Assignment 03 – Attendance Managment System – Three Modules CS407 – Mobile Application Development

Attempted By

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Classes ERD

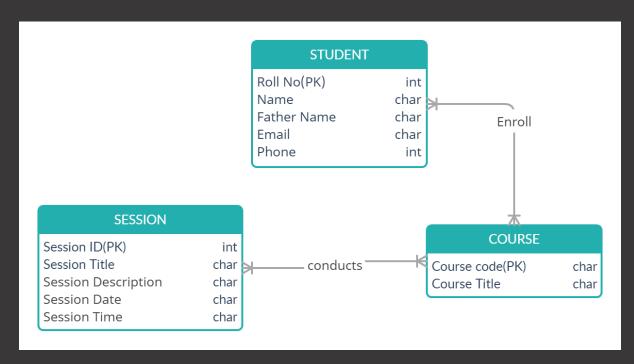


Figure 1 ERD DIAGRAM

AndroidManifest.xml

DBHelper.java

```
import java.util.ArrayList;
import java.util.Hashtable;
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.DatabaseUtils;
import android.database.sqlite.SQLiteOpenHelper;
import android.database.sqlite.SQLiteDatabase;
public class DBHelper extends SQLiteOpenHelper {
    public static final String DATABASE NAME =
    public static final String SESSION TABLE NAME = "Session";
    public static final String SESSION COLUMN SessionDesc =
    public static final String SESSION COLUMN SessionDate =
    public static final String Session COLUMN SessionTime =
    public static final String STUDENT TABLE NAME = "Student";
    public static final String STUDENT COLUMN ROLLNO = "StudentRollNo";
    public static final String STUDENT COLUMN FATHER NAME =
    public static final String STUDENT COLUMN EMAIL = "StudentEmail";
    public static final String STUDENT COLUMN PHONE = "StudentPhone";
    public static final String COURSE TABLE NAME = "Course";
    public static final String COURSE COLUMN CourseCode = "CourseCode";
```

```
public DBHelper(Context context) {
    @Override
    public void onCreate(SQLiteDatabase db) {
        // TODO Auto-generated method stub
        db.execSQL(
        db.execSQL(
        db.execSQL(
    @Override
    public void onUpgrade (SQLiteDatabase db, int oldVersion, int
        // TODO Auto-generated method stub
        db.execSQL("DROP TABLE IF EXISTS Session");
        db.execSQL("DROP TABLE IF EXISTS Student");
        db.execSQL("DROP TABLE IF EXISTS Course");
        onCreate(db);
   public boolean insertSession (String sId, String sTitle, String
sDesc, String sDate, String sTime) {
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
       contentValues.put(SESSION COLUMN SessionID, sId);
       contentValues.put(SESSION COLUMN SessionTitle, sTitle);
```

```
contentValues.put(SESSION COLUMN SessionDesc, sDesc);
        contentValues.put(Session COLUMN SessionTime, sTime);
        db.insert("Session", null, contentValues);
    public Cursor getAllData() {
        SQLiteDatabase db = this.getReadableDatabase();
        Cursor cursor = db.rawQuery(res, null);
        return cursor;
    public Cursor getData(int id) {
        SQLiteDatabase db = this.getReadableDatabase();
        Cursor res = db.rawQuery( "select * from Session where
        return res;
    public int numberOfRows(){
        SQLiteDatabase db = this.getReadableDatabase();
        int numRows = (int) DatabaseUtils.queryNumEntries(db,
       return numRows;
    public boolean updateSession (String id, String sId, String sTitle,
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(SESSION COLUMN SessionID, sId);
        db.update("Session", contentValues, "SessionID = ?", new
String[] { id } );
    public Integer deleteSession (String id) {
        SQLiteDatabase db = this.getWritableDatabase();
                new String[] { id });
```

```
public boolean insertStudent (String stdRollNo, String stdName,
String stdFName, String stdEmail, String stdPh) {
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(STUDENT COLUMN NAME, stdName);
        contentValues.put(STUDENT COLUMN FATHER NAME, stdFName);
        db.insert("Student", null, contentValues);
    public Cursor getAllStdData() {
        SQLiteDatabase db = this.getReadableDatabase();
        Cursor cursor = db.rawQuery(res, null);
        return cursor;
    public boolean updateStudent (String sRollNo, String stdRollNo,
        SQLiteDatabase db = this.getWritableDatabase();
        contentValues.put(STUDENT COLUMN ROLLNO, stdRollNo);
        contentValues.put(STUDENT COLUMN NAME, stdName);
        contentValues.put(STUDENT COLUMN PHONE, stdPh);
        db.update("Student", contentValues, "StudentRollNo = ?", new
String[] { sRollNo } );
    public Integer deleteStudent (String id) {
        SQLiteDatabase db = this.getWritableDatabase();
        return db.delete("Student",
                new String[] { id });
```

```
public boolean insertCourse (String courseCode, String courseTitle)
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(COURSE COLUMN CourseCode, courseCode);
        contentValues.put(COURSE COLUMN CourseTitle, courseTitle);
        db.insert("Course", null, contentValues);
    public Cursor getAllCourseData() {
        SQLiteDatabase db = this.getReadableDatabase();
        String res = "select * from Course order by CourseCode desc";
        Cursor cursor = db.rawQuery(res, null);
        return cursor;
    public boolean updateCourse (String cc, String courseCode, String
courseTitle) {
        SQLiteDatabase db = this.getWritableDatabase();
        contentValues.put(COURSE COLUMN CourseCode, courseCode);
        contentValues.put(COURSE COLUMN CourseTitle, courseTitle);
        db.update("Course", contentValues, "CourseCode = ?", new
String[] { cc } );
    public Integer deleteCourse (String id) {
        SQLiteDatabase db = this.getWritableDatabase();
                new String[] { id });
```

activity_main.xml



Figure 2 MainMenu

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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">

    <ImageView
        android:layout_width="130dp"
        android:layout_height="130dp"
        android:layout_height="130dp"
        android:layout_marginStart="16dp"
        android:layout_marginLeft="16dp"
        android:layout_marginTop="16dp"</pre>
```

```
app:layout constraintEnd toEndOf="parent"
   app:layout constraintHorizontal bias="0.0"
   app:layout constraintStart toStartOf="parent"
   app:layout_constraintTop_toTopOf="parent"
    app:srcCompat="@drawable/uog jpeg" />
<TextView
   android:id="@+id/tvMainUOG"
   android:layout width="244dp"
   android:layout height="91dp"
    android:layout marginStart="130dp"
   android:layout marginLeft="130dp"
   android:layout marginTop="36dp"
   android:fontFamily="sans-serif-smallcaps"
   android:text="UNIVERSITY OF GUJRAT"
   android:textColor="#5C5B5B"
   app:layout constraintEnd toEndOf="parent"
   app:layout constraintHorizontal bias="1.0"
   app:layout constraintStart toStartOf="parent"
   app:layout constraintTop toTopOf="parent" />
<ImageView</pre>
   android:layout width="80dp"
   android:layout height="80dp"
   android:layout marginStart="18dp"
   android:layout marginLeft="18dp"
   app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/divider2"
   app:srcCompat="@drawable/iconfinder paul 27 2534341" />
<TextView
   android:id="@+id/tvSession"
   android:layout width="wrap content"
    android:layout height="wrap content"
   android:layout marginStart="32dp"
   android:layout marginLeft="32dp"
   android:layout marginTop="68dp"
   app:layout constraintStart toStartOf="parent"
   app:layout constraintTop toTopOf="@+id/SessionsLogo" />
<ImageView</pre>
   android:id="@+id/CourseLogo"
   android:layout width="50dp"
   android:layout height="50dp"
   android:layout marginStart="18dp"
   android:layout marginLeft="18dp"
   android:layout marginTop="14dp"
   app:layout constraintStart toEndOf="@+id/studentLogo"
   app:layout constraintTop toBottomOf="@+id/divider2"
   app:srcCompat="@drawable/pinclipart com crowd clipart 1917059"
```

```
<TextView
   android:id="@+id/tvCourses"
    android:layout width="wrap content"
    android:layout height="wrap content"
   android:layout marginTop="6dp"
   android:text="Courses"
   app:layout constraintEnd toEndOf="@+id/CourseLogo"
   app:layout constraintStart toStartOf="@+id/CourseLogo"
   app:layout constraintTop toBottomOf="@+id/CourseLogo" />
<View
   android:id="@+id/divider1"
   android:layout width="match parent"
   android:layout height="3dp"
   android:background="?android:attr/listDivider"
   app:layout constraintEnd toEndOf="parent"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/UOGLogo" />
<View
    android:id="@+id/divider2"
   android:layout width="match parent"
    android:layout height="3dp"
   android:layout marginTop="32dp"
   android:background="?android:attr/listDivider"
   app:layout constraintEnd toEndOf="parent"
    app:layout constraintStart toStartOf="parent"
   app:layout constraintTop toBottomOf="@+id/divider1" />
<View
   android:id="@+id/divider3"
   android:layout width="match parent"
   android:layout height="3dp"
   android:layout marginBottom="24dp"
   android:background="?android:attr/listDivider"
    app:layout constraintBottom toBottomOf="parent"
    app:layout constraintEnd toEndOf="parent"
   app:layout constraintStart toStartOf="parent" />
<TextView
   android:id="@+id/tvTitle"
    android:layout width="0dp"
   android:layout height="wrap content"
   android:gravity="center"
   app:layout constraintBottom toBottomOf="@+id/divider2"
   app:layout constraintEnd toEndOf="parent"
    app:layout constraintStart toStartOf="parent"
<TextView
```

```
android:layout width="wrap content"
        android: layout height="wrap content"
        android:layout marginTop="8dp"
        android:layout marginBottom="8dp"
        android:text="All Rights Reserved - CopyRights © MH"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="@+id/divider3" />
    <ImageView</pre>
        android:id="@+id/studentLogo"
        android:layout width="60dp"
        android:layout height="60dp"
        android:layout marginStart="8dp"
        android:layout marginLeft="8dp"
        android:layout marginTop="10dp"
        app:layout constraintStart toEndOf="@+id/SessionsLogo"
        app:layout constraintTop toBottomOf="@+id/divider2"
app:srcCompat="@drawable/graduate student flat blue simple icon with lon
    <TextView
        android:id="@+id/tvStudent"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Student"
        app:layout constraintEnd toEndOf="@+id/studentLogo"
        app:layout constraintStart toStartOf="@+id/studentLogo"
        app:layout constraintTop toTopOf="@+id/studentLogo" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

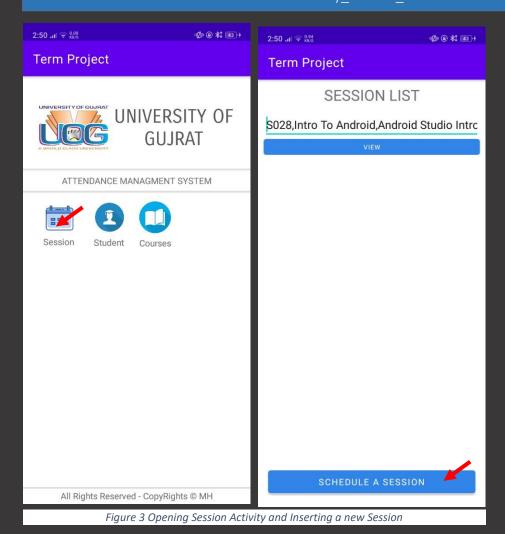
```
package com.example.termproject;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageButton;
import android.widget.ImageView;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
}
```

```
setContentView(R.layout.activity main);
        ImageView SessionsLogo = findViewById(R.id.SessionsLogo);
        TextView tvSession = findViewById(R.id.tvSession);
        ImageView StudentLogo = findViewById(R.id.studentLogo);
        TextView tvStudent = findViewById(R.id.tvStudent);
        ImageView CourseLogo = findViewById(R.id.CourseLogo);
        TextView tvCourses = findViewById(R.id.tvCourses);
        SessionsLogo.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Intent SessionIntent = new Intent(MainActivity.this,
SessionList.class);
                startActivity(SessionIntent);
        tvSession.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent SessionIntent = new Intent(MainActivity.this,
SessionList.class);
                startActivity(SessionIntent);
        StudentLogo.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent StudentIntent = new Intent(MainActivity.this,
StudentList.class);
                startActivity(StudentIntent);
            @Override
            public void onClick(View v) {
StudentList.class);
                startActivity(StudentIntent);
        CourseLogo.setOnClickListener(new View.OnClickListener() {
```

SESSION

activity_session_list.xml



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```
<androidx.constraintlayout.widget.ConstraintLayout</pre>
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout height="match parent"
    tools:context=".SessionList">
    <TextView
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="8dp"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent" />
    <Button
        android:id="@+id/btnScheduleSession"
        android:layout width="0dp"
        android:layout height="wrap content"
        android:layout marginStart="16dp"
        android:layout marginLeft="16dp"
        android:layout marginEnd="16dp"
        android:layout marginRight="16dp"
        android:layout marginBottom="16dp"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.0"
        app:layout constraintStart toStartOf="parent" />
    <androidx.recyclerview.widget.RecyclerView</pre>
        android:id="@+id/rvSessionList"
        android:layout width="0dp"
        android:layout height="0dp"
        android:layout marginStart="1dp"
        android:layout marginLeft="1dp"
        android:layout marginEnd="1dp"
        android:layout marginRight="1dp"
        app:layout constraintBottom toTopOf="@+id/btnScheduleSession"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/tvSessionListHeader"
</androidx.constraintlayout.widget.ConstraintLayout>
```

SessionList.java

```
package com.example.termproject;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.os.Environment;
import android.util.Log;
import android.widget.Button;
import android.widget.ListView;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.util.ArrayList;
public class SessionList extends AppCompatActivity {
    SessionAdapter sessionAdapter;
    ListView lvSessionList;
    RecyclerView rvSessionList;
    RecyclerView.LayoutManager layoutManager;
    List<Session> SessionList = new ArrayList<>();
    SessionRecyclerAdapter sessionRecyclerAdapter;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity session list);
        rvSessionList = findViewById(R.id.rvSessionList);
        layoutManager = new LinearLayoutManager(this);
        rvSessionList.setLayoutManager(layoutManager);
```

```
SessionRecyclerAdapter(SessionList);
        rvSessionList.setAdapter(sessionRecyclerAdapter);
        Cursor cursor = new DBHelper(this).getAllData();
        while (cursor.moveToNext()) {
            SessionList.add(new
Session(cursor.getString(0), cursor.getString(1),
                    cursor.getString(2), cursor.getString(3),
cursor.getString(4)));
        sessionRecyclerAdapter.notifyDataSetChanged();
        Button btnScheduleSession =
findViewById(R.id.btnScheduleSession);
        btnScheduleSession.setOnClickListener(new View.OnClickListener()
            @Override
            public void onClick(View v) {
                Intent scheduleSessionIntent = new
Intent(SessionList.this, SessionRegistrationForm.class);
                startActivity(scheduleSessionIntent);
    @Override
    protected void onRestart() {
        super.onRestart();
        finish();
```

activity_session_registration_form.xml

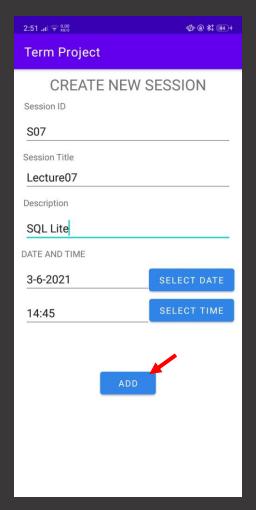


Figure 4 Adding new session

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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=".SessionRegistrationForm">

    <ScrollView
        android:layout_width="0dp"
        android:layout_height="0dp"
        android:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">
```

```
<androidx.constraintlayout.widget.ConstraintLayout</pre>
    android: layout width="match parent"
    android:layout height="match parent">
    <EditText
        android:id="@+id/etSDesc"
        android:layout width="0dp"
        android:layout height="wrap content"
        android:layout marginStart="16dp"
        android:layout marginLeft="16dp"
        android:layout marginTop="8dp"
        android:layout marginEnd="16dp"
        android:layout marginRight="16dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.0"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/tvSDesc" />
    <TextView
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="8dp"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.051"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/etSTitle" />
    <TextView
        android:layout width="wrap content"
        android:layout height="0dp"
        android:layout_marginTop="8dp"
        android:text="CREATE NEW SESSION"
        android:textSize="24sp"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.498"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent" />
    <TextView
        android:id="@+id/tvSTitle"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="8dp"
        android:text="Session Title"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.051"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/etSId" />
```

```
<TextView
    android:id="@+id/tvSId"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:text="Session ID"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvUHeader" />
<EditText
    android:id="@+id/etSId"
    android:layout width="0dp"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:layout marginEnd="16dp"
    android: layout marginRight="16dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="1.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvSId" />
<TextView
    android:id="@+id/tvDateTime"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="8dp"
    android:text="DATE AND TIME"
    app:layout constraintHorizontal bias="0.045"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etSDesc" />
<Button
    android:id="@+id/btnAdd"
    android: layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="64dp"
    android:layout marginBottom="8dp"
    android:text="ADD"
    app:backgroundTint="#3184E8"
    app:layout constraintBottom toBottomOf="parent"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/in time"
    app:layout constraintVertical bias="0.0" />
```

```
<EditText
    android:id="@+id/etSTitle"
    android:layout width="0dp"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvSTitle" />
<EditText
   android:id="@+id/in date"
    android:layout width="200dp"
    android:layout height="wrap content"
    android:layout alignParentStart="true"
    android:layout alignParentLeft="true"
    android:layout alignParentTop="true"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvDateTime" />
<Button
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout alignBottom="@+id/in date"
    android:layout marginTop="8dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:layout toEndOf="@+id/in date"
    android:layout toRightOf="@+id/in date"
    android:text="SELECT DATE"
    app:backgroundTint="#3184E8"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintStart toEndOf="@+id/in date"
    app:layout constraintTop toBottomOf="@+id/tvDateTime" />
<EditText
    android:id="@+id/in time"
    android:layout width="200dp"
    android:layout height="wrap content"
    android:layout below="@+id/in date"
    android:layout alignParentStart="true"
    android:layout alignParentLeft="true"
    android:layout marginStart="16dp"
```

```
android:layout marginLeft="16dp"
                android:layout marginTop="8dp"
                app:layout constraintEnd toStartOf="@+id/btn date"
                app:layout constraintHorizontal bias="0.0"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/in date" />
            <Button
                android:id="@+id/btn time"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout below="@+id/btn date"
                android:layout alignStart="@+id/btn date"
                android:layout alignLeft="@+id/btn date"
                android:layout marginEnd="16dp"
                android:layout marginRight="16dp"
                android:text="SELECT TIME"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintStart toEndOf="@+id/in time"
                app:layout constraintTop toBottomOf="@+id/btn date" />
        </androidx.constraintlayout.widget.ConstraintLayout>
    </scrollView>
</androidx.constraintlayout.widget.ConstraintLayout>
```

SessionRegistrationForm.java

```
package com.example.termproject;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.os.Environment;
import android.view.View;
import android.widget.Button;

import android.widget.EditText;
import android.widget.EditText;
import android.widget.TimePickerDialog;
import java.io.File;
import java.io.FileOutputStream;
import java.io.IoException;
import java.io.IoException;
import java.util.ArrayList;
import java.util.Calendar;
import java.util.List;

import android.app.DatePickerDialog;
import android.widget.DatePicker;
import android.widget.Toast;
```

```
public class SessionRegistrationForm extends AppCompatActivity {
    List<Session> sessions = new ArrayList<>();
    DBHelper dbHelper = new DBHelper(SessionRegistrationForm.this);
    Button btnDatePicker, btnTimePicker;
    EditText etSTitle;
    EditText etSDesc;
    EditText etSId;
    Button btnAdd;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity session registration form);
        etSId = findViewById(R.id.etSId);
        etSTitle = findViewById(R.id.etSTitle);
        etSDesc = findViewById(R.id.etSDesc);
        btnTimePicker = findViewById(R.id.btn time);
        txtTime = findViewById(R.id.in time);
        btnAdd =findViewById(R.id.btnAdd);
            @Override
            public void onClick(View v) {
                final Calendar c = Calendar.getInstance();
                mYear = c.get(Calendar.YEAR);
                mMonth = c.get(Calendar.MONTH);
                mDay = c.get(Calendar.DAY OF MONTH);
                DatePickerDialog datePickerDialog = new
DatePickerDialog(SessionRegistrationForm.this,
                        new DatePickerDialog.OnDateSetListener() {
```

```
@Override
                            public void onDateSet(DatePicker view, int
year, int monthOfYear, int dayOfMonth) {
                                txtDate.setText(dayOfMonth + "-" +
(monthOfYear + 1) + "-" + year);
                datePickerDialog.show();
        btnTimePicker.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                final Calendar c = Calendar.getInstance();
                mHour = c.get(Calendar. HOUR OF DAY);
                mMinute = c.get(Calendar.MINUTE);
                TimePickerDialog timePickerDialog = new
TimePickerDialog(SessionRegistrationForm.this,
                        new TimePickerDialog.OnTimeSetListener() {
                            @Override
                            public void onTimeSet(TimePicker view, int
hourOfDay,
                                                   int minute) {
                timePickerDialog.show();
        btnAdd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if(!etSTitle.getText().toString().isEmpty() &&
!etSDesc.getText().toString().isEmpty() &&
!txtDate.getText().toString().isEmpty() &&
!txtTime.getText().toString().isEmpty()){
                    dbHelper.insertSession(etSId.getText().toString()
,etSTitle.getText().toString(), etSDesc.getText().toString(),
```

session list layout.xml

```
<androidx.constraintlayout.widget.ConstraintLayout</pre>
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout width="match parent"
    android:layout height="wrap content">
    <Button
        android:id="@+id/btnView"
        android:layout width="0dp"
        android:layout height="25dp"
        android:layout marginStart="8dp"
        android:layout marginLeft="8dp"
        android:layout marginEnd="8dp"
        android:layout marginRight="8dp"
        android:gravity="center"
        android:insetTop="0dp"
        android:insetBottom="0dp"
        android:text="VIEW"
        android:textColor="#FFFFFF"
        android:textSize="10sp"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/tvSessionItem" />
    <EditText
        android:id="@+id/tvSessionItem"
        android:layout width="0dp"
        android:layout height="wrap content"
```

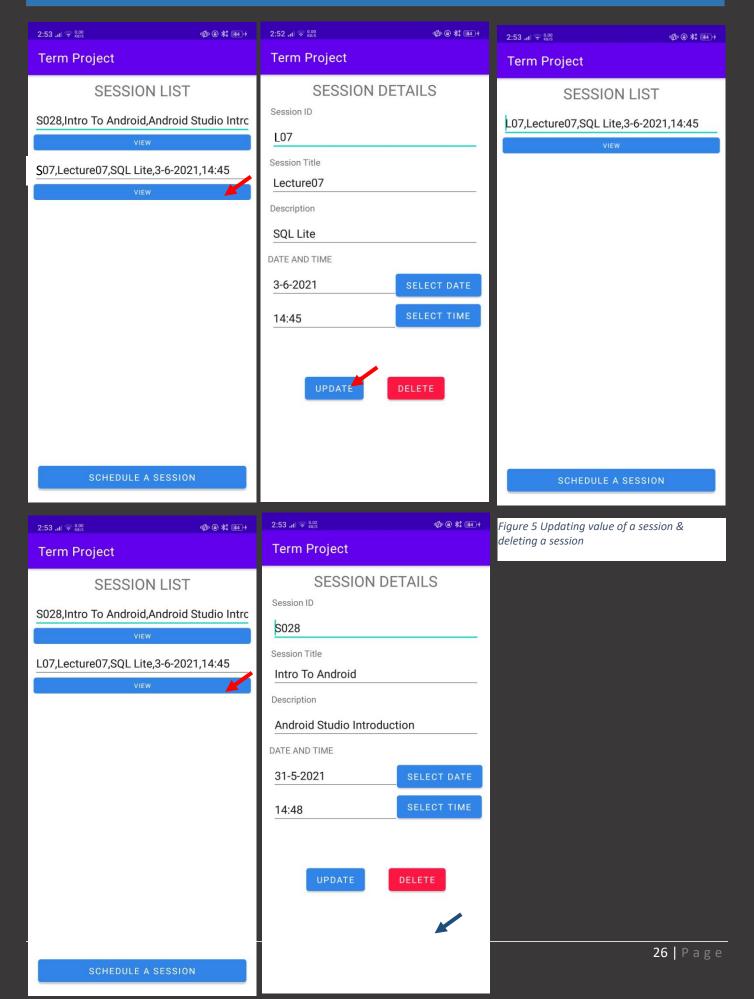
```
android:layout_marginStart="8dp"
android:layout_marginTop="8dp"
android:layout_marginEnd="8dp"
android:layout_marginRight="8dp"
android:layout_marginRight="8dp"
android:ems="10"
android:inputType="textPersonName"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

SessionRecyclerAdapter.java

```
import android.annotation.SuppressLint;
import android.content.Context;
import android.os.Build;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import androidx.annotation.RequiresApi;
import androidx.recyclerview.widget.RecyclerView;
public class SessionRecyclerAdapter extends
RecyclerView.Adapter<SessionRecyclerAdapter.sessionRecyclerHolder>{
    Context context;
    public SessionRecyclerAdapter(List<Session> sl) {
    @Override
    public SessionRecyclerAdapter.sessionRecyclerHolder
onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {
        context = parent.getContext();
        LayoutInflater layoutInflater =
LayoutInflater.from(parent.getContext());
        @SuppressLint("ViewHolder") View view =
layoutInflater.inflate(R.layout.session list layout, parent, false);
        SessionRecyclerAdapter.sessionRecyclerHolder
sessionRecyclerHolder = new
SessionRecyclerAdapter.sessionRecyclerHolder(view);
```

```
return sessionRecyclerHolder;
    @Override
    public void onBindViewHolder(@NonNull
SessionRecyclerAdapter.sessionRecyclerHolder holder, int position) {
holder.tvSessionItem.setText(sessionList.get(position).toString());
        String OldData = holder.tvSessionItem.getText().toString();
            @RequiresApi(api = Build.VERSION CODES.KITKAT)
            @Override
            public void onClick(View v) {
                String temp = sessionList.get(position).getSessionId();
                Intent intent = new Intent(context, SessionRUD.class);
                intent.putExtra("ID", temp);
                context.startActivity(intent);
    @Override
    public int getItemCount() {
        return sessionList.size();
    public class sessionRecyclerHolder extends RecyclerView.ViewHolder {
        EditText tvSessionItem;
        Button btnView;
        public sessionRecyclerHolder(@NonNull View itemView) {
            tvSessionItem = itemView.findViewById(R.id.tvSessionItem);
```

activity_session_rud.xml



```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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=".SessionRUD">
        <ScrollView
            android:layout width="0dp"
            android:layout height="0dp"
            app:layout constraintBottom toBottomOf="parent"
            app:layout constraintEnd toEndOf="parent"
            app:layout constraintStart toStartOf="parent"
            app:layout constraintTop toTopOf="parent">
            <androidx.constraintlayout.widget.ConstraintLayout</pre>
                android:layout width="match parent"
                android:layout height="match parent">
                <EditText
                    android:id="@+id/etUSDesc"
                    android:layout width="0dp"
                    android:layout height="wrap content"
                    android: layout marginStart="16dp"
                    android:layout marginLeft="16dp"
                    android:layout marginTop="8dp"
                    android:layout marginEnd="16dp"
                    android:layout marginRight="16dp"
                    android:inputType="textPersonName"
                    app:layout constraintEnd toEndOf="parent"
                    app:layout constraintHorizontal bias="0.0"
                    app:layout constraintStart toStartOf="parent"
                    app:layout constraintTop toBottomOf="@+id/tvUSDesc"
                <TextView
                    android:id="@+id/tvUSDesc"
                    android:layout width="wrap content"
                    android:layout height="wrap content"
                    android:layout marginTop="8dp"
                    android:text="Description"
                    app:layout constraintEnd toEndOf="parent"
                    app:layout constraintHorizontal bias="0.051"
                    app:layout constraintStart toStartOf="parent"
                    app:layout constraintTop toBottomOf="@+id/etUSTitle"
                <TextView
```

```
android:id="@+id/tvUHeader"
    android:layout width="wrap content"
    android:layout height="0dp"
    android:layout marginTop="8dp"
    android:text="SESSION DETAILS"
    android:textSize="24sp"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.498"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toTopOf="parent" />
<TextView
    android:id="@+id/tvUSTitle"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout_marginTop="8dp"
    android:text="Session Title"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.051"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etUSId" />
<TextView
    android:id="@+id/tvUSId"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:text="Session ID"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvUHeader"
<EditText
    android:id="@+id/etUSId"
    android:layout width="0dp"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="1.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvUSId" />
<TextView
    android:id="@+id/tvUDateTime"
```

```
android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="8dp"
    android:text="DATE AND TIME"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.045"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etUSDesc"
<Button
    android:id="@+id/btnUpdate"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginStart="70dp"
    android:layout marginLeft="70dp"
    android:layout marginTop="64dp"
    android:layout marginBottom="8dp"
    app:layout constraintBottom toBottomOf="parent"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/in time"
    app:layout constraintVertical bias="0.0" />
<Button
    android:id="@+id/btnDelete"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="64dp"
    android:layout marginEnd="70dp"
    android:layout marginRight="70dp"
    android:layout marginBottom="8dp"
    android:text="DELETE"
    app:backgroundTint="#FF1744"
    app:layout constraintBottom toBottomOf="parent"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="1.0"
    app:layout constraintStart toEndOf="@+id/btnUpdate"
    app:layout constraintTop toBottomOf="@+id/in time"
    app:layout constraintVertical bias="0.0" />
<EditText
    android:id="@+id/etUSTitle"
    android:layout width="0dp"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:ems="10"
    android:inputType="textPersonName"
```

```
app:layout constraintEnd toEndOf="parent"
                    app:layout constraintStart toStartOf="parent"
                    app:layout constraintTop toBottomOf="@+id/tvUSTitle"
                <EditText
                    android:id="@+id/in date"
                    android:layout width="200dp"
                    android:layout height="wrap content"
                    android:layout alignParentStart="true"
                    android:layout alignParentLeft="true"
                    android:layout alignParentTop="true"
                    android:layout marginStart="16dp"
                    android:layout marginLeft="16dp"
                    android:layout marginTop="8dp"
                    app:layout constraintEnd toEndOf="parent"
                    app:layout constraintHorizontal bias="0.0"
                    app:layout constraintStart toStartOf="parent"
app:layout constraintTop toBottomOf="@+id/tvUDateTime" />
                <Button
                    android:id="@+id/btn date"
                    android:layout width="wrap content"
                    android:layout height="wrap content"
                    android:layout alignBottom="@+id/in date"
                    android:layout marginTop="8dp"
                    android:layout marginEnd="16dp"
                    android:layout marginRight="16dp"
                    android:layout toEndOf="@+id/in date"
                    android:layout toRightOf="@+id/in date"
                    app:backgroundTint="#3184E8"
                    app:layout constraintEnd toEndOf="parent"
                    app:layout constraintStart toEndOf="@+id/in_date"
app:layout constraintTop toBottomOf="@+id/tvUDateTime" />
                <EditText
                    android:layout width="200dp"
                    android:layout height="wrap content"
                    android:layout below="@+id/in date"
                    android:layout alignParentStart="true"
                    android:layout alignParentLeft="true"
                    android:layout marginStart="16dp"
                    android:layout marginLeft="16dp"
                    android:layout marginTop="8dp"
                    app:layout constraintEnd toStartOf="@+id/btn_date"
                    app:layout constraintHorizontal bias="0.0"
                    app:layout constraintStart toStartOf="parent"
                    app:layout constraintTop toBottomOf="@+id/in date"
```

```
<Button
                    android:id="@+id/btn time"
                    android:layout width="wrap content"
                    android:layout height="wrap content"
                    android:layout below="@+id/btn date"
                    android:layout alignStart="@+id/btn date"
                    android:layout alignLeft="@+id/btn date"
                    android:layout marginEnd="16dp"
                    android:layout marginRight="16dp"
                    android:text="SELECT TIME"
                    app:backgroundTint="#3184E8"
                    app:layout constraintEnd toEndOf="parent"
                    app:layout constraintStart toEndOf="@+id/in time"
                    app:layout constraintTop toBottomOf="@+id/btn date"
            </androidx.constraintlayout.widget.ConstraintLayout>
        </ScrollView>
</androidx.constraintlayout.widget.ConstraintLayout>
```

SessionRUD.java

```
package com.example.termproject;
import androidx.appcompat.app.AppCompatActivity;
import android.app.DatePickerDialog;
import android.app.TimePickerDialog;
import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.util.Log;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.EditText;
import android.widget.TimePicker;
import android.widget.Toast;
import java.util.ArrayList;
import java.util.List;
public class SessionRUD extends AppCompatActivity {
    DBHelper dbHelper = new DBHelper(SessionRUD.this);
   Button btnDatePicker, btnTimePicker;
   EditText txtDate, txtTime;
```

```
EditText etUSTitle:
    EditText etUSDesc;
    EditText etUSId;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity session rud);
        Intent intent = getIntent();
        String ID = intent.getStringExtra("ID");
            etUSId = findViewById(R.id.etUSId);
            etUSTitle = findViewById(R.id.etUSTitle);
            etUSDesc = findViewById(R.id.etUSDesc);
            btnDatePicker = findViewById(R.id.btn date);
            txtDate = findViewById(R.id.in date);
            btnTimePicker = findViewById(R.id.btn time);
            btnUpdate = findViewById(R.id.btnUpdate);
            btnDelete = findViewById(R.id.btnDelete);
        Cursor cursor = new DBHelper(this).getAllData();
        while (cursor.moveToNext()) {
            if(ID.equals(cursor.getString(0))){
                etUSId.setText(cursor.getString(0));
                etUSTitle.setText(cursor.getString(1));
                etUSDesc.setText(cursor.getString(2));
                txtDate.setText(cursor.getString(3));
                txtTime.setText(cursor.getString(4));
            btnDatePicker.setOnClickListener(new View.OnClickListener()
                @Override
                public void onClick(View v) {
                    final Calendar c = Calendar.getInstance();
                    mYear = c.qet(Calendar.YEAR);
                    mMonth = c.get(Calendar.MONTH);
                    mDay = c.get(Calendar.DAY OF MONTH);
                    DatePickerDialog datePickerDialog = new
DatePickerDialog(SessionRUD.this,
```

```
new DatePickerDialog.OnDateSetListener() {
                                @Override
                                public void onDateSet(DatePicker view,
int year, int monthOfYear, int dayOfMonth) {
                                    txtDate.setText(dayOfMonth + "-" +
(monthOfYear + 1) + "-" + year);
                    datePickerDialog.show();
            btnTimePicker.setOnClickListener(new View.OnClickListener()
                @Override
                public void onClick(View v) {
                    final Calendar c = Calendar.getInstance();
                    mHour = c.get(Calendar.HOUR OF DAY);
                    mMinute = c.get(Calendar.MINUTE);
                    TimePickerDialog timePickerDialog = new
TimePickerDialog(SessionRUD.this,
                            new TimePickerDialog.OnTimeSetListener() {
                                @Override
                                public void onTimeSet(TimePicker view,
int hourOfDay,
                                                       int minute) {
                                    txtTime.setText(hourOfDay + ":" +
minute);
                    timePickerDialog.show();
            btnUpdate.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    if(!etUSTitle.getText().toString().isEmpty() &&
!etUSDesc.getText().toString().isEmpty() &&
!txtDate.getText().toString().isEmpty() &&
!txtTime.getText().toString().isEmpty()){
                        dbHelper.updateSession(ID,
etUSId.getText().toString(),etUSTitle.getText().
                                toString(),
etUSDesc.getText().toString(), txtDate.getText().toString(),
                                txtTime.getText().toString());
                        finish();
```

Session.java

```
package com.example.termproject;
import androidx.annotation.CallSuper;
import java.sql.Time;
import java.util.Date;

public class Session {

    private String sessionId;
    private String sessionDesc;
    private String sessionDesc;
    private String sessionDate;
    private String sessionDate;
    private String sessionTime;

    public Session(String sid, String st, String sdesc, String sdate,
    String stime) {
        sessionId = sid;
        sessionDesc = sdesc;
        sessionDate = sdate;
        sessionTime = stime;
    }

    public Session(String str) {
        String[] Data = str.split(",");
        sessionId = Data[0];
        sessionTitle = Data[1];
    }
}
```

```
sessionDesc = Data[2];
        sessionTime = Data[4];
    public String getSessionId() { return sessionId; }
    public void setSessionId(String sessionId) { this.sessionId =
sessionId; }
    public String getSessionTitle() { return sessionTitle; }
    public void setSessionTitle(String sessionTitle) { this.sessionTitle
= sessionTitle; }
    public String getSessionDesc() { return sessionDesc;}
    public void setSessionDesc(String sessionDesc) { this.sessionDesc =
sessionDesc; }
    public String getSessionDate() {
    public void setSessionDate(String sessionDate) {
        this.sessionDate = sessionDate;
    public String getSessionTime() {
    public void setSessionTime(String sessionTime) {
        this.sessionTime = sessionTime;
    @Override
    public String toString() {
```

STUDENT

activity student list.xml



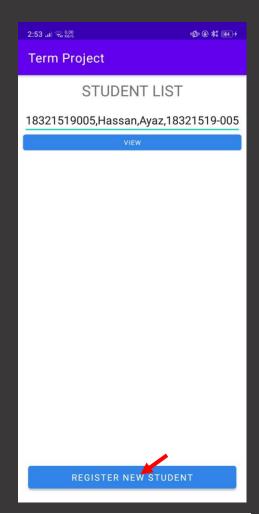


Figure 6 Opening Student Activity & Registering a new student

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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=".StudentList">
        <TextView
            android:layout width="wrap content"
            android:layout height="wrap content"
            android:layout marginTop="8dp"
            android:textSize="24sp"
            app:layout constraintEnd toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout constraintTop toTopOf="parent" />
        <Button
```

```
android:id="@+id/btnRegisterStudent"
            android:layout width="0dp"
            android:layout height="wrap content"
            android:layout marginStart="16dp"
            android:layout marginLeft="16dp"
            android:layout marginEnd="16dp"
            android:layout marginRight="16dp"
            android:layout marginBottom="16dp"
            app:backgroundTint="#3184E8"
            app:layout constraintBottom toBottomOf="parent"
            app:layout constraintEnd toEndOf="parent"
            app:layout constraintHorizontal bias="0.0"
            app:layout constraintStart toStartOf="parent" />
        <androidx.recyclerview.widget.RecyclerView</pre>
            android:id="@+id/rvStudentList"
            android:layout width="0dp"
            android:layout height="0dp"
app:layout constraintBottom toTopOf="@+id/btnReqisterStudent"
            app:layout constraintEnd toEndOf="parent"
            app:layout constraintStart toStartOf="parent"
app:layout constraintTop toBottomOf="@+id/tvStudentListHeader" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

StudentList.java

```
package com.example.termproject;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

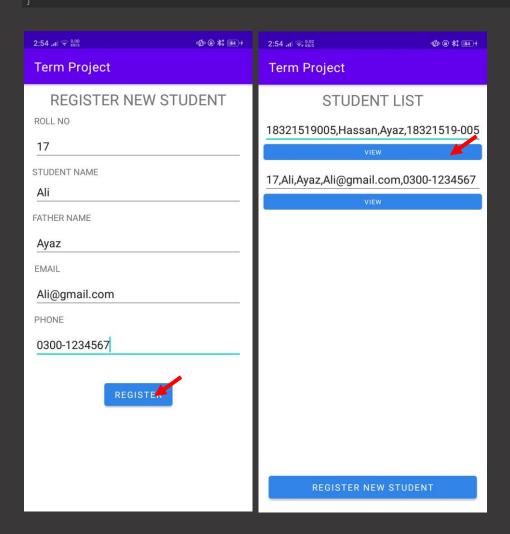
import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ListView;

import java.util.ArrayList;
import java.util.List;

public class StudentList extends AppCompatActivity {
    /*StudentAdapter studentAdapter;
    ListView lvStudentList;*/
    //
    RecyclerView rvStudentList;
```

```
RecyclerView.LayoutManager layoutManager;
    List<Student> StudentList = new ArrayList<>();
    StudentRecyclerAdapter studentRecyclerAdapter;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity student list);
        rvStudentList = findViewById(R.id.rvStudentList);
        layoutManager = new LinearLayoutManager(this);
        rvStudentList.setLayoutManager(layoutManager);
StudentRecyclerAdapter(StudentList);
        rvStudentList.setAdapter(studentRecyclerAdapter);
        Cursor cursor = new DBHelper(this).getAllStdData();
        while (cursor.moveToNext()) {
            StudentList.add(new
Student (cursor.getString(0), cursor.getString(1),
                    cursor.getString(2), cursor.getString(3),
cursor.getString(4)));
        studentRecyclerAdapter.notifyDataSetChanged();
        Button btnRegisterStudent =
        btnRegisterStudent.setOnClickListener(new View.OnClickListener()
            @Override
            public void onClick(View v) {
                Intent registerStudentIntent = new
Intent(StudentList.this, StudentRegistrationForm.class);
                startActivity(registerStudentIntent);
    @Override
    protected void onRestart() {
        Intent intent = getIntent();
        finish();
        startActivity(intent);
```

}



activity student registeration form.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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=".StudentRegistrationForm">

    <ScrollView
        android:layout_width="0dp"
        android:layout_height="0dp"
        android:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">
```

```
<androidx.constraintlayout.widget.ConstraintLayout</pre>
    android:layout width="match parent"
    android:layout height="match parent">
    <EditText
        android:id="@+id/etStdFName"
        android:layout width="0dp"
        android:layout height="wrap content"
        android:layout marginStart="16dp"
        android:layout marginLeft="16dp"
        android:layout marginTop="8dp"
        android:layout marginEnd="16dp"
        android:layout marginRight="16dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.0"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/tvStdFName" />
    <TextView
        android:id="@+id/tvStdFName"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="8dp"
        android:text="FATHER NAME"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.051"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/etStdName" />
    <EditText
        android:id="@+id/etStdEmail"
        android:layout width="0dp"
        android:layout height="wrap content"
        android:layout marginStart="16dp"
        android:layout marginLeft="16dp"
        android:layout marginTop="8dp"
        android:layout marginEnd="16dp"
        android:layout marginRight="16dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.0"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/tvStdEmail" />
    <TextView
        android:id="@+id/tvStdEmail"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="8dp"
        android:text="EMAIL"
        app:layout constraintEnd toEndOf="parent"
```

```
app:layout constraintHorizontal bias="0.051"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etStdFName" />
<EditText
    android:id="@+id/etStdPh"
    android:layout width="0dp"
    android:layout height="wrap content"
    android: layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvStdPh" />
<TextView
    android:id="@+id/tvStdPh"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="8dp"
    android:text="PHONE"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.051"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etStdEmail" />
<TextView
    android:id="@+id/tvStdHeader"
    android:layout width="wrap content"
    android:layout height="0dp"
    android:layout marginTop="8dp"
    android:text="REGISTER NEW STUDENT"
    android:textSize="24sp"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.498"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toTopOf="parent" />
<TextView
    android:id="@+id/tvStdName"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="8dp"
    android:text="STUDENT NAME"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.051"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etStdRollNo"
```

```
<TextView
    android:id="@+id/tvStdRollNo"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvStdHeader"
<EditText
    android:layout width="0dp"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="1.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvStdRollNo"
<But.ton
    android:id="@+id/btnStdRegister"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="32dp"
    android:layout marginBottom="8dp"
    android:text="REGISTER"
    app:layout constraintBottom toBottomOf="parent"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etStdPh"
    app:layout constraintVertical bias="0.0" />
<EditText
    android:id="@+id/etStdName"
    android:layout width="0dp"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
```

StudentRegistrationForm.java

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.util.List;
public class StudentRegistrationForm extends AppCompatActivity {
    List<Student> students = new ArrayList<>();
    DBHelper dbHelper = new DBHelper(StudentRegistrationForm.this);
    EditText etStdRollNo;
    EditText etStdName;
    EditText etStdFName;
    EditText etStdEmail;
    EditText etStdPh;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity student registration form);
        etStdName = findViewById(R.id.etStdName);
        etStdFName = findViewById(R.id.etStdFName);
        etStdEmail = findViewById(R.id.etStdEmail);
        etStdPh = findViewById(R.id.etStdPh);
```

```
btnStdRegister.setOnClickListener(new View.OnClickListener()
            @Override
            public void onClick(View v) {
                if(!etStdRollNo.getText().toString().isEmpty() &&
!etStdName.getText().toString().isEmpty() &&
!etStdFName.getText().toString().isEmpty() &&
!etStdEmail.getText().toString().isEmpty() &&
!etStdPh.getText().toString().isEmpty()){
dbHelper.insertStudent(etStdRollNo.getText().toString()
, etStdName.getText().toString(), etStdFName.getText().toString(),
                            etStdEmail.getText().toString(),
etStdPh.getText().toString());
                    finish();
                    Toast
toast=Toast.makeText(getApplicationContext(),"Fill All
Fields!", Toast.LENGTH LONG);
                    toast.show();
```

student list layout.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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">
    <Button
        android:id="@+id/btnStdView"
        android:layout width="0dp"
        android:layout height="25dp"
        android:layout marginStart="8dp"
        android:layout marginLeft="8dp"
        android:layout marginEnd="8dp"
        android:layout marginRight="8dp"
        android:gravity="center"
        android:insetTop="0dp"
        android:insetBottom="0dp"
        android:text="VIEW"
        android:textColor="#FFFFFFF"
        android:textSize="10sp"
```

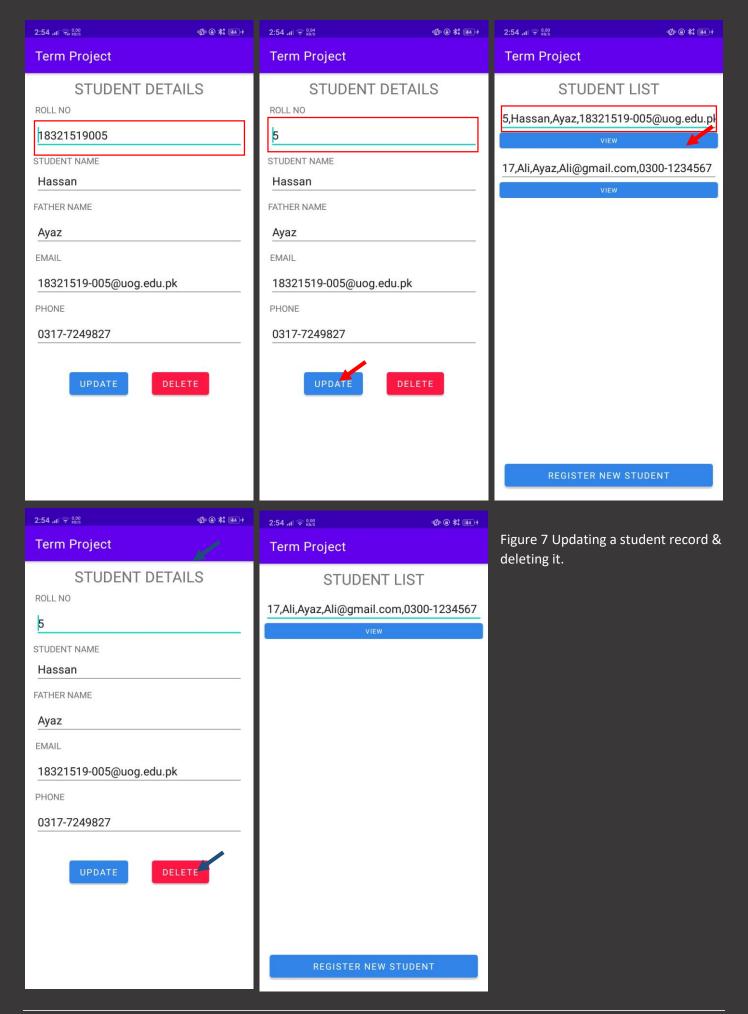
```
app:backgroundTint="#3184E8"
        app:iconTint="#FFFFFF"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/tvStudentItem" />
    <EditText
        android:id="@+id/tvStudentItem"
        android:layout width="0dp"
        android:layout height="wrap content"
        android:layout marginStart="8dp"
        android:layout marginLeft="8dp"
        android:layout marginTop="8dp"
        android:layout marginEnd="8dp"
        android:layout marginRight="8dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

StudentRecyclerAdapter.java

```
import android.annotation.SuppressLint;
import android.content.Context;
import android.content.Intent;
import android.os.Build;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;
import java.util.List;
public class StudentRecyclerAdapter extends
RecyclerView.Adapter<StudentRecyclerAdapter.studentRecyclerHolder>{
    List<Student> studentList;
    public StudentRecyclerAdapter(List<Student> sl) {
        studentList=sl;
    @Override
```

```
public StudentRecyclerAdapter.studentRecyclerHolder
onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {
        context = parent.getContext();
        LayoutInflater layoutInflater =
LayoutInflater.from(parent.getContext());
layoutInflater.inflate(R.layout.student list layout, parent, false);
        StudentRecyclerAdapter.studentRecyclerHolder
studentRecyclerHolder = new
StudentRecyclerAdapter.studentRecyclerHolder(view);
        return studentRecyclerHolder;
    @Override
    public void onBindViewHolder(@NonNull
StudentRecyclerAdapter.studentRecyclerHolder holder, int position) {
holder.tvStudentItem.setText(studentList.get(position).toString());
        String OldData = holder.tvStudentItem.getText().toString();
        holder.btnStdView.setOnClickListener(new View.OnClickListener()
            @RequiresApi(api = Build.VERSION CODES.KITKAT)
            @Override
            public void onClick(View v) {
                String temp = studentList.get(position).getRollNo();
                Intent intent = new Intent(context, StudentRUD.class);
                intent.putExtra("ID", temp);
                context.startActivity(intent);
    @Override
    public int getItemCount() {
        return studentList.size();
    public class studentRecyclerHolder extends RecyclerView.ViewHolder {
        EditText tvStudentItem;
        Button btnStdView;
        public studentRecyclerHolder(@NonNull View itemView) {
            super(itemView);
            tvStudentItem = itemView.findViewById(R.id.tvStudentItem);
            btnStdView = itemView.findViewById(R.id.btnStdView);
```

activity student rud.xml



```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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=".StudentRUD">
    <ScrollView
        android:layout width="0dp"
        android:layout height="0dp"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent">
        <androidx.constraintlayout.widget.ConstraintLayout</pre>
            android:layout width="match parent"
            android:layout height="match parent">
            <EditText
                android:id="@+id/etUStdFName"
                android:layout width="0dp"
                android:layout height="wrap content"
                android: layout marginStart="16dp"
                android:layout marginLeft="16dp"
                android:layout marginTop="8dp"
                android:layout marginEnd="16dp"
                android:layout marginRight="16dp"
                android:inputType="textPersonName"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.0"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/tvUStdFName"
            <TextView
                android:id="@+id/tvUStdFName"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginTop="8dp"
                android:text="FATHER NAME"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.051"
                app:layout constraintStart toStartOf="parent"
            <EditText
                android:id="@+id/etUStdEmail"
                android:layout width="0dp"
                android:layout height="wrap_content"
```

```
android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvUStdEmail"
<TextView
    android:id="@+id/tvUStdEmail"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="8dp"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.051"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etUStdFName"
<EditText
    android:id="@+id/etUStdPh"
    android:layout width="0dp"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvUStdPh" />
<TextView
    android:id="@+id/tvUStdPh"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="8dp"
    android:text="PHONE"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.051"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etUStdEmail"
<TextView
```

```
android:id="@+id/tvUStdHeader"
    android:layout width="wrap content"
    android:layout height="0dp"
    android:layout_marginTop="8dp"
    android:text="STUDENT DETAILS"
    android:textSize="24sp"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.498"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toTopOf="parent" />
<TextView
    android:id="@+id/tvUStdName"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout_marginTop="8dp"
    android:text="STUDENT NAME"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.051"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/etUStdRollNo"
<TextView
    android:id="@+id/tvUStdRollNo"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:text="ROLL NO"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="0.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvUStdHeader"
<EditText
    android:id="@+id/etUStdRollNo"
    android:layout width="0dp"
    android:layout height="wrap content"
    android:layout marginStart="16dp"
    android:layout marginLeft="16dp"
    android:layout marginTop="8dp"
    android:layout marginEnd="16dp"
    android:layout marginRight="16dp"
    android:inputType="textPersonName"
    app:layout constraintEnd toEndOf="parent"
    app:layout constraintHorizontal bias="1.0"
    app:layout constraintStart toStartOf="parent"
    app:layout constraintTop toBottomOf="@+id/tvUStdRollNo"
```

```
<But.ton
                android:id="@+id/btnStdUpdate"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginStart="70dp"
                android:layout marginLeft="70dp"
                android:layout marginTop="32dp"
                android:layout marginBottom="8dp"
                android:text="UPDATE"
                app:backgroundTint="#3184E8"
                app:layout constraintBottom toBottomOf="parent"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.0"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/etUStdPh"
                app:layout constraintVertical bias="0.0" />
            <Button
                android:id="@+id/btnStdDelete"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginTop="32dp"
                android:layout marginEnd="70dp"
                android:layout marginRight="70dp"
                android:layout marginBottom="8dp"
                android:text="DELETE"
                app:backgroundTint="#FF1744"
                app:layout constraintBottom toBottomOf="parent"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="1.0"
                app:layout constraintStart toEndOf="@+id/btnStdUpdate"
                app:layout_constraintTop toBottomOf="@+id/etUStdPh"
                app:layout constraintVertical bias="0.0" />
            <EditText
                android:id="@+id/etUStdName"
                android:layout width="0dp"
                android:layout height="wrap content"
                android:layout marginStart="16dp"
                android:layout marginLeft="16dp"
                android:layout marginEnd="16dp"
                android:layout marginRight="16dp"
                android:ems="10"
                android:inputType="textPersonName"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/tvUStdName" />
        </androidx.constraintlayout.widget.ConstraintLayout>
    </ScrollView>
</androidx.constraintlayout.widget.ConstraintLayout>
```

StudentRUD.java

```
package com.example.termproject;
import androidx.appcompat.app.AppCompatActivity;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class StudentRUD extends AppCompatActivity {
    DBHelper dbHelper = new DBHelper(StudentRUD.this);
    EditText etUStdRollNo;
    EditText etUStdName;
    EditText etUStdFName;
    EditText etUStdEmail;
    EditText etUStdPh;
    Button btnStdUpdate, btnStdDelete;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity student rud);
        Intent intent = getIntent();
        String ID = intent.getStringExtra("ID");
        etUStdName = findViewById(R.id.etUStdName);
        etUStdFName = findViewById(R.id.etUStdFName);
        etUStdPh = findViewById(R.id.etUStdPh);
        btnStdUpdate = findViewById(R.id.btnStdUpdate);
        btnStdDelete = findViewById(R.id.btnStdDelete);
        Cursor cursor = new DBHelper(this).getAllStdData();
        while (cursor.moveToNext()) {
            if(ID.equals(cursor.getString(0))){
                etUStdRollNo.setText(cursor.getString(0));
                etUStdName.setText(cursor.getString(1));
                etUStdFName.setText(cursor.getString(2));
                etUStdEmail.setText(cursor.getString(3));
```

Student.java

```
package com.example.termproject;

public class Student {
    private String rollNo;
    private String Name;
    private String fatherName;
    private String email;
    private String phone;

    public Student(String rollNo, String name, String fatherName, String email, String phone) {
        this.rollNo = rollNo;
        this.Name = name;
        this.fatherName = fatherName;
        this.email = email;
        this.phone = phone;
    }

    public String getRollNo() {
        return rollNo;
    }

    public void setRollNo(String rollNo) {
```

```
this.rollNo = rollNo;
public String getName() {
public void setName(String name) {
public String getFatherName() {
public void setFatherName(String fatherName) {
public String getEmail() {
public void setEmail(String email) {
public String getPhone() {
public void setPhone(String phone) {
@Override
public String toString() {
```

COURSE

activity_course_list.xml



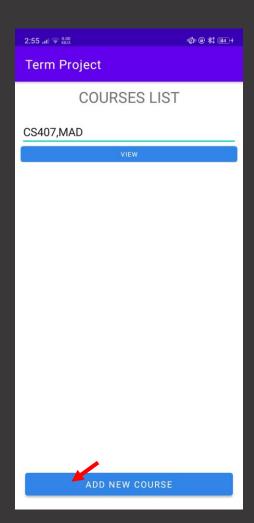


Figure 7 Opening Course Activity and registering a new course

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
    android:layout width="match parent"
    android:layout height="match parent"
    <TextView
        android:id="@+id/tvCoursesListHeader"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="8dp"
        android:text="COURSES LIST"
        android:textSize="24sp"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    <Button
        android:id="@+id/btnAddCourse"
        android:layout width="0dp"
```

```
android:layout marginStart="16dp"
        android:layout marginLeft="16dp"
        android:layout marginEnd="16dp"
        android:layout marginRight="16dp"
        android:layout marginBottom="16dp"
        android:text="ADD NEW COURSE"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.0"
        app:layout constraintStart toStartOf="parent" />
    <androidx.recyclerview.widget.RecyclerView</pre>
        android:layout width="0dp"
        android:layout height="0dp"
        android:layout marginStart="1dp"
        android:layout marginLeft="1dp"
        android:layout marginTop="8dp"
        android:layout marginEnd="1dp"
        android:layout marginRight="1dp"
        app:layout constraintBottom toTopOf="@+id/btnAddCourse"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.0"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/tvCoursesListHeader"
</androidx.constraintlayout.widget.ConstraintLayout>
```

CoursesList.java

```
package com.example.termproject;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

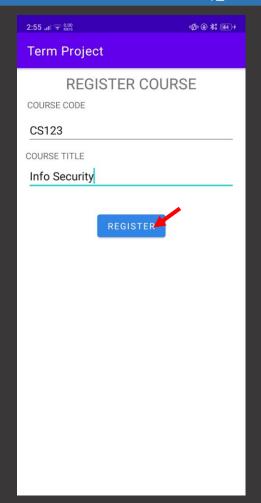
import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ListView;

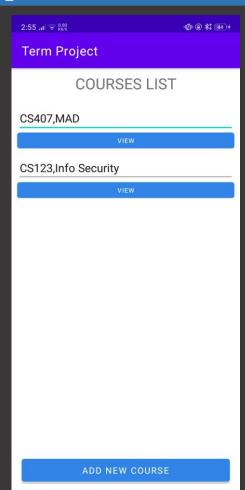
import java.util.ArrayList;
import java.util.List;

public class CoursesList extends AppCompatActivity {
    CourseAdapter courseAdapter;
    ListView lvCourseList;
```

```
RecyclerView rvCourseList;
    RecyclerView.LayoutManager layoutManager;
    List<Course> CourseList = new ArrayList<>();
    CourseRecyclerAdapter courseRecyclerAdapter;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity courses list);
        layoutManager = new LinearLayoutManager(this);
        rvCourseList.setLayoutManager(layoutManager);
        courseRecyclerAdapter = new CourseRecyclerAdapter(CourseList);
        rvCourseList.setAdapter(courseRecyclerAdapter);
        Cursor cursor = new DBHelper(this).getAllCourseData();
        while (cursor.moveToNext()) {
            CourseList.add(new
Course(cursor.getString(0), cursor.getString(1)));
        courseRecyclerAdapter.notifyDataSetChanged();
        Button btnAddCourse = findViewById(R.id.btnAddCourse);
        btnAddCourse.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent addCourseIntent = new Intent(CoursesList.this,
CourseRegistrationForm.class);
                startActivity(addCourseIntent);
    @Override
    protected void onRestart() {
        super.onRestart();
        finish();
```

activity_course_registration_form.xml





```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
    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"
    <ScrollView
        android:layout width="0dp"
        android:layout height="0dp"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent">
        <androidx.constraintlayout.widget.ConstraintLayout</pre>
            android:layout width="match parent"
            android:layout height="match parent">
```

```
android:id="@+id/tvCourseHeader"
                android:layout width="wrap content"
                android:layout height="0dp"
                android:layout marginTop="8dp"
                android:text="REGISTER COURSE"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.498"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toTopOf="parent" />
            <TextView
                android:id="@+id/tvCourseTitle"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginTop="8dp"
                android:text="COURSE TITLE"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.051"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/etCourseCode"
            <TextView
                android:id="@+id/tvCourseCode"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginStart="16dp"
                android:layout marginLeft="16dp"
                android:layout marginTop="8dp"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.0"
                app:layout constraintStart toStartOf="parent"
app:layout constraintTop toBottomOf="@+id/tvCourseHeader" />
            <EditText
                android:layout width="0dp"
                android:layout height="wrap content"
                android:layout marginStart="16dp"
                android:layout marginLeft="16dp"
                android:layout marginTop="8dp"
                android:layout marginEnd="16dp"
                android:layout marginRight="16dp"
                android:ems="10"
                android:inputType="textPersonName"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="1.0"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/tvCourseCode"
```

<TextView

```
<Button
                android:id="@+id/btnCourseRegister"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginTop="32dp"
                android:layout marginBottom="8dp"
                android:text="REGISTER"
                app:backgroundTint="#3184E8"
                app:layout constraintBottom toBottomOf="parent"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/etCourseTitle"
                app:layout constraintVertical bias="0.0" />
            <EditText
                android:id="@+id/etCourseTitle"
                android:layout width="0dp"
                android:layout height="wrap content"
                android:layout marginStart="16dp"
                android:layout marginLeft="16dp"
                android:layout marginEnd="16dp"
                android:ems="10"
                android:inputType="textPersonName"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/tvCourseTitle"
        </androidx.constraintlayout.widget.ConstraintLayout>
    </ScrollView>
</androidx.constraintlayout.widget.ConstraintLayout>
```

CourseRegistrationForm.java

```
package com.example.termproject;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.util.ArrayList;
import java.util.List;

public class CourseRegistrationForm extends AppCompatActivity {
    List<Course> Courses = new ArrayList<>>();
```

```
DBHelper dbHelper = new DBHelper(CourseRegistrationForm.this);
    EditText etCourseCode;
    EditText etCourseTitle;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity course registration form);
        etCourseTitle = findViewById(R.id.etCourseTitle);
        btnCourseRegister =findViewById(R.id.btnCourseRegister);
        btnCourseReqister.setOnClickListener(new View.OnClickListener()
            @Override
                if(!etCourseCode.getText().toString().isEmpty() &&
!etCourseTitle.getText().toString().isEmpty()){
dbHelper.insertCourse(etCourseCode.getText().toString()
,etCourseTitle.getText().toString());
                    finish();
toast=Toast.makeText(getApplicationContext(), "Fill All
                    toast.show();
```

course_list_layout.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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="wrap_content">
```

```
<Button
        android:layout width="0dp"
        android:layout height="25dp"
        android:layout marginStart="8dp"
        android:layout marginLeft="8dp"
        android:layout marginEnd="8dp"
        android:layout marginRight="8dp"
        android:gravity="center"
        android:insetTop="0dp"
        android:insetBottom="0dp"
        android:text="VIEW"
        android:textColor="#FFFFFFF"
        android:textSize="10sp"
        app:iconTint="#FFFFFF"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/tvCourseItem" />
    <EditText
        android:id="@+id/tvCourseItem"
        android:layout width="0dp"
        android:layout height="wrap content"
        android:layout marginStart="8dp"
        android:layout marginLeft="8dp"
        android:layout marginTop="8dp"
        android:layout marginEnd="8dp"
        android:layout marginRight="8dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

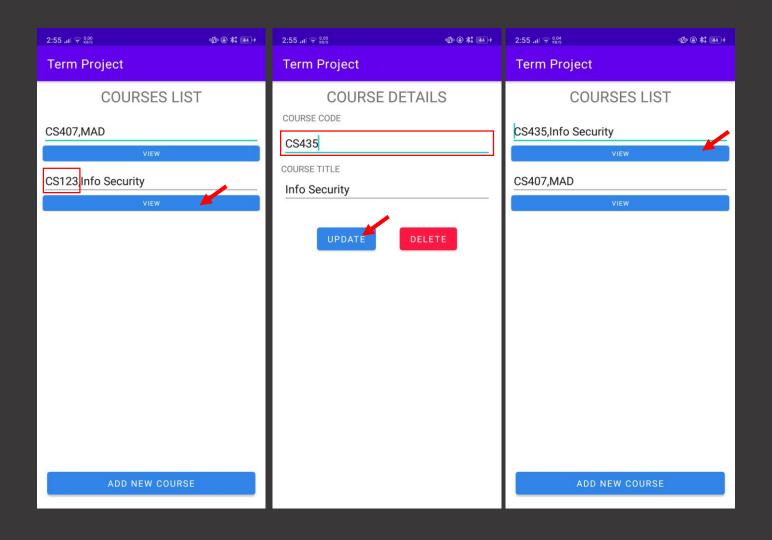
CourseRecyclerAdapter.java

```
package com.example.termproject;
import android.annotation.SuppressLint;
import android.content.Context;
import android.content.Intent;
import android.os.Build;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.annotation.NonNull;
```

```
import androidx.annotation.RequiresApi;
import androidx.recyclerview.widget.RecyclerView;
import java.util.List;
public class CourseRecyclerAdapter extends
RecyclerView.Adapter<CourseRecyclerAdapter.courseRecyclerHolder> {
    Context context;
    List<Course> courseList;
    public CourseRecyclerAdapter(List<Course> cl) {
        courseList=cl;
    @NonNull
    @Override
    public courseRecyclerHolder onCreateViewHolder(@NonNull ViewGroup
parent, int viewType) {
        context = parent.getContext();
        LayoutInflater layoutInflater =
LayoutInflater.from(parent.getContext());
layoutInflater.inflate(R.layout.course list layout, parent, false);
        CourseRecyclerAdapter.courseRecyclerHolder courseRecyclerHolder
= new CourseRecyclerAdapter.courseRecyclerHolder(view);
        return courseRecyclerHolder;
    @Override
    public void onBindViewHolder(@NonNull
CourseRecyclerAdapter.courseRecyclerHolder holder, int position) {
holder.tvCourseItem.setText(courseList.get(position).toString());
        String OldData = holder.tvCourseItem.getText().toString();
        holder.btnCourseView.setOnClickListener(new
            @RequiresApi(api = Build.VERSION CODES.KITKAT)
            @Override
            public void onClick(View v) {
                String temp = courseList.get(position).getCourseCode();
                Intent intent = new Intent(context, CourseRUD.class);
                intent.putExtra("ID", temp);
    @Override
    public int getItemCount() {
        return courseList.size();
```

```
public class courseRecyclerHolder extends RecyclerView.ViewHolder {
    EditText tvCourseItem;
    Button btnCourseView;
    public courseRecyclerHolder(@NonNull View itemView) {
        super(itemView);
        tvCourseItem = itemView.findViewById(R.id.tvCourseItem);
        btnCourseView = itemView.findViewById(R.id.btnCourseView);
    }
}
```

activity course rud.xml



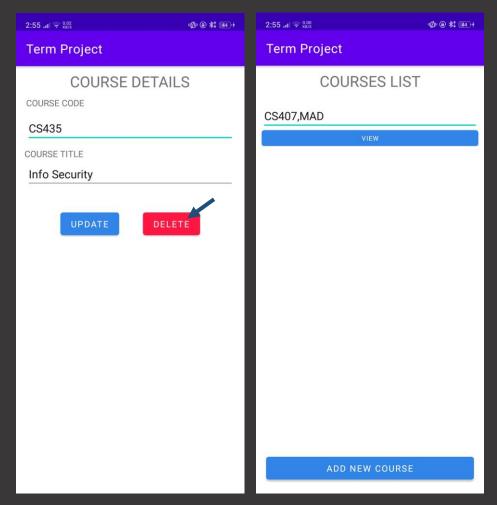


Figure 8Updating a course & Deleting it.

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
    android:layout width="match parent"
    android:layout height="match parent"
    <ScrollView
        android:layout width="0dp"
        android:layout height="0dp"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent">
        <androidx.constraintlayout.widget.ConstraintLayout</pre>
            android:layout width="match parent"
            android:layout height="match parent">
            <TextView
                android:id="@+id/tvUCourseHeader"
                android:layout width="wrap content"
```

```
android:layout height="0dp"
                android:layout marginTop="8dp"
                android:text="COURSE DETAILS"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.498"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toTopOf="parent" />
            <TextView
                android:id="@+id/tvUCourseTitle"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginTop="8dp"
                android:text="COURSE TITLE"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.051"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/etUCourseCode"
            <TextView
                android:id="@+id/tvUCourseCode"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginStart="16dp"
                android:layout marginLeft="16dp"
                android:layout marginTop="8dp"
                android:text="COURSE CODE"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.0"
                app:layout constraintStart toStartOf="parent"
app:layout constraintTop toBottomOf="@+id/tvUCourseHeader" />
            <EditText
                android:id="@+id/etUCourseCode"
                android:layout width="0dp"
                android:layout height="wrap content"
                android:layout marginStart="16dp"
                android:layout marginLeft="16dp"
                android:layout marginTop="8dp"
                android:layout marginEnd="16dp"
                android:layout marginRight="16dp"
                android:ems="10"
                android:inputType="textPersonName"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="1.0"
                app:layout constraintStart toStartOf="parent"
                app:layout constraintTop toBottomOf="@+id/tvUCourseCode"
            <Button
```

```
android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginStart="70dp"
                android:layout marginLeft="70dp"
                android:layout marginTop="32dp"
                android:layout marginBottom="8dp"
                app:backgroundTint="#3184E8"
                app:layout constraintBottom toBottomOf="parent"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="0.0"
                app:layout constraintStart toStartOf="parent"
app:layout constraintTop toBottomOf="@+id/etUCourseTitle"
                app:layout constraintVertical bias="0.0" />
            <Button
                android:id="@+id/btnCourseDelete"
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:layout marginTop="32dp"
                android:layout marginEnd="70dp"
                android:layout marginBottom="8dp"
                android:text="DELETE"
                app:backgroundTint="#FF1744"
                app:layout constraintBottom toBottomOf="parent"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintHorizontal bias="1.0"
app:layout constraintStart toEndOf="@+id/btnCourseUpdate"
app:layout constraintTop toBottomOf="@+id/etUCourseTitle"
                app:layout constraintVertical bias="0.0" />
            <EditText
                android:id="@+id/etUCourseTitle"
                android:layout width="0dp"
                android:layout height="wrap content"
                android:layout marginStart="16dp"
                android:layout marginLeft="16dp"
                android:layout marginEnd="16dp"
                android:layout marginRight="16dp"
                android:ems="10"
                android:inputType="textPersonName"
                app:layout constraintEnd toEndOf="parent"
                app:layout constraintStart toStartOf="parent"
app:layout constraintTop toBottomOf="@+id/tvUCourseTitle" />
        </androidx.constraintlayout.widget.ConstraintLayout>
    </scrollView>
</androidx.constraintlayout.widget.ConstraintLayout>
```

CourseRUD.java

```
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.database.Cursor;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class CourseRUD extends AppCompatActivity {
    DBHelper dbHelper = new DBHelper(CourseRUD.this);
   EditText etUCourseCode;
   EditText etUCourseTitle;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity course rud);
        Intent intent = getIntent();
        String ID = intent.getStringExtra("ID");
        etUCourseCode = findViewById(R.id.etUCourseCode);
        etUCourseTitle = findViewById(R.id.etUCourseTitle);
        btnCourseDelete = findViewById(R.id.btnCourseDelete);
        Cursor cursor = new DBHelper(this).getAllCourseData();
        while (cursor.moveToNext()) {
            if (ID.equals (cursor.getString(0))) {
                etUCourseCode.setText(cursor.getString(0));
                etUCourseTitle.setText(cursor.getString(1));
```

```
btnCourseUpdate.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {

         dbHelper.updateCourse(ID,
etUCourseCode.getText().toString(),etUCourseTitle.getText().toString());
        finish();
    }
});

btnCourseDelete.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        dbHelper.deleteCourse(ID);
        finish();
    }
});
}
```

Course.java

```
package com.example.termproject;

public class Course {
    private String courseCode;
    private String courseTitle;

    public Course(String courseCode, String courseTitle) {
        this.courseCode = courseCode;
        this.courseTitle = courseTitle;
}

    public String getCourseCode() {
        return courseCode;
}

    public void setCourseCode(String courseCode) {
        this.courseCode = courseCode;
}

    public String getCourseTitle() {
        return courseTitle;
}

    public void setCourseTitle(String courseTitle) {
        this.courseTitle = courseTitle;
}

    @Override
    public String toString() {
```

```
return courseCode + "," + courseTitle;
}
```