**Practical 26**

1. Write a Program to insert, delete and update record in database.

Xml Code :

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

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

xmlns:app="http://schemas.android.com/apk/res-auto"

xmlns:tools="http://schemas.android.com/tools"

tools:context=".MainActivity"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:paddingTop="20dp">

<TextView

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Student Database"

android:textColor="@color/black"

android:layout\_gravity="center"

android:textStyle="bold|italic"

android:textSize="40sp"

android:layout\_marginBottom="30dp"/>

<TableLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<TableRow

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:paddingStart="20dp">

<TextView

android:layout\_height="wrap\_content"

android:layout\_width="wrap\_content"

android:text="Student ID : "

android:textColor="@color/black"

android:textSize="20sp"/>

<EditText

android:layout\_width="200dp"

android:layout\_height="wrap\_content"

android:layout\_marginStart="10dp"

android:inputType="number"

android:id="@+id/ed1"/>

</TableRow>

<TableRow

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:paddingStart="20dp">

<TextView

android:layout\_height="wrap\_content"

android:layout\_width="wrap\_content"

android:text="Student Name : "

android:textSize="20sp"

android:textColor="@color/black"/>

<EditText

android:layout\_marginStart="10dp"

android:layout\_width="200dp"

android:layout\_height="wrap\_content"

android:inputType="text"

android:id="@+id/ed2"/>

</TableRow>

<TableRow

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:paddingStart="20dp">

<TextView

android:layout\_height="wrap\_content"

android:layout\_width="wrap\_content"

android:text="Student Fees : "

android:textSize="20sp"

android:textColor="@color/black"/>

<EditText

android:layout\_marginStart="10dp"

android:layout\_width="200dp"

android:layout\_height="wrap\_content"

android:inputType="number"

android:id="@+id/ed3"/>

</TableRow>

</TableLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="40dp"

android:gravity="center">

<Button

android:id="@+id/add"

android:layout\_width="190dp"

android:layout\_height="wrap\_content"

android:text="Insert"

android:textColor="@color/white"

android:layout\_marginHorizontal="3dp"

android:backgroundTint="@color/black"/>

<Button

android:id="@+id/update"

android:layout\_width="190dp"

android:layout\_height="wrap\_content"

android:text="Update"

android:textColor="@color/white"

android:layout\_marginHorizontal="3dp"

android:backgroundTint="@color/black"/>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:layout\_marginTop="15dp"

android:gravity="center">

<Button

android:id="@+id/delete"

android:layout\_width="190dp"

android:layout\_height="wrap\_content"

android:text="Delete"

android:textColor="@color/white"

android:backgroundTint="@color/black"

android:layout\_marginHorizontal="3dp"/>

<Button

android:id="@+id/view"

android:layout\_width="190dp"

android:layout\_height="wrap\_content"

android:text="VIEW"

android:textColor="@color/white"

android:backgroundTint="@color/black"

android:layout\_marginHorizontal="3dp"/>

</LinearLayout>

</LinearLayout>

Java Code

package com.example.exp26;

import androidx.appcompat.app.AlertDialog;

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 MainActivity extends AppCompatActivity {

Database myDB;

EditText ed1, ed2, ed3;

Button add, view, update, delete;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

myDB = new Database(this); //will call the constructor of Database class

ed1 = findViewById(R.id.ed1);

ed2 = findViewById(R.id.ed2);

ed3 = findViewById(R.id.ed3);

add = findViewById(R.id.add);

view = findViewById(R.id.view);

update = findViewById(R.id.update);

delete = findViewById(R.id.delete);

addF();

viewF();

updateF();

deleteF();

}

public void addF(){

add.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

boolean isInserted = myDB.addData(ed1.getText().toString(),

ed2.getText().toString(),ed3.getText().toString());

if (isInserted == true)

Toast.makeText(getApplicationContext(), "Data inserted Successfully!!!", Toast.LENGTH\_SHORT).show();

else

Toast.makeText(getApplicationContext(), "Failed to insert Data!!!", Toast.LENGTH\_SHORT).show();

}});}

public void viewF(){

view.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Cursor resultSet = myDB.viewData();

if (resultSet.getCount() == 0){

showMessage("Error!!!", "No Data Found");

return;}

StringBuffer buff = new StringBuffer();

while (resultSet.moveToNext()){

buff.append("ID = " + resultSet.getString(0));

buff.append("\nName = " + resultSet.getString(1));

buff.append("\nSalary = " + resultSet.getString(2)+"\n\n");

}

showMessage("Data", buff.toString());

}});}

public void updateF(){

update.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

boolean isUpdate = myDB.updateData(ed1.getText().toString(),ed2.getText().toString(), ed3.getText().toString());

if (isUpdate == true)

Toast.makeText(getApplicationContext(), "Data updated Successfully!!!", Toast.LENGTH\_SHORT).show();

else

Toast.makeText(getApplicationContext(), "Record not Found!!!", Toast.LENGTH\_SHORT).show();

}});}

public void deleteF(){

delete.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

Integer delRows = myDB.deleteData(ed1.getText().toString());

if (delRows > 0)

Toast.makeText(getApplicationContext(), "Data Deleted Successfully!!!", Toast.LENGTH\_SHORT).show();

else

Toast.makeText(getApplicationContext(), "Failed to delete Data!!!", Toast.LENGTH\_SHORT).show();

}});}

public void showMessage(String title, String msg){

androidx.appcompat.app.AlertDialog.Builder builder = new AlertDialog.Builder(this);

builder.setCancelable(true);

builder.setTitle(title);

builder.setMessage(msg);

builder.show();

}

}

Database Java Code :

package com.example.exp26;

import android.content.ContentValues;

import android.content.Context;

import android.database.Cursor;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

import androidx.annotation.Nullable;

public class Database extends SQLiteOpenHelper {

public static final String DATABASE\_NAME = "employee.db"; //case doesn't matter

public static final String TABLE\_NAME = "employee\_table";

public static final String COL\_ID = "ID";

public static final String COL\_NAME = "NAME";

public static final String COL\_FEES = "FEES";

public Database(@Nullable Context context) {

super(context, DATABASE\_NAME, null, 6996);

}

@Override

public void onCreate(SQLiteDatabase db) {

db.execSQL("create table " + TABLE\_NAME + " (ID INTEGER PRIMARY KEY AUTOINCREMENT, NAME TEXT, SALARY FLOAT)");

}

@Override

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

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

onCreate(db);

}

public boolean addData(String id, String name, String sal){

SQLiteDatabase db = this.getWritableDatabase();

ContentValues cv = new ContentValues();

cv.put(COL\_ID, id);

cv.put(COL\_NAME, name);

cv.put(COL\_FEES, sal);

long result = db.insert(TABLE\_NAME, null, cv);

// insert() method has return type of long which returns 1 if insertion failed

if (result == -1)

return false;

else

return true;

}

public Cursor viewData(){

SQLiteDatabase db = this.getWritableDatabase();

Cursor res = db.rawQuery("select \* from "+TABLE\_NAME, null);

return res;

}

public boolean updateData(String id, String name, String sal){

SQLiteDatabase db = this.getWritableDatabase();

ContentValues cv = new ContentValues();

cv.put(COL\_ID, id);

cv.put(COL\_NAME, name);

cv.put(COL\_FEES, sal);

Integer rows = db.update(TABLE\_NAME, cv, "id = ?", new String[]{ id });

if (rows>0)

return true;

else

return false;

}

public Integer deleteData(String id){

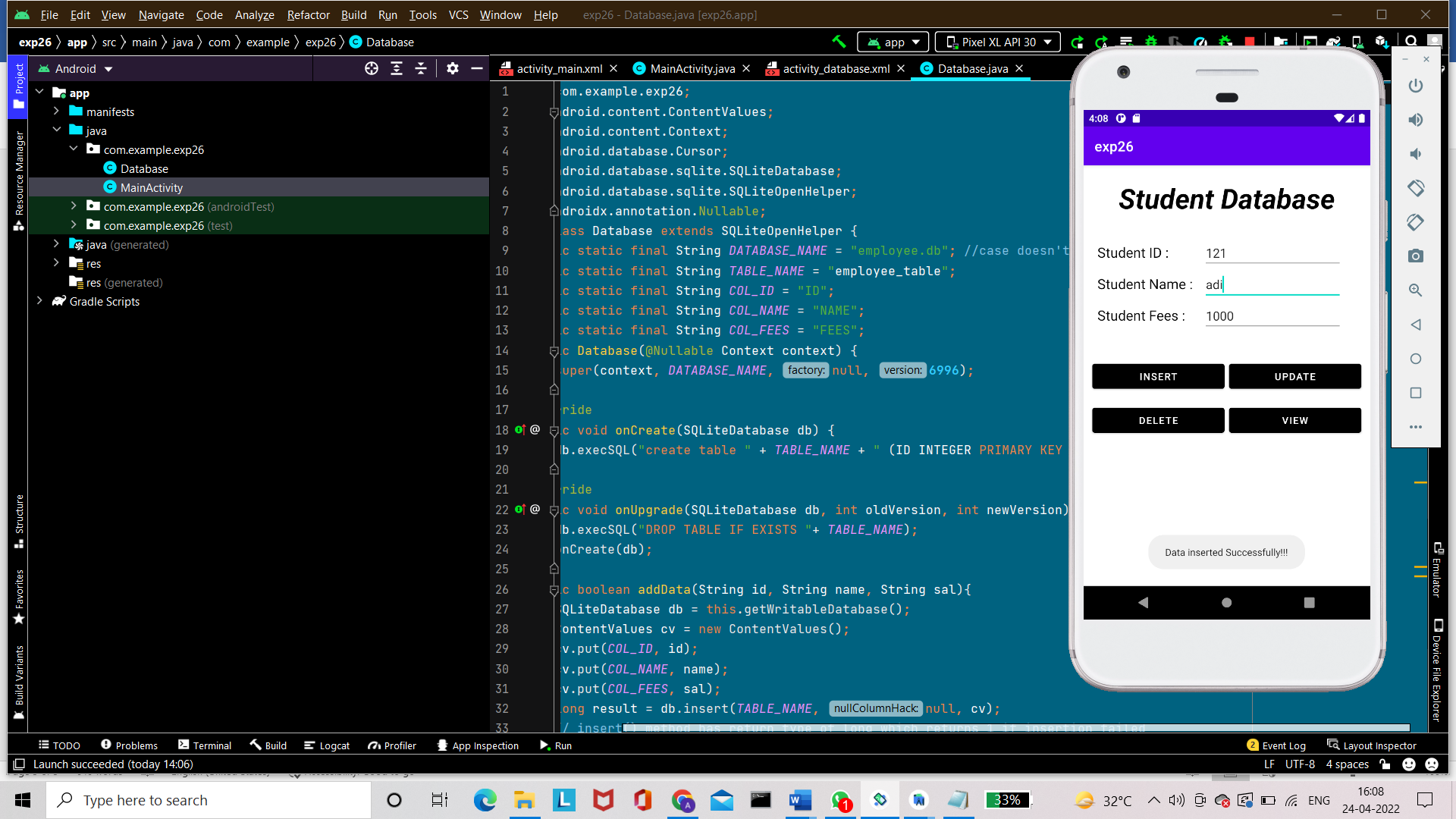
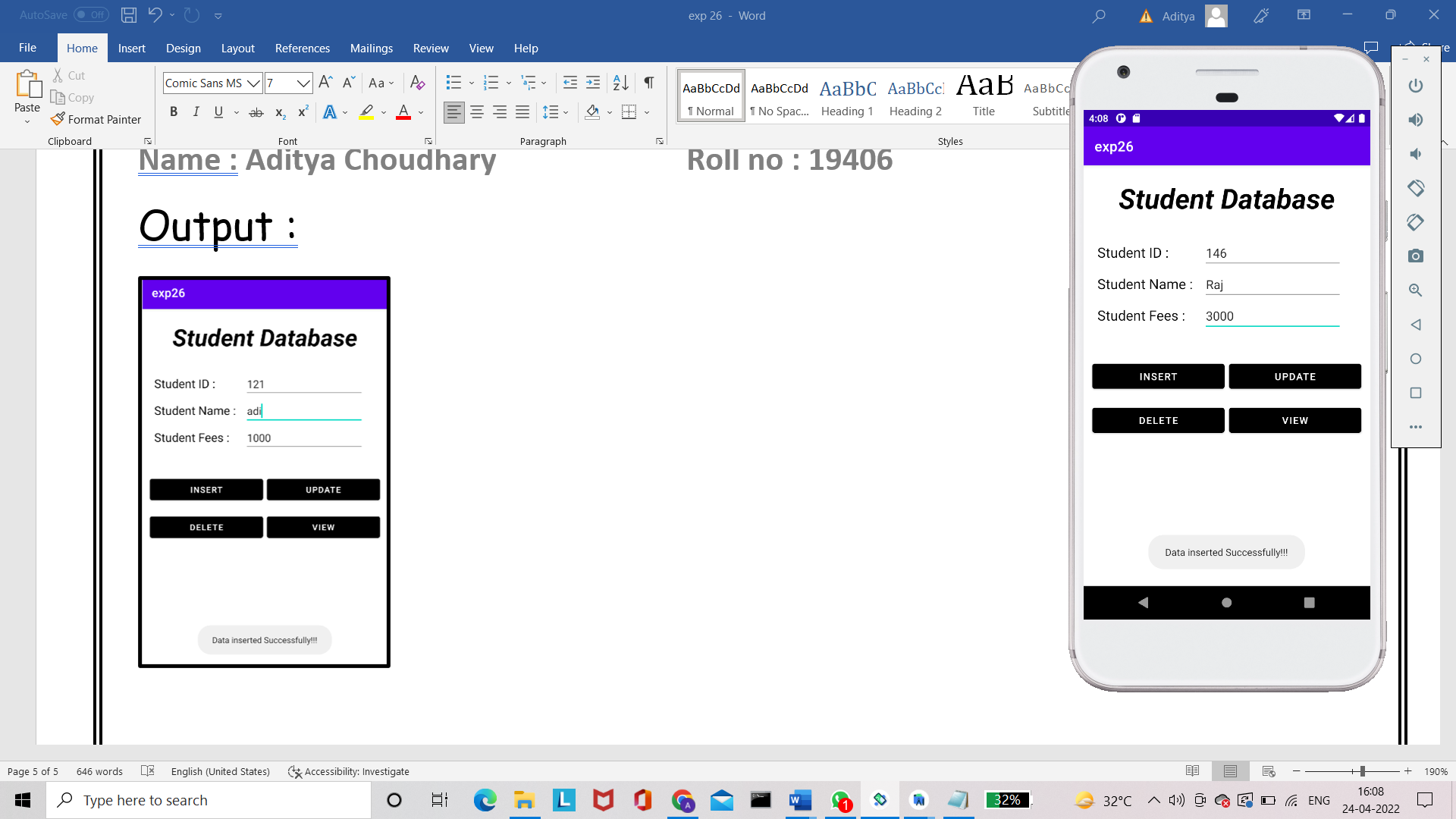
SQLiteDatabase db = this.getWritableDatabase();

return db.delete(TABLE\_NAME, "id = ?", new String[]{ id });

}

}

Output :

Graphical user interface, application

Description automatically generated

