

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"
```

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        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()
ontext(), R.anim.zoom_in));
                    var2=1;
                }
                else if(var2==1){

iv_animate.startAnimation(AnimationUtils.loadAnimation(getApplicationContext()
ontext(), 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

```

<?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:





