**TRƯỜNG ĐẠI HỌC TÀI NGUYÊN VÀ MÔI TRƯỜNG TP.HCM**

**KHOA: CÔNG NGHỆ THÔNG TIN**

**A logo with a person holding a book

AI-generated content may be incorrect.**

**TỔNG HỢP LAB LẬP TRÌNH DI ĐỘNG**

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# MỤC LỤC

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# LAB1

## Lab1

Bài Tập 1:

MainActivity.java

package com.example.maytinh;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
  
 EditText edtA, edtB;  
 TextView tvResult;  
 Button btnAdd, btnSub, btnMul, btnDiv, btnMod;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 edtA = findViewById(R.id.*edtA*);  
 edtB = findViewById(R.id.*edtB*);  
 tvResult = findViewById(R.id.*tvResult*);  
 btnAdd = findViewById(R.id.*btnAdd*);  
 btnSub = findViewById(R.id.*btnSub*);  
 btnMul = findViewById(R.id.*btnMul*);  
 btnDiv = findViewById(R.id.*btnDiv*);  
 btnMod = findViewById(R.id.*btnMod*);  
  
 View.OnClickListener listener = new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 double a, b;  
 try {  
 a = Double.*parseDouble*(edtA.getText().toString());  
 b = Double.*parseDouble*(edtB.getText().toString());  
 } catch (NumberFormatException e) {  
 Toast.*makeText*(MainActivity.this, "Vui lòng nhập hai số hợp lệ!", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 double result = 0.0;  
  
 int id = v.getId();  
 if (id == R.id.*btnAdd*) {  
 result = a + b;  
 } else if (id == R.id.*btnSub*) {  
 result = a - b;  
 } else if (id == R.id.*btnMul*) {  
 result = a \* b;  
 } else if (id == R.id.*btnDiv*) {  
 if (b == 0) {  
 Toast.*makeText*(MainActivity.this, "Không thể chia cho 0!", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 result = a / b;  
 } else if (id == R.id.*btnMod*) {  
 result = a % b;  
 }  
  
 tvResult.setText(String.*format*("Result: %.2f", result));  
 }  
 };  
  
 btnAdd.setOnClickListener(listener);  
 btnSub.setOnClickListener(listener);  
 btnMul.setOnClickListener(listener);  
 btnDiv.setOnClickListener(listener);  
 btnMod.setOnClickListener(listener);  
 }  
}

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center\_horizontal"  
 android:padding="16dp">  
  
 <EditText  
 android:id="@+id/edtA"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Nhập số thứ nhất"  
 android:inputType="numberDecimal"  
 android:textAlignment="center"/>  
  
 <EditText  
 android:id="@+id/edtB"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Nhập số thứ hai"  
 android:inputType="numberDecimal"  
 android:textAlignment="center"  
 android:layout\_marginTop="8dp"/>  
  
 <TextView  
 android:id="@+id/tvResult"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Result: "  
 android:textSize="18sp"  
 android:textStyle="bold"  
 android:layout\_margin="12dp"/>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:gravity="center"  
 android:layout\_marginTop="12dp">  
  
 <Button  
 android:id="@+id/btnAdd"  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:text="+"  
 android:backgroundTint="#673AB7"  
 android:textColor="@android:color/white"/>  
  
 <Button  
 android:id="@+id/btnSub"  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:text="-"  
 android:backgroundTint="#673AB7"  
 android:textColor="@android:color/white"  
 android:layout\_marginStart="6dp"/>  
  
 <Button  
 android:id="@+id/btnMul"  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:text="\*"  
 android:backgroundTint="#673AB7"  
 android:textColor="@android:color/white"  
 android:layout\_marginStart="6dp"/>  
  
 <Button  
 android:id="@+id/btnDiv"  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:text="/"  
 android:backgroundTint="#673AB7"  
 android:textColor="@android:color/white"  
 android:layout\_marginStart="6dp"/>  
  
 <Button  
 android:id="@+id/btnMod"  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:text="%"  
 android:backgroundTint="#673AB7"  
 android:textColor="@android:color/white"  
 android:layout\_marginStart="6dp"/>  
 </LinearLayout>  
</LinearLayout>

Kết Quả:

-Phép cộngA screenshot of a cell phone

AI-generated content may be incorrect.

-Phép trừA screenshot of a cell phone

AI-generated content may be incorrect.

-Phép nhânA screenshot of a cell phone

AI-generated content may be incorrect.

-Phép chiaA screenshot of a cellphone

AI-generated content may be incorrect.

-Phần trămA screenshot of a cell phone

AI-generated content may be incorrect.

Bài tập 2

MainActivity.java

package com.example.xucxac;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.ImageView;  
import java.util.Random;  
  
public class MainActivity extends AppCompatActivity {  
  
 ImageView imgDice;  
 Button btnRoll;  
 Random random = new Random();  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 imgDice = findViewById(R.id.*imgDice*);  
 btnRoll = findViewById(R.id.*btnRoll*);  
  
 btnRoll.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 int number = random.nextInt(6) + 1;  
 int imageId = getResources().getIdentifier("dice\_" + number, "drawable", getPackageName());  
 imgDice.setImageResource(imageId);  
 }  
 });  
 }  
}

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:background="#FFFFFF">  
  
 <ImageView  
 android:id="@+id/imgDice"  
 android:layout\_width="150dp"  
 android:layout\_height="150dp"  
 android:src="@drawable/dice\_1"  
 android:layout\_marginBottom="24dp" />  
  
 <Button  
 android:id="@+id/btnRoll"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Roll Dice"  
 android:backgroundTint="#673AB7"  
 android:textColor="@android:color/white"  
 android:padding="12dp"/>  
</LinearLayout>

Kết quả

A screenshot of a video game

AI-generated content may be incorrect.A screenshot of a game

AI-generated content may be incorrect.

Bài tập 3:

MainActivity.java

package com.example.dienthoai;  
  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.app.ActivityCompat;  
import android.Manifest;  
import android.content.Intent;  
import android.content.pm.PackageManager;  
import android.net.Uri;  
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 edtPhone;  
 Button btnCall, btnSMS;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 edtPhone = findViewById(R.id.*edtPhone*);  
 btnCall = findViewById(R.id.*btnCall*);  
 btnSMS = findViewById(R.id.*btnSMS*);  
  
 btnCall.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String phone = edtPhone.getText().toString().trim();  
 if (phone.isEmpty()) {  
 Toast.*makeText*(MainActivity.this, "Vui lòng nhập số điện thoại", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 Intent callIntent = new Intent(Intent.*ACTION\_CALL*);  
 callIntent.setData(Uri.*parse*("tel:" + phone));  
  
 if (ActivityCompat.*checkSelfPermission*(MainActivity.this, Manifest.permission.*CALL\_PHONE*)  
 != PackageManager.*PERMISSION\_GRANTED*) {  
 ActivityCompat.*requestPermissions*(MainActivity.this, new String[]{Manifest.permission.*CALL\_PHONE*}, 1);  
 return;  
 }  
 startActivity(callIntent);  
 }  
 });  
  
 btnSMS.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String phone = edtPhone.getText().toString().trim();  
 if (phone.isEmpty()) {  
 Toast.*makeText*(MainActivity.this, "Vui lòng nhập số điện thoại", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
  
 Intent smsIntent = new Intent(Intent.*ACTION\_VIEW*, Uri.*fromParts*("sms", phone, null));  
 smsIntent.putExtra("sms\_body", "Xin chào, đây là tin nhắn thử!");  
 startActivity(smsIntent);  
 }  
 });  
 }  
}

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:padding="24dp"  
 android:background="#FFFFFF">  
  
 <EditText  
 android:id="@+id/edtPhone"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Nhập số điện thoại"  
 android:inputType="phone"  
 android:textAlignment="center"  
 android:layout\_marginBottom="16dp"/>  
  
 <Button  
 android:id="@+id/btnCall"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Call"  
 android:backgroundTint="#673AB7"  
 android:textColor="@android:color/white"  
 android:layout\_marginBottom="16dp"/>  
  
 <Button  
 android:id="@+id/btnSMS"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Send SMS"  
 android:backgroundTint="#673AB7"  
 android:textColor="@android:color/white"/>  
</LinearLayout>

AndroidManifest.xml

<?xml version="1.0" encoding="utf-8"?>  
<manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools">  
  
 <uses-permission android:name="android.permission.CALL\_PHONE"/>  
 <uses-permission android:name="android.permission.SEND\_SMS"/>  
  
 <application  
 android:allowBackup="true"  
 android:dataExtractionRules="@xml/data\_extraction\_rules"  
 android:fullBackupContent="@xml/backup\_rules"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:roundIcon="@mipmap/ic\_launcher\_round"  
 android:supportsRtl="true"  
 android:theme="@style/Theme.Dienthoai">  
 <activity  
 android:name=".MainActivity"  
 android:exported="true">  
 <intent-filter>  
 <action android:name="android.intent.action.MAIN" />  
  
 <category android:name="android.intent.category.LAUNCHER" />  
 </intent-filter>  
 </activity>  
 </application>  
  
</manifest>

Kết quả:

A screen shot of a phone

AI-generated content may be incorrect.A screen shot of a device

AI-generated content may be incorrect.

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## Lab2

Bài Tập

MainActivity.java

package com.example.lab2menuapp;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.content.Intent;  
import android.os.Bundle;  
import android.widget.Button;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 Button btnSplash = findViewById(R.id.*btnSplash*);  
 Button btnProfile = findViewById(R.id.*btnProfile*);  
  
 btnSplash.setOnClickListener(v ->  
 startActivity(new Intent(this, SplashActivity.class)));  
  
 btnProfile.setOnClickListener(v ->  
 startActivity(new Intent(this, ProfileActivity.class)));  
 }  
}

ProfileActivity.java

package com.example.lab2menuapp;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.widget.ImageView;  
  
public class ProfileActivity extends AppCompatActivity {  
  
 ImageView icPhone1, icPhone2, icEmail;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_profile*);  
  
 icPhone1 = findViewById(R.id.*icPhone1*);  
 icPhone2 = findViewById(R.id.*icPhone2*);  
 icEmail = findViewById(R.id.*icEmail*);  
  
 icPhone1.setOnClickListener(v -> openDialer("6505551234"));  
 icPhone2.setOnClickListener(v -> openDialer("3235556789"));  
 icEmail.setOnClickListener(v -> openEmail("aliconnors@example.com"));  
 }  
  
 private void openDialer(String phoneNumber) {  
 Intent intent = new Intent(Intent.*ACTION\_DIAL*);  
 intent.setData(Uri.*parse*("tel:" + phoneNumber));  
 startActivity(intent);  
 }  
  
 private void openEmail(String email) {  
 Intent intent = new Intent(Intent.*ACTION\_SENDTO*);  
 intent.setData(Uri.*parse*("mailto:" + email));  
 intent.putExtra(Intent.*EXTRA\_SUBJECT*, "Xin chào Ali!");  
 startActivity(Intent.*createChooser*(intent, "Chọn ứng dụng gửi email"));  
 }  
}

SplashActivity.java

package com.example.lab2menuapp;  
  
import androidx.appcompat.app.AppCompatActivity;  
import android.content.Intent;  
import android.os.Bundle;  
import android.os.Handler;  
  
public class SplashActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_splash*);  
  
 new Handler().postDelayed(() -> {  
 startActivity(new Intent(SplashActivity.this, ProfileActivity.class));  
 finish();  
 }, 2000); // hiển thị 2 giây rồi chuyển qua Profile  
 }  
}

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:background="#FFFFFF"  
 android:padding="24dp">  
   
 <TextView  
 android:id="@+id/tvTitle"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="@string/lab2\_menu"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 android:textColor="#000000"  
 android:layout\_marginBottom="40dp" />  
   
 <Button  
 android:id="@+id/btnSplash"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="@string/go\_to\_splash"  
 android:backgroundTint="#673AB7"  
 android:textColor="#FFFFFF"  
 android:padding="12dp"  
 android:layout\_marginBottom="20dp" />  
   
 <Button  
 android:id="@+id/btnProfile"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="@string/go\_to\_profile"  
 android:backgroundTint="#673AB7"  
 android:textColor="#FFFFFF"  
 android:padding="12dp" />  
  
</LinearLayout>

activity\_profile.xml

<?xml version="1.0" encoding="utf-8"?>  
<ScrollView 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:background="#FFFFFF">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical">  
   
 <ImageView  
 android:id="@+id/imgProfile"  
 android:layout\_width="match\_parent"  
 android:layout\_height="250dp"  
 android:scaleType="centerCrop"  
 android:src="@drawable/profile\_photo"  
 android:contentDescription="profile image" />  
   
 <TextView  
 android:text="Holly Shit"  
 android:textSize="22sp"  
 android:textStyle="bold"  
 android:textColor="#000000"  
 android:gravity="center"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="12dp"/>  
   
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:gravity="center\_vertical"  
 android:padding="12dp">  
  
 <ImageView  
 android:id="@+id/icPhone1"  
 android:layout\_width="24dp"  
 android:layout\_height="24dp"  
 android:src="@drawable/ic\_phone"  
 app:tint="#673AB7"  
 android:contentDescription="phone icon 1"/>  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="(650) 555-1234"  
 android:layout\_marginStart="12dp"  
 android:textColor="#000000"/>  
 </LinearLayout>  
   
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:gravity="center\_vertical"  
 android:padding="12dp">  
  
 <ImageView  
 android:id="@+id/icPhone2"  
 android:layout\_width="24dp"  
 android:layout\_height="24dp"  
 android:src="@drawable/ic\_phone"  
 app:tint="#673AB7"  
 android:contentDescription="phone icon 2"/>  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="(323) 555-6789"  
 android:layout\_marginStart="12dp"  
 android:textColor="#000000"/>  
 </LinearLayout>  
   
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:gravity="center\_vertical"  
 android:padding="12dp">  
  
 <ImageView  
 android:id="@+id/icEmail"  
 android:layout\_width="24dp"  
 android:layout\_height="24dp"  
 android:src="@drawable/ic\_email"  
 app:tint="#673AB7"  
 android:contentDescription="email icon"/>  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="HollyShit@example.com"  
 android:layout\_marginStart="12dp"  
 android:textColor="#000000"/>  
 </LinearLayout>  
 </LinearLayout>  
</ScrollView>

Activity\_splash.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:gravity="center"  
 android:background="#0019FF">  
   
 <ImageView  
 android:id="@+id/imgAnimal"  
 android:layout\_width="180dp"  
 android:layout\_height="180dp"  
 android:src="@drawable/penguin"  
 android:contentDescription="Splash image" />  
   
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Loading..."  
 android:textColor="#FFFFFF"  
 android:textSize="20sp"  
 android:layout\_marginTop="20dp" />  
  
</LinearLayout>

Thư viện ảnh:

A screenshot of a computer program

AI-generated content may be incorrect.

Strings.xml

<resources>  
 <string name="app\_name">lab2menuapp</string>  
 <string name="lab2\_menu">Lab 2 Menu</string>  
 <string name="go\_to\_splash">GO TO SPLASH SCREEN (ANIMAL SOUND)</string>  
 <string name="go\_to\_profile">GO TO PROFILE SCREEN (STAFF PROFILE)</string>  
</resources>

Kết Quả:

A screenshot of a computer

AI-generated content may be incorrect. A screen shot of a penguin

AI-generated content may be incorrect.

A screenshot of a phone

AI-generated content may be incorrect. A screenshot of a phone

AI-generated content may be incorrect.

# LAB2

## Lab3

A screenshot of a cell phone

AI-generated content may be incorrect.A screenshot of a cell phone

AI-generated content may be incorrect.A screenshot of a cell phone

AI-generated content may be incorrect.

A purple and white rectangle

AI-generated content may be incorrect.

A white rabbit with red eyes

AI-generated content may be incorrect.

*LocaleUtils.java*

package com.example.myapplication;  
  
import android.content.Context;  
import android.content.SharedPreferences;  
import android.content.res.Configuration;  
  
import java.util.Locale;  
  
public class LocaleUtils {  
  
 public static void applyLocale(Context context, String langCode) {  
 Locale locale = new Locale(langCode);  
 Locale.setDefault(locale);  
  
 Configuration config = new Configuration();  
 config.setLocale(locale);  
 context.getResources().updateConfiguration(config, context.getResources().getDisplayMetrics());  
  
 SharedPreferences prefs = context.getSharedPreferences("settings", Context.MODE\_PRIVATE);  
 SharedPreferences.Editor editor = prefs.edit();  
 editor.putString("My\_Lang", langCode);  
 editor.apply();  
 }  
  
 public static void applySavedLocale(Context context) {  
 SharedPreferences prefs = context.getSharedPreferences("settings", Context.MODE\_PRIVATE);  
 String lang = prefs.getString("My\_Lang", "");  
 if (!lang.isEmpty()) {  
 applyLocale(context, lang);  
 }  
 }  
  
 public static Context getLocalizedContext(Context context) {  
 SharedPreferences prefs = context.getSharedPreferences("settings", Context.MODE\_PRIVATE);  
 String lang = prefs.getString("My\_Lang", "");  
 if (lang.isEmpty()) {  
 return context;  
 }  
 Locale locale = new Locale(lang);  
 Locale.setDefault(locale);  
  
 Configuration config = new Configuration(context.getResources().getConfiguration());  
 config.setLocale(locale);  
  
 return context.createConfigurationContext(config);  
 }  
}

MainActivity.java

package com.example.myapplication;  
  
import android.content.Context;  
import android.content.pm.ActivityInfo;  
import android.os.Bundle;  
import android.view.Menu;  
import android.view.MenuInflater;  
import android.view.MenuItem;  
  
import androidx.annotation.NonNull;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.appcompat.widget.SwitchCompat;  
import androidx.appcompat.widget.Toolbar;  
  
public class MainActivity extends AppCompatActivity {  
  
 private SwitchCompat swRotate;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 LocaleUtils.applySavedLocale(this);  
  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 Toolbar toolbar = findViewById(R.id.*toolbar*);  
 setSupportActionBar(toolbar);  
  
 swRotate = findViewById(R.id.*sw\_rotate*);  
 swRotate.setOnCheckedChangeListener((buttonView, isChecked) -> {  
 if (isChecked) {  
 setRequestedOrientation(ActivityInfo.*SCREEN\_ORIENTATION\_UNSPECIFIED*);  
 } else {  
 setRequestedOrientation(ActivityInfo.*SCREEN\_ORIENTATION\_PORTRAIT*);  
 }  
 });  
 }  
  
 @Override  
 public boolean onCreateOptionsMenu(Menu menu) {  
 Context localeContext = LocaleUtils.getLocalizedContext(this);  
  
 MenuInflater inflater = new MenuInflater(localeContext);  
 inflater.inflate(R.menu.*menu\_language*, menu);  
  
 System.*out*.println("MENU SIZE: " + menu.size());  
 return true;  
 }  
  
 @Override  
 public boolean onOptionsItemSelected(@NonNull MenuItem item) {  
 int id = item.getItemId();  
  
 if (id == R.id.*mn\_vi*) {  
 LocaleUtils.applyLocale(this, "vi");  
 recreate();  
 return true;  
 } else if (id == R.id.*mn\_en*) {  
 LocaleUtils.applyLocale(this, "en");  
 recreate();  
 return true;  
 } else if (id == R.id.*mn\_fr*) {  
 LocaleUtils.applyLocale(this, "fr");  
 recreate();  
 return true;  
 }  
  
 return super.onOptionsItemSelected(item);  
 }  
}

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 tools:context=".MainActivity">  
  
 <!-- Thanh công cụ (Toolbar) -->  
 <com.google.android.material.appbar.MaterialToolbar  
 android:id="@+id/toolbar"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="@color/purple\_500"  
 android:theme="@style/ThemeOverlay.MaterialComponents.Dark.ActionBar"  
 app:title="@string/title\_bar" />  
  
 <!-- Khu vực chứa công tắc xoay màn hình -->  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:orientation="horizontal"  
 android:padding="12dp"  
 android:gravity="center\_vertical">  
  
 <TextView  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:text="@string/rotate\_label"  
 android:textSize="16sp"  
 android:textColor="@color/black" />  
  
 <!-- Dùng SwitchCompat để tương thích với Material Theme -->  
 <androidx.appcompat.widget.SwitchCompat  
 android:id="@+id/sw\_rotate"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:textOn="On"  
 android:textOff="Off" />  
 </LinearLayout>  
  
 <!-- Chèn layout hiển thị chi tiết con vật -->  
 <include layout="@layout/m003\_act\_detail" />  
</LinearLayout>

m003\_act\_detail.xml

<?xml version="1.0" encoding="utf-8"?>  
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="10dp">  
  
 <TableRow  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginHorizontal="10dp"  
 android:layout\_marginTop="10dp">  
  
 <TextView  
 android:id="@+id/tv\_animal\_name"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:background="@drawable/bg\_radius"  
 android:paddingHorizontal="20dp"  
 android:text="@string/txt\_name"  
 android:textColor="@color/white"  
 android:textSize="34sp" />  
  
 <View  
 android:layout\_width="0dp"  
 android:layout\_height="match\_parent"  
 android:layout\_weight="1" />  
  
 <ImageView  
 android:id="@+id/iv\_favorite"  
 android:layout\_width="40dp"  
 android:layout\_height="match\_parent"  
 android:src="@drawable/ic\_heart\_empty"  
 app:tint="#FF0000"  
 tools:ignore="ContentDescription" />  
 </TableRow>  
  
 <ScrollView  
 android:layout\_width="match\_parent"  
 android:layout\_height="300dp"  
 android:layout\_marginBottom="10dp">  
  
 <TextView  
 android:id="@+id/tv\_animal\_desc"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:lineSpacingExtra="5dp"  
 android:padding="10dp"  
 android:text="@string/txt\_desc"  
 android:textColor="@color/black"  
 android:textSize="18sp" />  
 </ScrollView>  
  
 <ImageView  
 android:id="@+id/iv\_animal"  
 android:layout\_width="match\_parent"  
 android:layout\_height="0dp"  
 android:layout\_weight="1"  
 android:scaleType="centerCrop"  
 android:src="@drawable/bg\_rabbit"  
 tools:ignore="ContentDescription" />  
</LinearLayout>

Menu\_language.xml

<menu xmlns:android="http://schemas.android.com/apk/res/android">  
 <item  
 android:id="@+id/mn\_vi"  
 android:title="@string/lang\_vi" />  
 <item  
 android:id="@+id/mn\_en"  
 android:title="@string/lang\_en" />  
 <item  
 android:id="@+id/mn\_fr"  
 android:title="@string/lang\_fr" />  
</menu>

Values/strings.xml

<resources>  
 <string name="app\_name">Animal Sound</string>  
 <string name="title\_bar">Animal</string>  
 <string name="txt\_name">Rabbit</string>  
 <string name="txt\_desc">  
 Rabbits are small mammals in the family Leporidae (along with the hare)  
 of the order Lagomorpha (along with the pika). Oryctolagus cuniculus includes  
 the European rabbit species and its descendants, the world’s 305 breeds  
 of domestic rabbit. Sylvilagus includes 13 wild rabbit species, among them  
 the seven types of cottontail. The European rabbit, which has been introduced  
 on every continent except Antarctica, is familiar throughout the world as  
 a wild prey animal and as a domesticated form of livestock and pet. With  
 its widespread effect on ecologies and cultures, the rabbit (or bunny) is,  
 in many areas of the world, a part of daily life—as food, clothing, a companion,  
 and a source of artistic inspiration.  
 </string>  
 <string name="rotate\_label">Allow landscape</string>  
 <string name="menu\_language">Language</string>  
 <string name="lang\_vi">Vietnamese</string>  
 <string name="lang\_en">English</string>  
 <string name="lang\_fr">French</string>  
</resources>

Values-fr/strings.xml

<resources>  
 <string name="app\_name">Son des animaux</string>  
 <string name="title\_bar">Animal</string>  
 <string name="txt\_name">Lapin</string>  
 <string name="txt\_desc">  
Rabbits are small mammals of the Leporidae family (along with hares) in the order Lagomorpha (along with pika).  
Oryctolagus cuniculus includes the European rabbit species and its descendants, the 305 domestic rabbit breeds.  
Sylvilagus includes 13 species of wild rabbits, including the seven types of cottontails.  
The European rabbit, introduced on all continents except Antarctica, is familiar around the world both as a prey animal and as a domesticated pet.  
With its influence on ecology and culture, the rabbit is part of daily life - food, clothing, companion, and artistic inspiration.  
 </string>  
 <string name="rotate\_label">Autoriser le paysage</string>  
 <string name="menu\_language">Langue</string>  
 <string name="lang\_vi">Vietnamien</string>  
 <string name="lang\_en">Anglais</string>  
 <string name="lang\_fr">Francais</string>  
</resources>

values-vi/strings.xml

<resources>  
 <string name="app\_name">Âm thanh động vật</string>  
 <string name="title\_bar">Âm thanh động vật</string>  
 <string name="txt\_name">Thỏ</string>  
 <string name="txt\_desc">  
 Thỏ là loài động vật có vú nhỏ trong họ Leporidae (cùng với thỏ rừng)  
 thuộc bộ Lagomorpha (cùng với pika). Oryctolagus cuniculus bao gồm loài thỏ châu Âu  
 và con cháu của nó, 305 giống thỏ nhà trên thế giới. Sylvilagus bao gồm 13 loài  
 thỏ hoang dã, trong đó có bảy loại cottontail. Loài thỏ châu Âu, đã được giới thiệu  
 ở mọi lục địa ngoại trừ Nam Cực, quen thuộc trên khắp thế giới như một loài  
 động vật săn mồi hoang dã và là vật nuôi. Với ảnh hưởng rộng rãi đối với hệ sinh thái  
 và văn hóa, ở nhiều nơi trên thế giới, thỏ là một phần của cuộc sống hàng ngày  
 — như thực phẩm, quần áo, bạn đồng hành và nguồn cảm hứng nghệ thuật.  
 </string>  
 <string name="rotate\_label">Cho phép xoay ngang</string>  
 <string name="menu\_language">Ngôn ngữ</string>  
 <string name="lang\_vi">Tiếng Việt</string>  
 <string name="lang\_en">Tiếng Anh</string>  
 <string name="lang\_fr">Tiếng Pháp</string>  
</resources>

## Lab4

A screenshot of a login screen

AI-generated content may be incorrect.A screenshot of a phone

AI-generated content may be incorrect.

Bài 2:

A white background with black dots

AI-generated content may be incorrect.

Bài 3:

A screenshot of a phone

AI-generated content may be incorrect.

# LAB3

## Lab6

Lab6:

A screenshot of a computer program

AI-generated content may be incorrect.

A screenshot of a computer program

AI-generated content may be incorrect.

Lab7

Bài 1-2

A screenshot of a computer program

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

Lab7 Bai 3

A screenshot of a computer

AI-generated content may be incorrect.