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

activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <com.example.sadandhappyface.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_main2.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <com.example.sadandhappyface.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

```java
package com.example.sadandhappyface;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
```

```java
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

```java
package com.example.sadandhappyface;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;


import androidx.appcompat.app.AppCompatActivity;


public class MainActivity2 extends AppCompatActivity {
    Button button1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        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

```java
package com.example.sadandhappyface;

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 Paint paint,paint1;
    private RectF RectF;


    public FaceView(Context context,AttributeSet attrs) {

        super(context);

        // create the Paint and set its color
        paint = new Paint();
        paint1 = new Paint();
        paint.setColor(Color.YELLOW);
        paint1.setColor(Color.BLACK);
    }


    @Override
    protected void onDraw(Canvas canvas) {
        canvas.drawColor(Color.WHITE);
        canvas.drawCircle(500, 600, 220, paint);
        canvas.drawCircle(400, 570, 30, paint1);
        canvas.drawCircle(600, 570, 30, paint1);
        RectF oval = new RectF(400, 520 + 520 / 8, 600, (float) (520 + 520
/ 2.5));
        canvas.drawArc(oval, 10, 160, false, paint1);


    }
}
```

Faceview2.java

```java
package com.example.sadandhappyface;
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 Paint paint,paint1;
    private RectF RectF;


    public FaceView2(Context context,AttributeSet attrs) {

        super(context);

        // create the Paint and set its color
        paint = new Paint();
        paint1 = new Paint();
        paint.setColor(Color.YELLOW);
        paint1.setColor(Color.BLACK);
    }


    @Override
    protected void onDraw(Canvas canvas) {
        canvas.drawColor(Color.WHITE);
        canvas.drawCircle(500, 600, 220, paint);
        canvas.drawCircle(400, 570, 30, paint1);
        canvas.drawCircle(600, 570, 30, paint1);
        RectF oval = new RectF(400, 520 + 520 / 7, 600, (float) (520 + 520
/ 2.5));
        canvas.drawArc(oval, 10, -200, false, paint1);


    }
}
```