Ex. No.   :   03   Date: 03.02.2025

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Android 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 "Finish".

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"
package="com.example.ex3">

   <application        android:allowBackup="true"
android:label="DrawingApp"
android:icon="@mipmap/ic_launcher"
android:roundIcon="@mipmap/ic_launcher_round"
android:supportsRtl="true"
android:theme="@style/Theme.Ex3">        <activity
android:name=".MainActivity"
android:exported="true">
        <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://sche
mas.android.com/apk/res/a
ndroid"

android:orientation="vertic
al"
```

```xml
    android:layout_width="mat
    ch_parent"
    android:layout_height="ma
    tch_parent">


    <com.example.ex3.Custom
    DrawingView

    android:id="@+id/customVi
    ew"

    android:layout_width="mat
    ch_parent"

    android:layout_height="ma
    tch_parent"/>
    </LinearLayout>
```

MainActivity.kt package
com.example.ex3

```kotlin
import android.os.Bundle
import
androidx.appcompat.app.A
ppCompatActivity

class MainActivity :
AppCompatActivity() {
```

```kotlin
    override fun
onCreate(savedInstanceSta
te: Bundle?) {
super.onCreate(savedInsta
nceState)

setContentView(R.layout.a
ctivity_main)
    }
}
```

CustomDrawingView

```kotlin
package com.example.ex3

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

class
```

```kotlin
CustomDrawingView(co
ntext: Context, attrs:
AttributeSet?) :
View(context, attrs) {

    private val paint =
Paint()

    override fun onDraw(canvas:
Canvas)
{

super.onDraw(canvas)

    // Smooth   edges
paint.isAntiAlias = true

    // 1. Draw Circle
paint.color =
Color.RED
    paint.style = Paint.Style.FILL

canvas.drawCircle(300f,
300f, 100f, paint)

    // 2. Draw Ellipse
paint.color =
Color.BLUE
    val oval =
RectF(500f, 100f, 800f, 300f)
```

```kotlin
canvas.drawOval(oval, paint)

    // 3. Draw Rectangle
paint.color =
Color.GREEN

canvas.drawRect(100f, 500f,
500f, 700f, paint)

    // 4. Draw Text
paint.color =
Color.BLACK
    paint.textSize = 60f

canvas.drawText("Hello from
Canvas!", 100f,
850f, paint)
   }
}
```

Output :

Result:
The Application was developed using Kotlin in Android Studio.