**Lab2: Bài 3**

**Bài tập 1**

1. Chuẩn bị tài nguyên

Tài nguyên chuỗi

<resources>  
 <string name="app\_name">Animation</string>  
 <string name="txt\_scale">Scale</string>  
 <string name="txt\_trans">Trans</string>  
 <string name="txt\_rotate">Rotate</string>  
 <string name="txt\_alpha">Alpha</string>  
</resources>

Tài nguyên hình ảnh và icon và anim

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1. Thiết kế layout

*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout 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"  
 android:gravity="center\_horizontal"  
 android:orientation="vertical"  
 android:padding="20dp"  
 tools:context=".MainActivity">  
 <ImageView  
 android:id="@+id/iv\_animal"  
 android:layout\_width="128dp"  
 android:layout\_height="128dp"  
 android:layout\_marginTop="50dp"  
 android:src="@drawable/ic\_penguin"  
 tools:ignore="ContentDescription" />  
 <TableRow  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="200dp">  
 <Button  
 android:id="@+id/bt\_alpha"  
 style="?android:attr/buttonBarStyle"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"android:width="0dp"  
 android:backgroundTint="@color/design\_default\_color\_primary"  
 android:text="@string/txt\_alpha"  
 android:textAllCaps="true"  
 android:textColor="@color/white"  
 android:textSize="14sp" />  
 <Button  
 android:id="@+id/bt\_scale"  
 style="?android:attr/buttonBarStyle"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="5dp"  
 android:layout\_weight="1"  
 android:width="0dp"  
 android:backgroundTint="@color/design\_default\_color\_primary"  
 android:text="@string/txt\_scale"  
 android:textAllCaps="true"  
 android:textSize="14sp" />  
 <Button  
 android:id="@+id/bt\_trans"  
 style="?android:attr/buttonBarStyle"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="5dp"  
 android:layout\_weight="1"  
 android:width="0dp"  
 android:backgroundTint="@color/design\_default\_color\_primary"  
 android:text="@string/txt\_trans"  
 android:textAllCaps="true"  
 android:textSize="14sp" />  
 <Button  
 android:id="@+id/bt\_rotate"  
 style="?android:attr/buttonBarStyle"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginStart="5dp"  
 android:layout\_weight="1"  
 android:width="0dp"  
 android:backgroundTint="@color/design\_default\_color\_primary"  
 android:text="@string/txt\_rotate"  
 android:textAllCaps="true"  
 android:textSize="14sp" />  
 </TableRow>  
</LinearLayout>

1. Xử lý button trong MainActivity

package com.example.lab2\_bai3\_1;  
  
import android.os.Bundle;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.view.View;  
import android.view.animation.AnimationUtils;  
import android.widget.ImageView;  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
 private ImageView ivAnimal;  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 initViews();  
 }  
 private void initViews() {  
 ivAnimal = findViewById(R.id.*iv\_animal*);  
 findViewById(R.id.*bt\_alpha*).setOnClickListener(this);  
 findViewById(R.id.*bt\_rotate*).setOnClickListener(this);  
 findViewById(R.id.*bt\_scale*).setOnClickListener(this);  
 findViewById(R.id.*bt\_trans*).setOnClickListener(this);  
 }  
 @Override  
 public void onClick(View v) {  
 if (v.getId() == R.id.*bt\_alpha*) {  
 ivAnimal.startAnimation(AnimationUtils.*loadAnimation*(this, R.anim.*alpha*));  
 } else if (v.getId() == R.id.*bt\_rotate*) {  
 ivAnimal.startAnimation(AnimationUtils.*loadAnimation*(this, R.anim.*rotate*));  
 } else if (v.getId() == R.id.*bt\_scale*) {  
 ivAnimal.startAnimation(AnimationUtils.*loadAnimation*(this, R.anim.*scale*));  
 } else if (v.getId() == R.id.*bt\_trans*) {  
 ivAnimal.startAnimation(AnimationUtils.*loadAnimation*(this, R.anim.*translate*));  
 }  
 }  
}

Ta tiến hành Thêm bên dưới TableRow một button random cho bài tập

<Button  
 android:id="@+id/bt\_random"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="20dp"  
 android:text="Random"  
 android:backgroundTint="@color/design\_default\_color\_primary"  
 android:textColor="@color/white" />

Sau đó tiến hành xử lý sự kiện nút button

private void runRandomAnimation() {  
 int choice = random.nextInt(4); *// 0..3* Animation anim;  
  
 switch (choice) {  
 case 0:  
 anim = AnimationUtils.*loadAnimation*(this, R.anim.*alpha*);  
 break;  
 case 1:  
 anim = AnimationUtils.*loadAnimation*(this, R.anim.*rotate*);  
 break;  
 case 2:  
 anim = AnimationUtils.*loadAnimation*(this, R.anim.*scale*);  
 break;  
 case 3:  
 default:  
 anim = AnimationUtils.*loadAnimation*(this, R.anim.*translate*);  
 break;  
 }  
  
 ivAnimal.startAnimation(anim);  
}

btRandom = findViewById(R.id.bt\_random);

btRandom.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View v) {

runRandomAnimation();

}

});

Kết quả

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Bài tập 2

1. Chuẩn bị tài nguyên

Tài nguyên chuỗi

<resources>  
 <string name="app\_name">Quick Call</string>  
 <string name="txt\_mom">Mom</string>  
 <string name="txt\_dad">Dad</string>  
 <string name="txt\_crush">Crush</string>  
 <string name="txt\_best\_friend">Best friend</string>  
 <string name="phone\_mom">096666543</string>  
 <string name="phone\_dad">096666544</string>  
 <string name="phone\_crush">096886543</string>  
 <string name="phone\_best\_friend">099966543</string>  
</resources>

Tài nguyên màu sắc

*<?*xml version="1.0" encoding="utf-8"*?>*<resources>  
 <color name="purple\_200">#FFBB86FC</color>  
 <color name="purple\_500">#FF6200EE</color>  
 <color name="purple\_700">#F4511E</color>  
 <color name="teal\_200">#FF03DAC5</color>  
 <color name="teal\_700">#FF018786</color>  
 <color name="black">#FF000000</color>  
 <color name="white">#FFFFFFFF</color>  
 <color name="orange">#FB8C00</color>  
 <color name="gray">#EAE5E3</color>  
 <color name="orangeMid">#F4511E</color>  
</resources>

Tài nguyên theme

<resources xmlns:tools="http://schemas.android.com/tools">  
 *<!-- Base application theme. -->* <style name="Theme.Lab2\_BaiTap3\_2" parent="Theme.MaterialComponents.DayNight.NoActionBar">  
 *<!-- Primary brand color. -->* <item name="colorPrimary">@color/purple\_500</item>  
 <item name="colorPrimaryVariant">@color/purple\_700</item>  
 <item name="colorOnPrimary">@color/white</item>  
 *<!-- Secondary brand color. -->* <item name="colorSecondary">@color/teal\_200</item>  
 <item name="colorSecondaryVariant">@color/teal\_700</item>  
 <item name="colorOnSecondary">@color/black</item>  
 *<!-- Status bar color. -->* <item name="android:statusBarColor" tools:targetApi="l">?attr/colorPrimaryVariant</item>  
 *<!-- Customize your theme here. -->*</style>  
 </resources>

Tài nguyên hình ảnh, icon

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Tài nguyên animation A screenshot of a computer

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1. Thiết kế layout

Layout actionbar\_home

*<?*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="wrap\_content"  
 android:background="@color/design\_default\_color\_primary"  
 android:orientation="horizontal">  
  
 <TextView  
 android:layout\_width="0dp"  
 android:layout\_height="56dp"  
 android:layout\_weight="1"  
 android:gravity="center\_vertical"  
 android:paddingStart="16dp"  
 android:text="@string/app\_name"  
 android:textColor="@color/white"  
 android:textSize="24sp"  
 tools:ignore="RtlSymmetry" />  
  
 <ImageView  
 android:id="@+id/iv\_dialer"  
 android:layout\_width="60dp"  
 android:layout\_height="match\_parent"  
 android:padding="10dp"  
 android:layout\_marginEnd="10dp"  
 android:src="@drawable/ic\_dialer"  
 app:tint="@color/white"  
 tools:ignore="ContentDescription" />  
</LinearLayout>

Layout Mainactivity

*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout 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"  
 android:orientation="vertical"  
 tools:context=".MainActivity">  
  
 <include layout="@layout/actionbar\_home" />  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:gravity="center\_vertical"  
 android:orientation="vertical"  
 android:padding="20dp">  
  
 <FrameLayout  
 android:id="@+id/fr\_mom"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:background="@drawable/bg\_radius"  
 android:backgroundTint="#FFD54F"  
 android:gravity="center\_vertical"  
 android:padding="10dp"  
 android:tag="@string/phone\_mom">  
 <ImageView  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:src="@drawable/ic\_phone\_yellow"  
 tools:ignore="ContentDescription" />  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="@string/txt\_mom"  
 android:textColor="@color/black"  
 android:textSize="40sp" />  
 </FrameLayout>  
  
 <FrameLayout  
 android:id="@+id/fr\_dad"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="20dp"  
 android:background="@drawable/bg\_radius"  
 android:backgroundTint="#B39DDB"  
 android:gravity="center\_vertical"  
 android:padding="10dp"  
 android:tag="@string/phone\_dad">  
 <ImageView  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:src="@drawable/ic\_phone\_purple"  
 tools:ignore="ContentDescription" />  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="@string/txt\_dad"  
 android:textColor="@color/black"  
 android:textSize="40sp" />  
 </FrameLayout>  
  
 <FrameLayout  
 android:id="@+id/fr\_crush"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="20dp"  
 android:background="@drawable/bg\_radius"  
 android:gravity="center\_vertical"  
 android:padding="10dp"  
 android:tag="@string/phone\_crush">  
 <ImageView  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:src="@drawable/ic\_phone\_red"  
 tools:ignore="ContentDescription" />  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="@string/txt\_crush"  
 android:textColor="@color/white"  
 android:textSize="40sp" />  
 </FrameLayout>  
  
 <FrameLayout  
 android:id="@+id/fr\_best\_friend"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="20dp"  
 android:background="@drawable/bg\_radius"  
 android:backgroundTint="#9E9E9E"  
 android:gravity="center\_vertical"  
 android:padding="10dp"  
 android:tag="@string/phone\_best\_friend">  
 <ImageView  
 android:layout\_width="60dp"  
 android:layout\_height="60dp"  
 android:src="@drawable/ic\_phone\_black"  
 tools:ignore="ContentDescription" />  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:gravity="center"  
 android:text="@string/txt\_best\_friend"  
 android:textColor="@color/black"  
 android:textSize="40sp" />  
</FrameLayout>  
  
 </LinearLayout>  
 </LinearLayout>

1. Tiến hành xử lý activity main

package com.example.lab2\_baitap3\_2;  
  
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.view.animation.Animation;  
import android.view.animation.AnimationUtils;  
import android.widget.FrameLayout;  
import android.widget.Toast;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import java.util.Random;  
  
public class MainActivity extends AppCompatActivity implements View.OnClickListener {  
  
 private int[] anims = {  
 R.anim.*alpha*,  
 R.anim.*rotate*,  
 R.anim.*scale*,  
 R.anim.*translate* };  
 private Random random = new Random();  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 initView();  
 }  
  
 private void initView() {  
 findViewById(R.id.*fr\_mom*).setOnClickListener(this);  
 findViewById(R.id.*fr\_dad*).setOnClickListener(this);  
 findViewById(R.id.*fr\_crush*).setOnClickListener(this);  
 findViewById(R.id.*fr\_best\_friend*).setOnClickListener(this);  
 findViewById(R.id.*iv\_dialer*).setOnClickListener(this);  
 }  
  
 @Override  
 public void onClick(View v) {int animId = anims[random.nextInt(anims.length)];  
 Animation animation = AnimationUtils.*loadAnimation*(this, animId);  
 v.startAnimation(animation);  
  
 if (v instanceof FrameLayout) {  
 processCall((String) v.getTag());  
 } else {  
 gotoDialPad();  
 }  
 }  
  
 private void gotoDialPad() {  
 Intent intent = new Intent(Intent.*ACTION\_DIAL*);  
 startActivity(intent);  
 }  
  
 private void processCall(String phone) {  
 if (checkSelfPermission(Manifest.permission.*CALL\_PHONE*) != PackageManager.*PERMISSION\_GRANTED*) {  
 requestPermissions(new String[]{Manifest.permission.*CALL\_PHONE*}, 101);  
 Toast.*makeText*(this, "Hãy thực hiện lại sau khi cấp quyền!", Toast.*LENGTH\_SHORT*).show();  
 return;  
 }  
 Intent intent = new Intent(Intent.*ACTION\_CALL*);  
 intent.setData(Uri.*parse*("tel:" + phone));  
 startActivity(intent);  
 }  
}

Kết quả

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