTextAddress, editTextPercentage; private TextView textViewStudentDetails; private DatabaseHelper databaseHelper;

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

editTextRollNo = findViewById(R.id.editTextRollNo); editTextName = findViewById(R.id.editTextName); editTextAddress = findViewById(R.id.editTextAddress); editTextPercentage = findViewById(R.id.editTextPercentage);

textViewStudentDetails = findViewById(R.id.textViewStudentDetails);

databaseHelper = new DatabaseHelper(this);

}

public void insertStudent(View view) {

int rollNo =

Integer.parseInt(editTextRollNo.getText().toString());

String name = editTextName.getText().toString(); String address = editTextAddress.getText().toString();

double percentage =

Double.parseDouble(editTextPercentage.getText().toString());

boolean inserted = databaseHelper.insertStudent(rollNo, name, address, percentage);

if (inserted) {

Toast.makeText(this, "Student details inserted successfully", Toast.LENGTH\_SHORT).show();

} else {

Toast.makeText(this, "Failed to insert student details",

Toast.LENGTH\_SHORT).show();

}

}

public void showAllStudents(View view) {

Cursor cursor = databaseHelper.getAllStudents(); if (cursor.getCount() == 0) { textViewStudentDetails.setText("No students found");

return;

}

StringBuilder stringBuilder = new StringBuilder();

while (cursor.moveToNext()) {

stringBuilder.append("Roll No: ").append(cursor.getInt(0)).append("\n");

stringBuilder.append("Name: ").append(cursor.getString(1)).append("\n");

stringBuilder.append("Address: ").append(cursor.getString(2)).append("\n"); stringBuilder.append("Percentage:

").append(cursor.getDouble(3)).append("\n\n");

}

textViewStudentDetails.setText(stringBuilder.toString());

}

}

**DatabaseHelper.java- package** com.example.myapplication;

import android.content.ContentValues; import android.content.Context; import android.database.Cursor; import android.database.sqlite.SQLiteDatabase; import android.database.sqlite.SQLiteOpenHelper; public class DatabaseHelper extends SQLiteOpenHelper {

private static final String DATABASE\_NAME = "students.db"; private static final String TABLE\_NAME = "Student"; private static final String COL\_ROLL\_NO = "roll\_no"; private static final String COL\_NAME = "name";

private static final String COL\_ADDRESS = "address"; private static final String COL\_PERCENTAGE = "percentage";

public DatabaseHelper(Context context) { super(context, DATABASE\_NAME, null, 1);

}

@Override public void onCreate(SQLiteDatabase db) {

String createTableQuery = "CREATE TABLE " +

TABLE\_NAME + " (" +

COL\_ROLL\_NO + " INTEGER PRIMARY KEY, " +

COL\_NAME + " TEXT, " +

COL\_ADDRESS + " TEXT, " + COL\_PERCENTAGE + " REAL)"; db.execSQL(createTableQuery);

}

@Override

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

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

onCreate(db);

}

public boolean insertStudent(int rollNo, String name, String address, double percentage) {

SQLiteDatabase db = this.getWritableDatabase();

ContentValues contentValues = new ContentValues(); contentValues.put(COL\_ROLL\_NO, rollNo); contentValues.put(COL\_NAME, name); contentValues.put(COL\_ADDRESS, address); contentValues.put(COL\_PERCENTAGE, percentage); long result = db.insert(TABLE\_NAME, null, contentValues);

return result != -1;

}

public Cursor getAllStudents() {

SQLiteDatabase db = this.getWritableDatabase(); return db.rawQuery("SELECT \* FROM " + TABLE\_NAME, null);

}

}