# Lab Exercise 15: Database

ActivityMain.java

package com.example.lab15;  
  
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 {  
 EditText name, contact, dob;  
 Button insert, update, delete, view;  
 DBHelper DB;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 name = findViewById(R.id.*name*);  
 contact = findViewById(R.id.*contact*);  
 dob = findViewById(R.id.*dob*);  
 insert = findViewById(R.id.*btnInsert*);  
 update = findViewById(R.id.*btnUpdate*);  
 delete = findViewById(R.id.*btnDelete*);  
 view = findViewById(R.id.*btnView*);  
 DB = new DBHelper(this);  
 insert.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 String nameTXT = name.getText().toString();  
 String contactTXT = contact.getText().toString();  
 String dobTXT = dob.getText().toString();  
  
 Boolean checkinsertdata = DB.insertuserdata(nameTXT, contactTXT, dobTXT);  
 if (checkinsertdata == true)  
 Toast.*makeText*(MainActivity.this, "New Entry Inserted", Toast.*LENGTH\_SHORT*).show();  
 else  
 Toast.*makeText*(MainActivity.this, "New Entry Not Inserted", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 update.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 String nameTXT = name.getText().toString();  
 String contactTXT = contact.getText().toString();  
 String dobTXT = dob.getText().toString();  
  
 Boolean checkupdatedata = DB.updateuserdata(nameTXT, contactTXT, dobTXT);  
 if (checkupdatedata == true)  
 Toast.*makeText*(MainActivity.this, "Entry Updated", Toast.*LENGTH\_SHORT*).show();  
 else  
 Toast.*makeText*(MainActivity.this, "New Entry Not Updated", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 delete.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 String nameTXT = name.getText().toString();  
 Boolean checkudeletedata = DB.deletedata(nameTXT);  
 if (checkudeletedata == true)  
 Toast.*makeText*(MainActivity.this, "Entry Deleted", Toast.*LENGTH\_SHORT*).show();  
 else  
 Toast.*makeText*(MainActivity.this, "Entry Not Deleted", Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
  
 view.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Cursor res = DB.getdata();  
 if (res.getCount() == 0) {  
 Toast.*makeText*(MainActivity.this, "No Entry Exists", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 StringBuffer buffer = new StringBuffer();  
 while (res.moveToNext()) {  
 buffer.append("Name :" + res.getString(0) + "\n");  
 buffer.append("Contact :" + res.getString(1) + "\n");  
 buffer.append("Date of Birth :" + res.getString(2) + "\n\n");  
 }  
  
 AlertDialog.Builder builder = new AlertDialog.Builder(MainActivity.this);  
 builder.setCancelable(true);  
 builder.setTitle("User Entries");  
 builder.setMessage(buffer.toString());  
 builder.show();  
 }  
 });  
 }  
}

strings.xml

<resources>  
 <string name="app\_name">Lab15</string>  
 <string name="view\_data">View Data</string>  
 <string name="delete\_existing\_data">Delete Existing Data</string>  
 <string name="update\_data">Update Data</string>  
 <string name="insert\_new\_data">Insert New Data</string>  
 <string name="date\_of\_birth">Date of Birth</string>  
 <string name="contact">Contact</string>  
 <string name="name">Name</string>  
 <string name="please\_enter\_the\_details\_below">Please enter the details below</string>  
</resources>

activity\_main.xml

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:padding="10dp"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:id="@+id/texttitle"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="20dp"  
 android:text="@string/please\_enter\_the\_details\_below"  
 android:textSize="24sp" />  
  
 <EditText  
 android:id="@+id/name"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/texttitle"  
 android:hint="@string/name"  
 android:inputType="textPersonName"  
 android:textSize="24sp" />  
  
 <EditText  
 android:id="@+id/contact"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/name"  
 android:hint="@string/contact"  
 android:inputType="number"  
 android:textSize="24sp" />  
  
 <EditText  
 android:id="@+id/dob"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/contact"  
 android:hint="@string/date\_of\_birth"  
 android:inputType="number"  
 android:textSize="24sp" />  
  
 <Button  
 android:id="@+id/btnInsert"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/dob"  
 android:layout\_marginTop="30dp"  
 android:text="@string/insert\_new\_data"  
 android:textSize="24sp" />  
  
 <Button  
 android:id="@+id/btnUpdate"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/btnInsert"  
 android:text="@string/update\_data"  
 android:textSize="24sp" />  
  
 <Button  
 android:id="@+id/btnDelete"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/btnUpdate"  
 android:text="@string/delete\_existing\_data"  
 android:textSize="24sp" />  
  
 <Button  
 android:id="@+id/btnView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/btnDelete"  
 android:text="@string/view\_data"  
 android:textSize="24sp" />  
</RelativeLayout>

DBHelper.java

package com.example.lab15;  
  
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 DBHelper extends SQLiteOpenHelper {  
 public DBHelper(Context context) {  
 super(context, "Userdata.db", null, 1);  
 }  
  
 @Override  
 public void onCreate(SQLiteDatabase DB) {  
 DB.execSQL("create Table Userdetails(name TEXT primary key, contact TEXT, dob TEXT)");  
 }  
  
 @Override  
 public void onUpgrade(SQLiteDatabase DB, int i, int ii) {  
 DB.execSQL("drop Table if exists Userdetails");  
 }  
  
 public Boolean insertuserdata(String name, String contact, String dob) {  
 SQLiteDatabase DB = this.getWritableDatabase();  
 ContentValues contentValues = new ContentValues();  
 contentValues.put("name", name);  
 contentValues.put("contact", contact);  
 contentValues.put("dob", dob);  
 long result = DB.insert("Userdetails", null, contentValues);  
 if (result == -1) {  
 return false;  
 } else {  
 return true;  
 }  
 }  
  
 public Boolean updateuserdata(String name, String contact, String dob) {  
 SQLiteDatabase DB = this.getWritableDatabase();  
 ContentValues contentValues = new ContentValues();  
 contentValues.put("contact", contact);  
 contentValues.put("dob", dob);  
 Cursor cursor = DB.rawQuery("Select \* from Userdetails where name = ?", new String[]{name});  
 if (cursor.getCount() > 0) {  
 long result = DB.update("Userdetails", contentValues, "name=?", new String[]{name});  
 if (result == -1) {  
 return false;  
 } else {  
 return true;  
 }  
 } else {  
 return false;  
 }  
 }  
  
 public Boolean deletedata(String name) {  
 SQLiteDatabase DB = this.getWritableDatabase();  
 Cursor cursor = DB.rawQuery("Select \* from Userdetails where name = ?", new String[]{name});  
 if (cursor.getCount() > 0) {  
 long result = DB.delete("Userdetails", "name=?", new String[]{name});  
 if (result == -1) {  
 return false;  
 } else {  
 return true;  
 }  
 } else {  
 return false;  
 }  
 }  
  
 public Cursor getdata() {  
 SQLiteDatabase DB = this.getWritableDatabase();  
 Cursor cursor = DB.rawQuery("Select \* from Userdetails", null);  
 return cursor;  
 }  
}

OUTPUT

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