**activity\_main.xml:**

*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout  
 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"  
 android:orientation="vertical"  
 tools:context=".MainActivity">  
  
 <LinearLayout  
 android:id="@+id/ll"  
 android:layout\_width="match\_parent"  
 android:layout\_height="0dp"  
 android:orientation="vertical"  
 android:layout\_weight="1"  
 android:padding="10dp">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="GRAPHICAL PRIMITIVES"  
 android:textAllCaps="true"  
 android:textColor="@color/colorPrimaryDark"  
 android:textSize="30sp"  
 android:layout\_gravity="center"  
 android:padding="5dp"/>  
  
 <Button  
 android:id="@+id/bt\_paint"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Draw Shapes"  
 android:layout\_gravity="center"  
 android:padding="10dp"/>  
  
 <Button  
 android:id="@+id/bt\_forward"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:text="Animate - Forward"  
 android:padding="10dp"/>  
  
 <Button  
 android:id="@+id/bt\_backward"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:text="Animate - Backward"  
 android:padding="10dp"/>  
  
 <Button  
 android:id="@+id/bt\_animate"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:text="Transform - Rotate and Zoom"  
 android:padding="10dp"/>  
  
 <Button  
 android:id="@+id/bt\_car"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:text="Animated Car"  
 android:padding="10dp"/>  
  
  
 </LinearLayout>  
  
 <LinearLayout  
 android:id="@+id/ll2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="0dp"  
 android:orientation="vertical"  
 android:layout\_weight="1"  
 android:padding="10dp"  
 >  
  
 <ImageView  
 android:id="@+id/iv\_animate"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:background="@drawable/car\_img" />  
  
</LinearLayout>  
</LinearLayout>

**MainActivity.java**

package com.example.ex4;  
  
import androidx.annotation.RequiresApi;  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Build;  
import android.os.Bundle;  
  
import android.graphics.Bitmap;  
import android.graphics.Canvas;  
import android.graphics.Color;  
import android.graphics.Paint;  
import android.graphics.RectF;  
import android.graphics.drawable.BitmapDrawable;  
import android.view.View;  
import android.view.animation.Animation;  
import android.view.animation.AnimationUtils;  
import android.widget.Button;  
import android.widget.ImageView;  
public class MainActivity extends AppCompatActivity {  
 int x=0, y=0, z=1;  
 @Override  
  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Button bt\_paint=findViewById(R.id.*bt\_paint*);  
 Button bt\_animate=findViewById(R.id.*bt\_animate*);  
 Button bt\_car=findViewById(R.id.*bt\_car*);  
 Button bt\_forward=findViewById(R.id.*bt\_forward*);  
 Button bt\_backward=findViewById(R.id.*bt\_backward*);  
 final ImageView iv\_animate=findViewById(R.id.*iv\_animate*);  
  
 bt\_paint.setOnClickListener(new View.OnClickListener() {  
 @RequiresApi(api = Build.VERSION\_CODES.*LOLLIPOP*)  
 @Override  
 public void onClick(View v) {  
 Intent myIntent = new Intent(getApplicationContext(), paint.class);  
 startActivity(myIntent);  
 }  
 });  
  
 bt\_forward.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 iv\_animate.animate().translationXBy(300f).setDuration(600);  
 }  
 });  
  
 bt\_backward.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 iv\_animate.animate().translationXBy(-300f).setDuration(600);  
 }  
 });  
  
 bt\_animate.setOnClickListener(new View.OnClickListener() {  
 int var2=0;  
 @Override  
 public void onClick(View v) {  
 if(var2==0) {  
 iv\_animate.startAnimation(AnimationUtils.*loadAnimation*(getApplicationContext(), R.anim.*zoom\_in*));  
 var2=1;  
 }  
 else if(var2==1){  
 iv\_animate.startAnimation(AnimationUtils.*loadAnimation*(getApplicationContext(), R.anim.*fade\_in*));  
 var2=2;  
 }  
 else  
 {  
 iv\_animate.startAnimation(AnimationUtils.*loadAnimation*(getApplicationContext(), R.anim.*rotate\_in*));  
 var2=0;  
 }  
 }  
 });  
  
 bt\_car.setOnClickListener(new View.OnClickListener() {  
 @RequiresApi(api = Build.VERSION\_CODES.*LOLLIPOP*)  
 @Override  
 public void onClick(View v) {  
 if (z % 3 == 0) {  
 iv\_animate.setBackgroundResource(R.drawable.*car\_img*);  
 z++;  
 }  
 else if (z % 3 == 1) {  
 iv\_animate.setBackgroundResource(R.drawable.*car\_img1*);  
 z++;  
 }  
 if (z % 3 == 2) {  
 iv\_animate.setBackgroundResource(R.drawable.*car\_img2*);  
 z++;  
 }  
 }  
});

}  
}

paint.java

package com.example.ex4;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.annotation.TargetApi;  
import android.graphics.Bitmap;  
import android.graphics.Canvas;  
import android.graphics.Color;  
import android.graphics.Paint;  
import android.graphics.RectF;  
import android.graphics.drawable.BitmapDrawable;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.ImageView;  
import android.widget.LinearLayout;  
  
public class paint extends AppCompatActivity {  
  
 LinearLayout ll2;  
 ImageView img\_draw;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_paint*);  
  
 Button bt\_line=(Button)findViewById(R.id.*bt\_line*);  
 Button bt\_circle=(Button)findViewById(R.id.*bt\_circle*);  
 Button bt\_rect=(Button)findViewById(R.id.*bt\_rect*);  
 Button bt\_arc=(Button)findViewById(R.id.*bt\_arc*);  
 ll2=findViewById(R.id.*ll2*);  
 img\_draw=findViewById(R.id.*img\_draw*);  
  
  
 bt\_rect.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Bitmap b= Bitmap.*createBitmap*(720,1280, Bitmap.Config.*ARGB\_8888*);  
 img\_draw.setBackgroundDrawable(new BitmapDrawable(b));  
 Paint p=new Paint();  
 p.setStrokeWidth(10);  
 Canvas canvas=new Canvas(b);  
 p.setColor(Color.*GREEN*);  
 RectF r = new RectF(0, 0, 400, 200);  
 canvas.drawRect(r,p);  
 }  
 });  
  
 bt\_arc.setOnClickListener(new View.OnClickListener() {  
 @TargetApi(21)  
 @Override  
 public void onClick(View v) {  
 Bitmap b= Bitmap.*createBitmap*(720,1280, Bitmap.Config.*ARGB\_8888*);  
 img\_draw.setBackgroundDrawable(new BitmapDrawable(b));  
 Paint p=new Paint();  
 Canvas canvas=new Canvas(b);  
 p.setStrokeWidth(10);  
 p.setColor(Color.*RED*);  
 canvas.drawArc(200, 200, 600, 600, 20, 115, true, p);  
  
 }  
 });  
  
 bt\_line.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Bitmap b= Bitmap.*createBitmap*(720,1280, Bitmap.Config.*ARGB\_8888*);  
 img\_draw.setBackgroundDrawable(new BitmapDrawable(b));  
 Paint p=new Paint();  
 Canvas canvas=new Canvas(b);  
 p.setStrokeWidth(10);  
 p.setColor(Color.*BLUE*);  
 canvas.drawLine(200, 200, 600, 600, p);  
  
 }  
 });  
  
 bt\_circle.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 Bitmap b= Bitmap.*createBitmap*(720,1280, Bitmap.Config.*ARGB\_8888*);  
 img\_draw.setBackgroundDrawable(new BitmapDrawable(b));  
 Paint p=new Paint();  
 Canvas canvas=new Canvas(b);  
 p.setStrokeWidth(10);  
 p.setColor(Color.*YELLOW*);  
 canvas.drawCircle(400, 400, 200, p);  
  
 }  
 });  
  
 }  
}

activity\_paint.xml

B*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout  
 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"  
 android:orientation="vertical"  
 tools:context=".MainActivity">  
  
 <LinearLayout  
 android:id="@+id/ll"  
 android:layout\_width="match\_parent"  
 android:layout\_height="0dp"  
 android:orientation="vertical"  
 android:layout\_weight="1"  
 android:padding="10dp">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="DRAW SHAPES"  
 android:textAllCaps="true"  
 android:textColor="@color/colorPrimaryDark"  
 android:textSize="30sp"  
 android:layout\_gravity="center"  
 android:padding="5dp"/>  
  
 <Button  
 android:id="@+id/bt\_line"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Line"  
 android:layout\_gravity="center"  
 android:padding="10dp"/>  
  
 <Button  
 android:id="@+id/bt\_circle"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:text="Circle"  
 android:padding="10dp"/>  
  
 <Button  
 android:id="@+id/bt\_rect"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:text="Rectangle"  
 android:padding="10dp"/>  
  
 <Button  
 android:id="@+id/bt\_arc"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center"  
 android:text="Arc"  
 android:padding="10dp"/>  
  
 </LinearLayout>  
  
 <LinearLayout  
 android:id="@+id/ll2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="0dp"  
 android:orientation="vertical"  
 android:layout\_weight="1"  
 android:padding="10dp"  
 >  
 <ImageView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/img\_draw"/>  
  
 </LinearLayout>  
</LinearLayout>

**zoom\_in.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<set xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
 <scale xmlns:android="http://schemas.android.com/apk/res/android"  
 android:fromXScale="0.5"  
 android:fromYScale="0.5"  
 android:toXScale="1.0"  
 android:toYScale="1.0"  
 android:duration="3000"  
 android:pivotX="50%"  
 android:pivotY="50%"/>  
</set>

**fade\_in.xml:**

*<?*xml version="1.0" encoding="utf-8"*?>*<set xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
 <alpha  
 android:fromAlpha="0.0"  
 android:toAlpha="1.0"  
 android:duration="2000"/>  
  
</set>

**rotate\_in.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<set xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent">  
 <rotate  
 android:fromDegrees="0"  
 android:toDegrees="360"  
 android:pivotX="50%"  
 android:pivotY="50%"  
 android:duration="1000" />  
  
</set>

**Output:**

 

 

 

 

 

 