

Name	:	V Vikram	Class	:	CSE 'C'
Reg. No.	:	18 5001 194	Date	:	25/08/2021
Subject	:	UCS1711---Mobile Application Development Lab			

QUESTION :

Ex. No. 3 Create an application that uses graphical primitives

CODE :

activity_main.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/imageView"/>
</RelativeLayout>
```

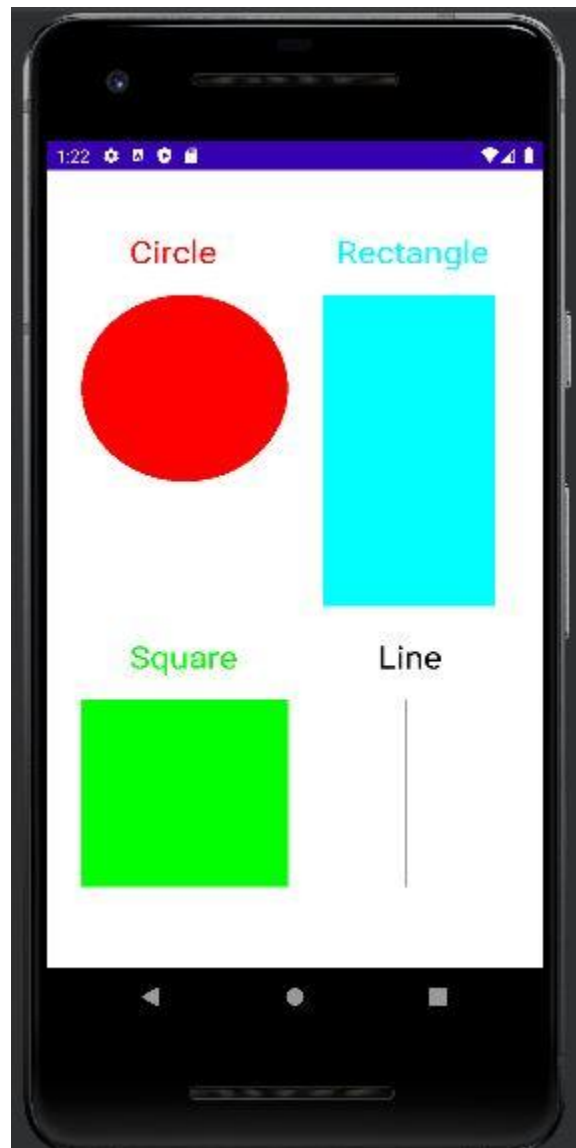
MainActivity.java :

```
package com.example.v1;

import android.app.Activity;
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 Activity {
    @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 = (ImageView) findViewById(R.id.imageView);
        i.setBackgroundDrawable(new BitmapDrawable(bg));
        Canvas canvas = new Canvas(bg);
        Paint paint = new Paint();
        paint.setColor(Color.CYAN);
        paint.setTextSize(50);
        //To draw a Rectangle
        canvas.drawText("Rectangle", 420, 150, paint);
        canvas.drawRect(400, 200, 650, 700, paint);
        //To draw a Circle
        paint.setColor(Color.RED);
        canvas.drawText("Circle", 120, 150, paint);
        canvas.drawCircle(200, 350, 150, paint);
        //To draw a Square
        paint.setColor(Color.GREEN);
        canvas.drawText("Square", 120, 800, paint);
        canvas.drawRect(50, 850, 350, 1150, paint);
        //To draw a Line
        paint.setColor(Color.BLACK);
        canvas.drawText("Line", 480, 800, paint);
        canvas.drawLine(520, 850, 520, 1150, paint);
    }
}
```

Output Snapshot:



/*****
*****END_OF_EX3*****
*****/

Name	:	V Vikram	Class	:	CSE 'C'
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Subject	:	UCS1711---Mobile Application Development Lab			

QUESTION :

Ex 4: Application Development using basic graphical primitives

CODE :

activity_main.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"
        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"
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 :

```

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);
        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);
            }
        });
        bt_backward.setOnClickListener(new View.OnClickListener() {
            @Override

```



```

        public void onClick(View v) {
            iv_animate.animate().translationXBy(-300f).setDuration(600);
        }
    });
}
}

```

colors.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 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:

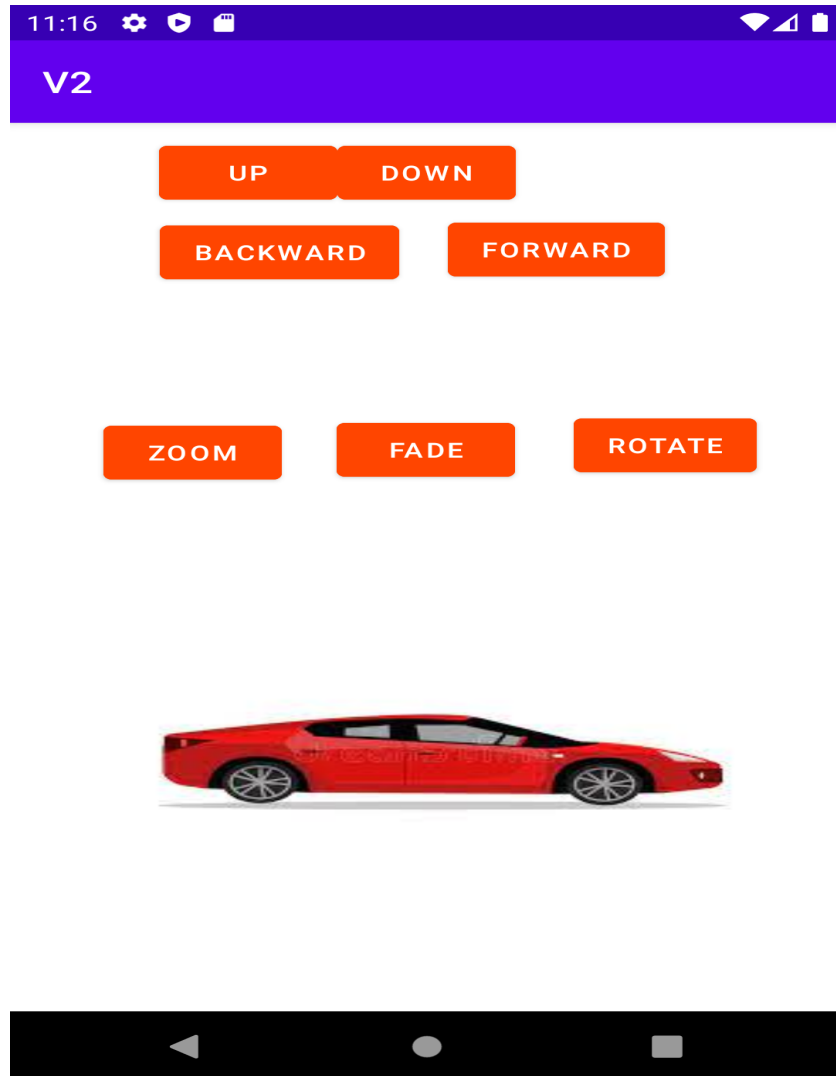
```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
    <scale xmlns:android="http://schemas.android.com/apk/res/android"
        android:fromXScale="0.5"
        android:fromYScale="0.5"
        android:toXScale="1.0"
        android:toYScale="1.0"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

rotate_in.xml:

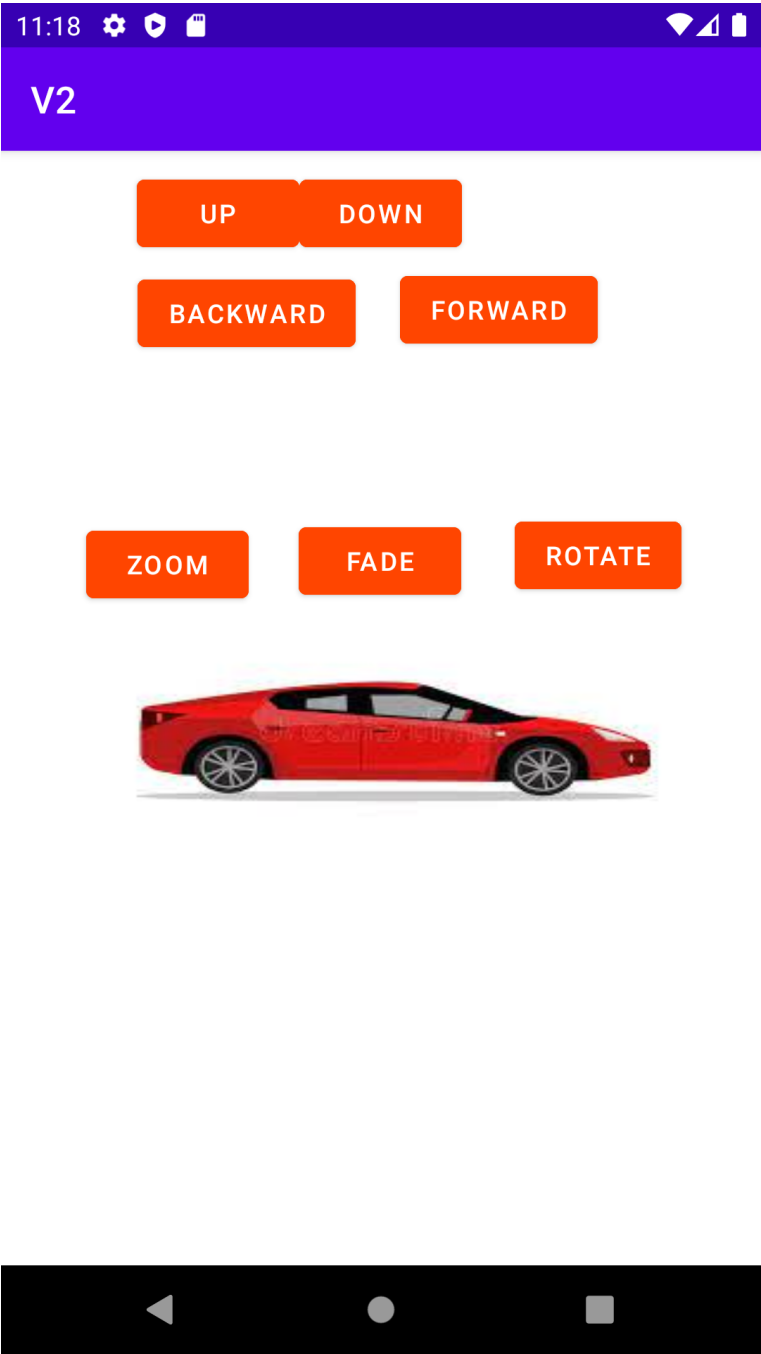
```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
    <rotate
        android:fromDegrees="0"
        android:toDegrees="360"
        android:pivotX="50%"
        android:pivotY="50%"
        android:duration="1000" />
</set>
```

Output Snapshots :

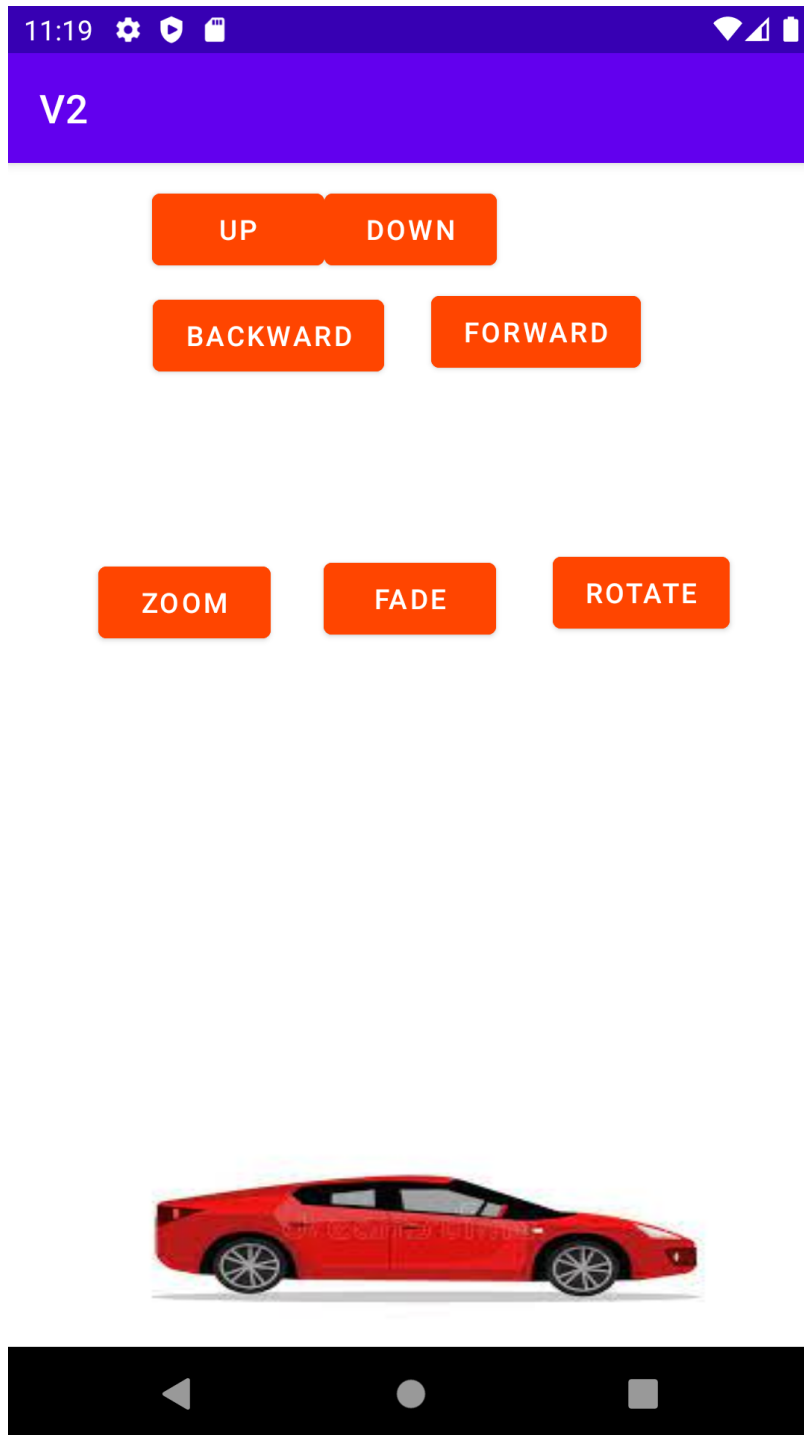
Normal view



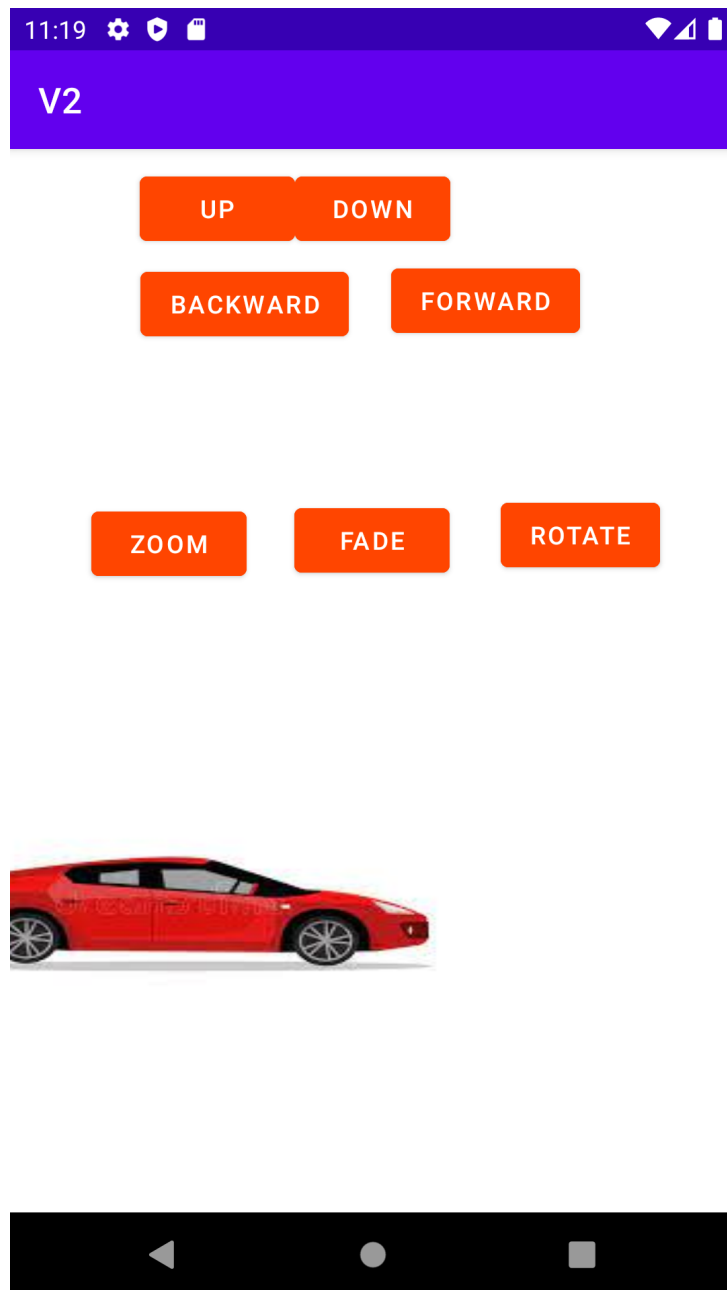
On pressing UP button



On pressing DOWN button



On pressing BACKWARD button



On pressing FORWARD button



Zoom (zooms out and then zooms in)



On pressing FADE button



On pressing ROTATE button

