

EX 3

ANDROID MANIFEST

```
<?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.Shapes"
        tools:targetApi="31">
        <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 version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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:ignore="MissingConstraints"

    tools:context=".MainActivity">

    <com.example.shapes.CanvasView
        android:id="@+id/canvasView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:layout_editor_absoluteY="0dp"
        tools:layout_editor_absoluteX="-16dp"
        android:background="@color/lavendar"/>

</androidx.constraintlayout.widget.ConstraintLayout>
```

MAIN ACTIVITY

```
package com.example.shapes

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)
    }
}
```

CANVASVIEW.KT

```
package com.example.shapes

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 CanvasView @JvmOverloads constructor(
    context: Context, attrs: AttributeSet? = null, defStyleAttr: Int = 0
) : View(context, attrs, defStyleAttr) {

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

        val paint: Paint = Paint()

        //line
        paint.setColor(Color.GREEN)
        paint.strokeWidth = 8f
        canvas.drawLine(750f, 800f, 750f, 1200f, paint)
        drawText(canvas, "Line", 690f, 750f)

        //circle
        paint.style = Paint.Style.FILL
        paint.setColor(Color.YELLOW)
        canvas.drawCircle(290f, 350f, 150f, paint)
        drawText(canvas, "Circle", 220f, 150f)

        //rectangle
        paint.style = Paint.Style.FILL
        paint.setColor(Color.RED)
        canvas.drawRect(850f, 650f, 600f, 200f, paint)
        drawText(canvas, "Rectangle", 620f, 150f)

        //square
        paint.style = Paint.Style.FILL
        paint.setColor(Color.BLUE)
        canvas.drawRect(200f, 1150f, 500f, 850f, paint)
        drawText(canvas, "Square", 250f, 750f)
    }

    private fun drawText(canvas: Canvas, s: String, x: Float, y: Float) {
        val textPaint = Paint().apply {
            color = Color.BLACK
            textSize = 50f
        }
        canvas.drawText(s, x, y, textPaint)
    }
}
```