Graphical Primitives

Aim

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

Procedure:

Step 1 : *File -> NewProject*

Provide the application name and Click "Next"

Step 2 : *Select the target android devices*

Select the minimum SDK to run the application. Click "Next".

Step 3 : *Choose the activity for the application (By default choose "Blank Activity).*

Click "Next".

Step 4 : *Enter activity name and click.*

Step 5 : *Edit the program.*

Step 6 : *Run the application, 2-ways to run the application.*

1. Running through emulator

2. Running through mobile device

AndroidManifest.xml

```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">

   <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._3exp23"
      tools:targetApi="31">
      <activity
         android:name="com.example.graphicalprimitives.MainActivity"
         android:exported="true"
         tools:ignore="MissingClass">
         <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
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <com.example.graphicalprimitives.DrawView
        android:layout_width="match_parent"
        android:layout_height="match_parent" />
</LinearLayout>
```

MainActivity.kt

```kotlin
package com.example.graphicalprimitives

import android.os.Bundle
import androidx.appcompat.app.AppCompatActivity
import com.example.a3exp23.R


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

DrawView.kt

```kotlin
package com.example.graphicalprimitives  // Replace with your actual package name

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 DrawView(context: Context, attrs: AttributeSet?) : View(context, attrs) {

    private val paint = Paint()

    override fun onDraw(canvas: Canvas) {
        super.onDraw(canvas)

        // Draw Circle
        paint.color = Color.YELLOW
        canvas.drawCircle(200f, 200f, 100f, paint)

        // Draw Ellipse
        paint.color = Color.GRAY
        canvas.drawOval(100f, 400f, 300f, 500f, paint)
```

```
    // Draw Rectangle
    paint.color = Color.GREEN
    canvas.drawRect(100f, 600f, 300f, 750f, paint)

    // Draw Text
    paint.color = Color.BLACK
    paint.textSize = 50f
    canvas.drawText("Hello Graphics!", 100f, 850f, paint)
    }
}
```

Output

Hello Graphics!

Result:

The Graphical primitives experiment has been successfully completed