**Bài tập thực hành LAB 3**

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Bước 1 Tạo class DatabaseHandler

package com.example.lequochuy;  
  
import android.content.ContentValues;  
import android.content.Context;  
import android.database.Cursor;  
import android.database.sqlite.SQLiteDatabase;  
import android.database.sqlite.SQLiteOpenHelper;  
  
import java.util.ArrayList;  
import java.util.List;  
  
public class DatabaseHandler extends SQLiteOpenHelper {  
  
 private static final int *DATABASE\_VERSION* = 1;  
 private static final String *DATABASE\_NAME* = "contactsManager";  
 private static final String *TABLE\_CONTACTS* = "contacts";  
  
 private static final String *KEY\_ID* = "id";  
 private static final String *KEY\_NAME* = "name";  
 private static final String *KEY\_PH\_NO* = "phone\_number";  
  
 public DatabaseHandler(Context context) {  
 super(context, *DATABASE\_NAME*, null, *DATABASE\_VERSION*);  
 }  
  
 @Override  
 public void onCreate(SQLiteDatabase db) {  
 // id tự tăng cho dễ update/delete  
 String CREATE = "CREATE TABLE " + *TABLE\_CONTACTS* + " ("  
 + *KEY\_ID* + " INTEGER PRIMARY KEY AUTOINCREMENT, "  
 + *KEY\_NAME* + " TEXT, "  
 + *KEY\_PH\_NO* + " TEXT)";  
 db.execSQL(CREATE);  
 }  
  
 @Override  
 public void onUpgrade(SQLiteDatabase db, int oldV, int newV) {  
 db.execSQL("DROP TABLE IF EXISTS " + *TABLE\_CONTACTS*);  
 onCreate(db);  
 }  
  
 // CREATE  
 public long addContact(Contact c) {  
 SQLiteDatabase db = getWritableDatabase();  
 ContentValues v = new ContentValues();  
 v.put(*KEY\_NAME*, c.getName());  
 v.put(*KEY\_PH\_NO*, c.getPhoneNumber());  
 return db.insert(*TABLE\_CONTACTS*, null, v);  
 }  
  
 // READ ALL  
 public List<Contact> getAllContacts() {  
 List<Contact> list = new ArrayList<>();  
 SQLiteDatabase db = getReadableDatabase();  
 try (Cursor cur = db.rawQuery(  
 "SELECT " + *KEY\_ID* + "," + *KEY\_NAME* + "," + *KEY\_PH\_NO* + " FROM " + *TABLE\_CONTACTS*,  
 null)) {  
 while (cur.moveToNext()) {  
 list.add(new Contact(  
 cur.getInt(cur.getColumnIndexOrThrow(*KEY\_ID*)),  
 cur.getString(cur.getColumnIndexOrThrow(*KEY\_NAME*)),  
 cur.getString(cur.getColumnIndexOrThrow(*KEY\_PH\_NO*))  
 ));  
 }  
 }  
 return list;  
   
 // UPDATE  
 public int updateContact(Contact c) {  
 SQLiteDatabase db = getWritableDatabase();  
 ContentValues v = new ContentValues();  
 v.put(*KEY\_NAME*, c.getName());  
 v.put(*KEY\_PH\_NO*, c.getPhoneNumber());  
 return db.update(*TABLE\_CONTACTS*, v, *KEY\_ID* + "=?", new String[]{String.*valueOf*(c.getId())});  
 }  
 // DELETE  
 public int deleteContact(int id) {  
 SQLiteDatabase db = getWritableDatabase();  
 return db.delete(*TABLE\_CONTACTS*, *KEY\_ID* + "=?", new String[]{String.*valueOf*(id)});  
 }  
 // tiện ích  
 public int getCount() {  
 SQLiteDatabase db = getReadableDatabase();  
 try (Cursor c = db.rawQuery("SELECT COUNT(\*) FROM " + *TABLE\_CONTACTS*, null)) {  
 return c.moveToFirst() ? c.getInt(0) : 0;  
 }  
 }  
}

Bước 2 Tạo class Contact

package com.example.lequochuy;  
  
public class Contact {  
 private int id;  
 private String name;  
 private String phoneNumber;  
  
 public Contact() {}  
  
 public Contact(String name, String phoneNumber) {  
 this.name = name;  
 this.phoneNumber = phoneNumber;  
 }  
  
 public Contact(int id, String name, String phoneNumber) {  
 this.id = id;  
 this.name = name;  
 this.phoneNumber = phoneNumber;  
 }  
  
 public int getId() { return id; }  
 public void setId(int id) { this.id = id; }  
  
 public String getName() { return name; }  
 public void setName(String name) { this.name = name; }  
  
 public String getPhoneNumber() { return phoneNumber; }  
 public void setPhoneNumber(String phoneNumber) { this.phoneNumber = phoneNumber; }  
}

Bước 3 Sủa class MainActivity

package com.example.lequochuy;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.ListView;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import java.util.ArrayList;  
import java.util.List;  
  
public class MainActivity extends AppCompatActivity {  
  
 private EditText edtName, edtPhone;  
 private Button btnAdd, btnUpdate;  
 private ListView lvContacts;  
  
 private DatabaseHandler db;  
 private List<Contact> contacts = new ArrayList<>();  
 private ArrayList<String> rows = new ArrayList<>();  
 private ArrayAdapter<String> adapter;  
  
 private Contact selectedContact = null; // dòng đang chọn để sửa/xóa  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 // Ánh xạ  
 edtName = findViewById(R.id.*edtName*);  
 edtPhone = findViewById(R.id.*edtPhone*);  
 btnAdd = findViewById(R.id.*btnAdd*);  
 btnUpdate = findViewById(R.id.*btnUpdate*);  
 lvContacts = findViewById(R.id.*lvContacts*);  
  
 db = new DatabaseHandler(this);  
  
 // Adapter hiển thị mỗi dòng từ item\_contact.xml  
 adapter = new ArrayAdapter<>(this, R.layout.*item\_contact*, R.id.*tvRow*, rows);  
 lvContacts.setAdapter(adapter);  
  
 // Nạp dữ liệu ban đầu  
 if (db.getCount() == 0) seedSamples();  
 loadData();  
  
 // Thêm  
 btnAdd.setOnClickListener(v -> {  
 String name = edtName.getText().toString().trim();  
 String phone = edtPhone.getText().toString().trim();  
 if (name.isEmpty() || phone.isEmpty()) {  
 Toast.*makeText*(this, "Nhập đủ Tên & SĐT", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 db.addContact(new Contact(name, phone));  
 loadData();  
 clearInput();  
 });  
  
 // Sửa (cần chọn 1 dòng trước)  
 btnUpdate.setOnClickListener(v -> {  
 if (selectedContact == null) {  
 Toast.*makeText*(this, "Chạm 1 dòng để chọn trước khi sửa", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 String name = edtName.getText().toString().trim();  
 String phone = edtPhone.getText().toString().trim();  
 if (name.isEmpty() || phone.isEmpty()) {  
 Toast.*makeText*(this, "Nhập đủ Tên & SĐT", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 selectedContact.setName(name);  
 selectedContact.setPhoneNumber(phone);  
 db.updateContact(selectedContact);  
 loadData();  
 clearInput();  
 selectedContact = null;  
 });  
  
 // Chạm 1 lần: chọn để sửa  
 lvContacts.setOnItemClickListener((AdapterView<?> parent, View view, int pos, long id) -> {  
 selectedContact = contacts.get(pos);  
 edtName.setText(selectedContact.getName());  
 edtPhone.setText(selectedContact.getPhoneNumber());  
 Toast.*makeText*(this, "Đang chọn: " + selectedContact.getName(), Toast.*LENGTH\_SHORT*).show();  
 });  
  
 // Nhấn giữ: xóa  
 lvContacts.setOnItemLongClickListener((parent, view, pos, id) -> {  
 Contact c = contacts.get(pos);  
 db.deleteContact(c.getId());  
 Toast.*makeText*(this, "Đã xóa: " + c.getName(), Toast.*LENGTH\_SHORT*).show();  
 loadData();  
 if (selectedContact != null && selectedContact.getId() == c.getId()) {  
 clearInput();  
 selectedContact = null;  
 }  
 return true;  
 });  
 }  
  
 private void seedSamples() {  
 db.addContact(new Contact("Ravi", "9100000000"));  
 db.addContact(new Contact("Srinivas", "9199999999"));  
 db.addContact(new Contact("Tommy", "9522222222"));  
 db.addContact(new Contact("Karthik", "9533333333"));  
 }  
  
 private void loadData() {  
 contacts = db.getAllContacts();  
 rows.clear();  
 for (Contact c : contacts) {  
 rows.add(c.getId() + " - " + c.getName() + " - " + c.getPhoneNumber());  
 }  
 adapter.notifyDataSetChanged();  
 }  
  
 private void clearInput() {  
 edtName.setText("");  
 edtPhone.setText("");  
 }  
}

Bước 4 sửa code activity\_main.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"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:padding="16dp">  
  
 <!-- Tiêu đề -->  
 <com.google.android.material.textview.MaterialTextView  
 android:id="@+id/tvTitle"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:text="Quản lý sinh viên"  
 android:textSize="20sp"  
 android:textStyle="bold"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"/>  
  
 <!-- Ô nhập Tên -->  
 <com.google.android.material.textfield.TextInputLayout  
 android:id="@+id/tilName"  
 style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:hint="Tên sinh viên"  
 app:boxStrokeWidth="1dp"  
 app:layout\_constraintTop\_toBottomOf="@id/tvTitle"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 android:layout\_marginTop="12dp">  
  
 <com.google.android.material.textfield.TextInputEditText  
 android:id="@+id/edtName"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:imeOptions="actionNext"/>  
 </com.google.android.material.textfield.TextInputLayout>  
  
 <!-- Ô nhập SĐT -->  
 <com.google.android.material.textfield.TextInputLayout  
 android:id="@+id/tilPhone"  
 style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:hint="Số điện thoại"  
 app:boxStrokeWidth="1dp"  
 app:layout\_constraintTop\_toBottomOf="@id/tilName"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 android:layout\_marginTop="12dp">  
  
 <com.google.android.material.textfield.TextInputEditText  
 android:id="@+id/edtPhone"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:inputType="phone"/>  
 </com.google.android.material.textfield.TextInputLayout>  
  
 <!-- Hàng nút -->  
 <LinearLayout  
 android:id="@+id/rowButtons"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="12dp"  
 android:orientation="horizontal"  
 android:weightSum="2"  
 app:layout\_constraintTop\_toBottomOf="@id/tilPhone"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent">  
  
 <com.google.android.material.button.MaterialButton  
 android:id="@+id/btnAdd"  
 style="@style/Widget.MaterialComponents.Button"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="Thêm"  
 android:insetLeft="0dp"  
 android:insetRight="8dp"/>  
  
 <com.google.android.material.button.MaterialButton  
 android:id="@+id/btnUpdate"  
 style="@style/Widget.MaterialComponents.Button"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="Sửa"  
 android:insetLeft="8dp"  
 android:insetRight="0dp"/>  
 </LinearLayout>  
  
 <!-- Danh sách -->  
 <ListView  
 android:id="@+id/lvContacts"  
 android:layout\_width="0dp"  
 android:layout\_height="0dp"  
 android:dividerHeight="1dp"  
 app:layout\_constraintTop\_toBottomOf="@id/rowButtons"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 android:layout\_marginTop="12dp"/>  
</androidx.constraintlayout.widget.ConstraintLayout>

Bước 5 Tạo item\_contact.xml

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

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

android:id="@+id/tvRow"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:paddingStart="16dp"

android:paddingEnd="16dp"

android:paddingTop="12dp"

android:paddingBottom="12dp"

android:textSize="16sp"/>

Kết Quả

A screen shot of a phone

AI-generated content may be incorrect.