# Program 5. Create an application to show happy face smiley and sad face smiley to demonstrate button click events.

Activity\_main.xml

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

<RelativeLayout xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content" android:orientation="vertical" tools:context=".MainActivity">

<com.example.smily.FaceView android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" />

<Button android:id="@+id/button"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="---> Sad Face" />

</RelativeLayout> Activity\_sec.xml

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

<RelativeLayout xmlns:android="[http://schemas.android.com/apk/res/android"](http://schemas.android.com/apk/res/android) android:layout\_width="match\_parent" android:layout\_height="match\_parent">

<com.example.smily.FaceView2 android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" />

<Button android:id="@+id/button1"

android:layout\_width="match\_parent" android:layout\_height="wrap\_content" android:text="---> Happy Face" />

</RelativeLayout>

Mainactivity.java

package com.example.smily;

import androidx.appcompat.app.AppCompatActivity; import android.content.Intent;

import android.os.Bundle; import android.view.View; import android.widget.Button;

public class MainActivity extends AppCompatActivity { Button button;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_main);

button = (Button) findViewById(R.id.button); button.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View v) { openNewActivity();

}

});

}

public void openNewActivity(){

Intent intent = new Intent(this,MainActivity2.class); startActivity(intent);

}

}

Mainactivity2.java

package com.example.smily; import android.content.Intent; import android.os.Bundle; import android.view.View; import android.widget.Button;

import com.example.smily.databinding.ActivityMain2Binding; import androidx.appcompat.app.AppCompatActivity;

import androidx.navigation.ui.AppBarConfiguration; public class MainActivity2 extends AppCompatActivity { Button button1;

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity\_sec);

button1 = (Button) findViewById(R.id.button1); button1.setOnClickListener(new View.OnClickListener() { @Override

public void onClick(View v) { openNewActivity();

}

});

}

public void openNewActivity(){

Intent intent1 = new Intent(this,MainActivity.class); startActivity(intent1);

}

}

FaceView.java

package com.example.smily; import android.content.Context; import android.graphics.Canvas; import android.graphics.Color; import android.graphics.Paint; import android.graphics.RectF; import android.util.AttributeSet;

import android.view.View;

public class FaceView extends View {

private static final String COLOR\_HEX = "WHITE"; private final Paint mPaint;

private float xPosition; private float yPosition; private float radius;

private float strokeWidth = 20; private float defaultScale = 0.90f; private float eyeRadius = 60; private float eyeYPosition; private float leftEyeXPosition; private float rightEyeXPosition;

public FaceView(Context context, AttributeSet attrs) { super(context, attrs);

mPaint = new Paint(); mPaint.setAntiAlias(true);

}

@Override

protected void onDraw(Canvas canvas) { super.onDraw(canvas); mPaint.setColor(Color.parseColor(COLOR\_HEX)); mPaint.setStrokeWidth(strokeWidth); mPaint.setStyle(Paint.Style.STROKE); canvas.drawPaint(mPaint); canvas.drawColor(Color.BLACK);

// drawing outer circle

// lets setup x cord, y cord, radius

// x, y position should point to center.

// radius should be half the width / height xPosition = getMeasuredWidth() / 2; yPosition = getMeasuredHeight() / 2;

radius = xPosition < yPosition ? xPosition : yPosition ; radius \*= defaultScale;

canvas.drawCircle(xPosition, yPosition, radius, mPaint);

// Drawing Eyes.

// lets find eye y position

eyeYPosition = (float) (yPosition / 1.2);

// lets find eye x position

leftEyeXPosition = xPosition < yPosition ? xPosition / 2 : (float) (xPosition / 1.3);

// lets find right eye x position

rightEyeXPosition = xPosition < yPosition ? xPosition + xPosition / 2 : xPosition + xPosition / 4;

// left eye

canvas.drawCircle(leftEyeXPosition, eyeYPosition, eyeRadius, mPaint);

// right eye

canvas.drawCircle(rightEyeXPosition, eyeYPosition, eyeRadius, mPaint);

// lets draw mouth.

RectF oval = new RectF(leftEyeXPosition, yPosition + yPosition / 12, rightEyeXPosition, (float) (yPosition + yPosition / 2.5)); // left top right bottom

canvas.drawArc(oval, 10, 150, false, mPaint); // happy face.

}

}

FaceView2.java

package com.example.smily; import android.content.Context; import android.graphics.Canvas; import android.graphics.Color; import android.graphics.Paint; import android.graphics.RectF; import android.util.AttributeSet; import android.view.View;

public class FaceView2 extends View {

private static final String COLOR\_HEX = "WHITE"; private final Paint mPaint;

private float xPosition; private float yPosition; private float radius;

private float strokeWidth = 20; private float defaultScale = 0.90f; private float eyeRadius = 60; private float eyeYPosition; private float leftEyeXPosition; private float rightEyeXPosition;

public FaceView2(Context context, AttributeSet attrs) { super(context, attrs);

mPaint = new Paint(); mPaint.setAntiAlias(true);

}

@Override

protected void onDraw(Canvas canvas) { super.onDraw(canvas); mPaint.setColor(Color.parseColor(COLOR\_HEX)); mPaint.setStrokeWidth(strokeWidth); mPaint.setStyle(Paint.Style.STROKE); canvas.drawPaint(mPaint); canvas.drawColor(Color.BLACK);

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// x, y position should point to center.

// radius should be half the width / height xPosition = getMeasuredWidth() / 2; yPosition = getMeasuredHeight() / 2;

radius = xPosition < yPosition ? xPosition : yPosition ; radius \*= defaultScale;

canvas.drawCircle(xPosition, yPosition, radius, mPaint);

// Drawing Eyes.

// lets find eye y position

eyeYPosition = (float) (yPosition / 1.2);

// lets find eye x position

leftEyeXPosition = xPosition < yPosition ? xPosition / 2 : (float) (xPosition / 1.3);

// lets find right eye x position

rightEyeXPosition = xPosition < yPosition ? xPosition + xPosition / 2 : xPosition + xPosition / 4;

// left eye

canvas.drawCircle(leftEyeXPosition, eyeYPosition, eyeRadius, mPaint);

// right eye

canvas.drawCircle(rightEyeXPosition, eyeYPosition, eyeRadius, mPaint);

// lets draw mouth.

RectF oval = new RectF(leftEyeXPosition, yPosition + yPosition / 5, rightEyeXPosition, (float) (yPosition + yPosition / 2)); // left top right bottom

canvas.drawArc(oval, 200, 140, false, mPaint); // sad face.

}

}

OUTPUT

