**Main Activity.kt**

package com.example.database

import android.content.ContentValues

import android.database.Cursor

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.widget.\*

import androidx.appcompat.app.AlertDialog

class MainActivity : AppCompatActivity() {

lateinit var ed\_Sname : EditText

lateinit var ed\_Sem : EditText

lateinit var btn\_Insert : Button

lateinit var btn\_Clear : Button

lateinit var btn\_Update : Button

lateinit var btn\_Delete : Button

lateinit var btn\_Next : Button

lateinit var btn\_Perv : Button

lateinit var btn\_First : Button

lateinit var btn\_Last : Button

lateinit var showlist : ListView

lateinit var btn\_Showdata : Button

lateinit var search\_data : SearchView

lateinit var rs : Cursor

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

ed\_Sname = findViewById(R.id.ed\_Sname)

ed\_Sem = findViewById(R.id.ed\_Sem)

btn\_Insert = findViewById(R.id.btn\_Insert)

btn\_Clear = findViewById(R.id.btn\_Clear)

btn\_Update = findViewById(R.id.btn\_Update)

btn\_Delete = findViewById(R.id.btn\_Detele)

btn\_Next = findViewById(R.id.btn\_Next)

btn\_Perv = findViewById(R.id.btn\_Perv)

btn\_First = findViewById(R.id.btn\_First)

btn\_Last = findViewById(R.id.btn\_Last)

showlist = findViewById(R.id.showList)

btn\_Showdata = findViewById(R.id.btn\_showdata)

search\_data = findViewById(R.id.search\_data)

var helper = MyDBHelper(applicationContext)

var db = helper.writableDatabase

Toast.makeText(applicationContext, "database and table created", Toast.LENGTH\_SHORT).show()

rs = db.rawQuery("Select Sid \_id , Sname , Sem FROM Student ",null)

if(rs.moveToFirst())

{

ed\_Sname.setText(rs.getString(1))

ed\_Sem.setText(rs.getString(2))

}

btn\_Insert.setOnClickListener {

var cv = ContentValues()

cv.put("Sname",ed\_Sname.text.toString())

cv.put("Sem",ed\_Sem.text.toString())

db.insert("Student" , null ,cv)

rs = db.rawQuery("Select Sid \_id , Sname , Sem FROM Student ",null)

showMessage("Record Inserted Successfully")

}

btn\_Update.setOnClickListener {

var cv = ContentValues()

cv.put("Sname",ed\_Sname.text.toString())

cv.put("Sem",ed\_Sem.text.toString())

db.update("Student" ,cv,"Sid = ?", arrayOf(rs.getString(0)))

rs = db.rawQuery("Select Sid \_id , Sname , Sem FROM Student ",null)

showMessage("Record Updated Successfully")

clear()

}

btn\_Delete.setOnClickListener {

db.delete("Student" ,"Sid = ?", arrayOf(rs.getString(0)))

rs = db.rawQuery("Select Sid \_id , Sname , Sem FROM Student ",null)

showMessage("Record Deleted Successfully")

clear()

}

btn\_Clear.setOnClickListener {

clear()

}

btn\_Next.setOnClickListener {

if(rs.moveToNext())

{

ed\_Sname.setText(rs.getString(1))

ed\_Sem.setText(rs.getString(2))

}

else if(rs.moveToFirst())

{

ed\_Sname.setText(rs.getString(1))

ed\_Sem.setText(rs.getString(2))

}

else{

Toast.makeText(applicationContext, "Data Not found !!", Toast.LENGTH\_SHORT).show()

}

}

btn\_Perv.setOnClickListener {

if(rs.moveToPrevious())

{

ed\_Sname.setText(rs.getString(1))

ed\_Sem.setText(rs.getString(2))

}

else if(rs.moveToFirst())

{

ed\_Sname.setText(rs.getString(1))

ed\_Sem.setText(rs.getString(2))

}

else{

Toast.makeText(applicationContext, "Data Not found !!", Toast.LENGTH\_SHORT).show()

}

}

btn\_First.setOnClickListener {

if(rs.moveToFirst()){

ed\_Sname.setText(rs.getString(1))

ed\_Sem.setText(rs.getString(2))

}

else{

Toast.makeText(applicationContext, "Data Note Found !!", Toast.LENGTH\_SHORT).show()

}

}

btn\_Last.setOnClickListener {

if(rs.moveToLast()){

ed\_Sname.setText(rs.getString(1))

ed\_Sem.setText(rs.getString(2))

}

else{

Toast.makeText(applicationContext, "Data Note Found !!", Toast.LENGTH\_SHORT).show()

}

}

// var fromColumns = arrayOf("Sname", "Sem")

// var toViews = intArrayOf(android.R.id.text1, android.R.id.text2)

// var adapter = SimpleCursorAdapter(this,android.R.layout.simple\_list\_item\_2, rs, fromColumns, toViews, 0)

// showlist.adapter = adapter

btn\_Showdata.setOnClickListener {

var fromColumns = arrayOf("Sname", "Sem")

var toViews = intArrayOf(R.id.textname , R.id.textsem)

var adapter = SimpleCursorAdapter(applicationContext,R.layout.my\_layout, rs, fromColumns, toViews)

showlist.adapter = adapter

search\_data.queryHint = ("Search Among ${rs.count} Records")

search\_data.setOnQueryTextListener(object : SearchView.OnQueryTextListener{

override fun onQueryTextSubmit(p0: String?): Boolean {

return false

}

override fun onQueryTextChange(p0: String?): Boolean {

rs = db.rawQuery("select Sid \_id , Sname , Sem from Student where Sname like '%${p0}%'",null)

adapter.changeCursor(rs)

return false

}

})

}

}

private fun clear() {

ed\_Sname.setText("")

ed\_Sem.setText("")

ed\_Sname.requestFocus()

}

private fun showMessage(s: String) {

AlertDialog.Builder(this)

.setTitle("Success!!!")

.setMessage(s)

.setPositiveButton("Ok", {dialogInterface, i->

if(rs.moveToFirst()){

ed\_Sname.setText(rs.getString(1))

ed\_Sem.setText(rs.getString(2))

}else{

Toast.makeText(applicationContext, "Data not Found", Toast.LENGTH\_SHORT).show()

}

}).show()

}

}

**Activity\_main.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"

android:orientation="vertical"

android:layout\_margin="10dp"

tools:context=".MainActivity">

<SearchView

android:id="@+id/search\_data"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:background="#F0F2FF"

/>

<EditText

android:id="@+id/ed\_Sname"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:textSize="20dp"

android:hint="Enter Student Name "/>

<EditText

android:id="@+id/ed\_Sem"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:textSize="20dp"

android:hint="Enter Student Semester "/>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<Button

android:id="@+id/btn\_Insert"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="INSERT"

android:layout\_margin="1dp"

/>

<Button

android:id="@+id/btn\_Update"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="UPDATE"

android:layout\_margin="1dp"

/>

<Button

android:id="@+id/btn\_Detele"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="DELETE"

android:layout\_margin="1dp"

/>

<Button

android:id="@+id/btn\_Clear"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="CLEAR"

android:layout\_margin="1dp"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<Button

android:id="@+id/btn\_Next"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="NEXT"

android:layout\_margin="1dp"

/>

<Button

android:id="@+id/btn\_Perv"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="PERV"

android:layout\_margin="1dp"

/>

<Button

android:id="@+id/btn\_First"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="FIRST"

android:layout\_margin="1dp"

/>

<Button

android:id="@+id/btn\_Last"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="last"

android:layout\_margin="1dp"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="horizontal">

<Button

android:id="@+id/btn\_showdata"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:text="Show All Data"

android:layout\_margin="1dp"

/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:orientation="vertical">

<ListView

android:id="@+id/showList"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

/>

</LinearLayout>

</LinearLayout>

**MyDBHelper.kt**

package com.example.database

import android.content.Context

import android.database.sqlite.SQLiteDatabase

import android.database.sqlite.SQLiteOpenHelper

class MyDBHelper (context : Context) : SQLiteOpenHelper(context, "Student\_DB", null,1){

override fun onCreate(p0: SQLiteDatabase?) {

p0?.execSQL("create table Student (Sid integer primary key autoincrement , Sname text , Sem number)")

p0?.execSQL("insert into Student(Sname , Sem) values ('rahul',3)")

p0?.execSQL("insert into Student(Sname , Sem) values ('jay',3)")

}

override fun onUpgrade(p0: SQLiteDatabase?, p1: Int, p2: Int) {

}

}

**my\_layout.xml**

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"

android:orientation="horizontal"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<TextView

android:id="@+id/textname"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:gravity="center"

android:padding="3dp"

android:layout\_margin="10dp"

android:background="#EAE7E7"

android:textSize="20dp"

android:textColor="#3640F6"/>

<TextView

android:id="@+id/textsem"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_weight="1"

android:gravity="center"

android:padding="3dp"

android:layout\_margin="10dp"

android:background="#EAE7E7"

android:textSize="20dp"

android:textColor="#3640F6"/>

</LinearLayout>