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/radioGroupOperation
s"         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).

i] Insert at least 5 new student details.

ii] 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);
    }
}
```