

EX:NO:03

GRAPHICAL PRIMITIVES

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AIM:-

Develop an android application to draw the circle, ellipse, rectangle and some text using Android Graphical primitives.

PROCEDURE:-

Step 1: Design the layout in activity_main.xml file.

Step 2: Define custom view for drawing shapes and text.

Step 3: Add attributes for customization.

Step 4: Initialize custom view in MainActivity.kt.

Step 5: Implement drawing functions.

Step 6: Add user interaction.

Step 7: Test the application.

Step 8: Refactor and optimize.

Step 9: Document the application.

PROGRAM CODE:-

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.graphicalprimitives">
    <application
        android:allowBackup="true"
```

```
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/AppTheme">
    <activity android:name=".MainActivity">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>
</application>
</manifest>
```

activity_main.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="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <com.example.graphicalprimitives.SampleCanvas
        android:id="@+id/sampleCanvas"
        android:layout_width="match_parent"
```

```
        android:layout_height="match_parent" />
</RelativeLayout>
```

MainActivity.kt:

```
package com.example.graphicalprimitives

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

class MainActivity : AppCompatActivity() {

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```

SampleCanvas.kt:

```
package com.example.graphicalprimitives

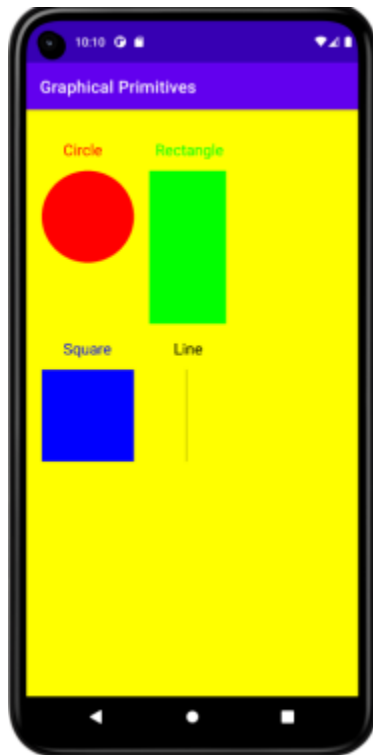
import android.content.Context
import android.graphics.Canvas
import android.graphics.Color
import android.graphics.Paint
import android.util.AttributeSet
import android.view.View

class SampleCanvas(context: Context, attrs: AttributeSet?) : View(context, attrs) {

    private val paint = Paint()
```

```
override fun onDraw(canvas: Canvas?) {  
    super.onDraw(canvas)  
    // Draw a circle  
    paint.color = Color.BLUE  
    canvas?.drawCircle(200f, 200f, 100f, paint)  
    // Draw an ellipse  
    paint.color = Color.RED  
    canvas?.drawOval(400f, 400f, 700f, 500f, paint)  
    // Draw a rectangle  
    paint.color = Color.GREEN  
    canvas?.drawRect(100f, 500f, 300f, 700f, paint)  
    // Draw text  
    paint.color = Color.BLACK  
    paint.textSize = 50f  
    canvas?.drawText("Hello, Canvas!", 100f, 1000f, paint)  
}  
}
```

OUTPUT:-



RESULT:-

Thus to develop an android application to draw the circle, ellipse, rectangle and some text using Android Graphical primitives is implemented and executed successfully.