

Exercise- Create android application to demonstrate graphics and animation

Implementation:

Program:

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:layoutDescription="@string/display_shapes"
        tools:ignore="MissingConstraints"/>

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

MainActivity.java

```
package com.example.shapedemo;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.drawable.BitmapDrawable;
import android.os.Bundle;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Bitmap bg = Bitmap.createBitmap(720, 1280, Bitmap.Config.ARGB_8888);
```

```

ImageView i = findViewById(R.id.imageView);
i.setBackground(new BitmapDrawable(bg));

Canvas canvas = new Canvas(bg);

Paint paint = new Paint();
paint.setColor(Color.YELLOW);
paint.setTextSize(30);

Paint paint1 = new Paint();
paint1.setColor(Color.WHITE);
paint1.setTextSize(30);

canvas.drawRGB(20, 60, 30);

//to draw a circle
canvas.drawText("Circle", 100, 50, paint1);
canvas.drawCircle(140, 230, 100, paint1);

//to draw a Rectangle
canvas.drawText("Rectangle", 300, 50, paint);
canvas.drawRect(280, 100, 450, 380, paint);

//To draw a Oval
canvas.drawText("Oval", 570, 50, paint1);
canvas.drawOval(500, 100, 700, 400, paint1);

//To draw a point
canvas.drawText("Point", 100, 450, paint1);
canvas.drawPoint(110, 460, paint);
canvas.drawPoint(120, 460, paint);
canvas.drawPoint(130, 460, paint);
canvas.drawPoint(140, 460, paint);
canvas.drawPoint(150, 460, paint);
canvas.drawPoint(160, 460, paint);

float[] coordinatesPnt = {110F, 480F, 120F, 480F, 130F, 480F, 140F, 480F, 150F,
480F, 160F, 480F };
canvas.drawPoints(coordinatesPnt, paint);

canvas.drawText("Square", 300, 450, paint1);
canvas.drawRect(220, 480, 480, 700, paint1);

canvas.drawText("Line", 570, 450, paint);
canvas.drawRect(570, 480, 570, 700, paint);

```

```

float[] coordinatesLine = {580F, 480F, 580F, 700F,
    590F, 480F, 590F, 700F,
    600F, 480F, 600F, 700F,
    610F, 480F, 610F, 700F,
    620F, 480F, 620F, 700F,
};
canvas.drawLines(coordinatesLine,paint);

canvas.drawText("House", 300, 800, paint);
float[] coordinatesHouseLine = {330F, 830F, 250F, 900F,
    330F, 830F, 410F, 900F,
    250F, 900F, 410F, 900F,
    250F, 900F, 250F, 1100F,
    410F, 900F, 410F, 1100F,
    250F, 1100F, 410F, 1100F,
    300F, 990F, 300F, 1100F,
    360F, 990F, 360F, 1100F,
    300F, 990F, 360F, 990F,
};
canvas.drawLines(coordinatesHouseLine,paint);

}

}

```

Menifest.xml

```

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

    <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/Theme.ShapeDemo">
        <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>
```

Output:

