**EXPERIMENT-3 ANDROID GRAPHICAL PRIMITIVES**

**AIM:**

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

**PROCEDURE:**

* Go to File → New Project.
* Provide the Application Name and click Next.
* Select the Target Android Devices.
* Choose the Minimum SDK required.
* Choose the activity (Blank Activity by default).
* Enter the Activity Name.
* Click Finish.
* Edit the program (design layout and write Kotlin code).
* Run the Application in 2 ways:
  1. Using an Emulator.
  2. Using a Real Mobile Device (via USB debugging).

**PROGRAM:**

## **AndroidManifest.xml :**

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

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

package="com.example.drawshapes">

<application

android:allowBackup="true"

android:label="ShapeDrawer"

android:icon="@mipmap/ic\_launcher"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/Theme.ShapeDrawer">

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

<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<com.example.drawshapes.ShapeCanvasView

android:id="@+id/shapeCanvas"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent" />

</FrameLayout>

**MainActivity.kt :**

package com.example.drawshapes

import android.os.Bundle

import androidx.appcompat.app.AppCompatActivity

class MainActivity : AppCompatActivity() {

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

}

}

package com.example.drawshapes

import android.content.Context

import android.graphics.\*

import android.util.AttributeSet

import android.view.View

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

private val paint = Paint(Paint.ANTI\_ALIAS\_FLAG)

override fun onDraw(canvas: Canvas) {

super.onDraw(canvas)

// Circle

paint.color = Color.MAGENTA

paint.style = Paint.Style.FILL

canvas.drawCircle(200f, 200f, 100f, paint)

// Ellipse

paint.color = Color.CYAN

val ellipse = RectF(350f, 100f, 650f, 250f)

canvas.drawOval(ellipse, paint)

// Rectangle

paint.color = Color.YELLOW

canvas.drawRect(100f, 400f, 500f, 600f, paint)

// Text

paint.color = Color.DKGRAY

paint.textSize = 55f

paint.typeface = Typeface.create(Typeface.SANS\_SERIF, Typeface.BOLD)

canvas.drawText("Drawing Shapes!", 120f, 720f, paint)

}

}