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Reg. No.	:	**18 5001 194**	Date	: 29/08/2021
Subject	:	**UCS1711---Mobile Application Development Lab**		

QUESTION :

Ex 4: Application Development using basic graphical primitives

CODE :

activity_main.xml :

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

<RelativeLayout
    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:context=".MainActivity">

    <Button
        android:id="@+id/bt_fade"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginStart="161dp"
        android:layout_marginLeft="161dp"
        android:layout_marginTop="198dp"
        android:backgroundTint="@color/orange"
        android:text="Fade" />

    <Button
        android:id="@+id/bt_rotate"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```xml
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginStart="278dp"
        android:layout_marginLeft="278dp"
        android:layout_marginTop="195dp"
        android:backgroundTint="@color/orange"
        android:text="Rotate" />

    <Button
        android:id="@+id/bt_down"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="10dp"
        android:layout_marginLeft="210dp"
        android:backgroundTint="@color/orange"
        android:text="Down" />

    <Button
        android:id="@+id/bt_zoom"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginStart="46dp"
        android:layout_marginLeft="46dp"
        android:layout_marginTop="200dp"
        android:backgroundTint="@color/orange"
        android:text="Zoom" />

    <Button
        android:id="@+id/bt_up"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/bt_zoom"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="-238dp"
        android:layout_marginEnd="250dp"
        android:layout_marginRight="163dp"
        android:backgroundTint="@color/orange"
        android:text="Up" />

    <Button
        android:id="@+id/bt_forward"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/bt_up"
        android:layout_alignParentStart="true"
        android:layout_marginStart="216dp"
        android:layout_marginTop="4dp"
        android:text="Forward"
```

```xml
        android:layout_alignParentLeft="true"
        android:backgroundTint="@color/orange"
        android:layout_marginLeft="210dp" />

    <Button
        android:id="@+id/bt_backward"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/bt_forward"
        android:layout_alignParentStart="true"
        android:layout_alignParentLeft="true"
        android:layout_marginStart="74dp"
        android:layout_marginLeft="74dp"
        android:layout_marginTop="-46dp"
        android:backgroundTint="@color/orange"
        android:text="Backward" />

    <ImageView
        android:id="@+id/iv_animate"
        android:layout_width="match_parent"
        android:layout_height="200dp"
        android:layout_below="@+id/bt_backward"
        android:layout_centerInParent="true"
        android:layout_marginLeft="30dp"
        android:layout_marginTop="214dp"
        android:layout_marginRight="30dp"
        android:background="@drawable/car" />


</RelativeLayout>
```

MainActivity.java :

```java
  package com.example.v2;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.view.animation.AnimationUtils;
import android.widget.Button;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity{

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```java
        setContentView(R.layout.activity_main);

        Button bt_zoom=findViewById(R.id.bt_zoom);
        Button bt_fade=findViewById(R.id.bt_fade);
        Button bt_rotate=findViewById(R.id.bt_rotate);
        Button bt_down=findViewById(R.id.bt_down);
        Button bt_up=findViewById(R.id.bt_up);
        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_zoom.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {


iv_animate.startAnimation(AnimationUtils.loadAnimation(getApplicationContext
(),R.anim.zoom_in));
            }
        });
        bt_fade.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {


iv_animate.startAnimation(AnimationUtils.loadAnimation(getApplicationContext
(),R.anim.fade_in));
            }
        });
        bt_rotate.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {


iv_animate.startAnimation(AnimationUtils.loadAnimation(getApplicationContext
(),R.anim.rotate_in));
            }
        });
        bt_up.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                iv_animate.animate().translationYBy(-300f).setDuration(600);
            }
        });
        bt_down.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                iv_animate.animate().translationYBy(300f).setDuration(600);
            }
        });
        bt_forward.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                iv_animate.animate().translationXBy(300f).setDuration(600);
            }
        });
```

```java
        bt_backward.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                iv_animate.animate().translationXBy(-300f).setDuration(600);
            }
        });

    }

}
```

colors.xml:

```xml
   <?xml version="1.0" encoding="utf-8"?>
<resources>
   <color name="purple_200">#FFBB86FC</color>
   <color name="purple_500">#FF6200EE</color>
   <color name="purple_700">#FF3700B3</color>
   <color name="teal_200">#FF03DAC5</color>
   <color name="teal_700">#FF018786</color>
   <color name="black">#FF000000</color>
   <color name="white">#FFFFFFFF</color>
   <color name="orange">#FF4500</color>
   <color name="green">#00FF00</color>
</resources>
```

fade_in.xml:

```xml
   <?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
   <alpha
       android:fromAlpha="0.0"
       android:toAlpha="1.0"
       android:duration="2000"/>
</set>
```

zoom_in.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
    <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>
```

rotate_in.xml:

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

Output :