

NAME: DARSI S S V GOPI KRISHNA

REGNO: 19BCE7360

LAB: CSE4002 Mobile Application Development LAB

Design an app to display the below 3 imageView, 3 TextView, 3 buttons. Three Buttons (-, Add,+) are there. Oncreate only Add button is visible. If you click the button add it should display the “-“ and “+” button.



code:

xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <androidx.constraintlayout.widget.ConstraintLayout
        android:layout_width="match_parent"
        android:layout_height="200dp">
        <ImageView
            android:id="@+id/image1"
            android:layout_width="128dp"
            android:layout_height="128dp"
            android:layout_margin="16dp"
            android:scaleType="fitXY"
            android:src="@drawable/ii1"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent" />
        <TextView
```

```

        android:id="@+id/title1"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginHorizontal="16dp"
        android:text="Aamras Mango Fruit Juice"
        android:textColor="#DEEFE9E9"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/image1"
        app:layout_constraintTop_toTopOf="@+id/image1" />

<LinearLayout
    android:id="@+id/qty_container1"
    android:layout_width="128dp"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:visibility="invisible"
    app:layout_constraintBottom_toBottomOf="@+id/image1"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toEndOf="@+id/image1"
    app:layout_constraintTop_toBottomOf="@+id/title1">

    <Button
        android:id="@+id/decreaseButton1"

style="@style/Widget.MaterialComponents.Button.OutlinedButton"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="-"
        android:textColor="#DEF6F2F2"
        android:textSize="20sp"
        android:textStyle="bold" />

    <TextView
        android:id="@+id/qty_textView1"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        tools:text="1"
        android:paddingVertical="5dp"
        android:background="?colorPrimary"
        android:textSize="20sp"
        android:textColor="#fff"
        android:gravity="center"
        android:layout_weight="1"/>

    <Button
        android:id="@+id/increaseButton1"

style="@style/Widget.MaterialComponents.Button.OutlinedButton"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="+"
        android:textColor="#DEEFE6E6"
        android:textSize="20sp"
        android:textStyle="bold" />
</LinearLayout>

<Button
    android:id="@+id/addButton1"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="Add"
    app:layout_constraintBottom_toBottomOf="@+id/qty_container1"
    app:layout_constraintEnd_toEndOf="@+id/qty_container1"
    app:layout_constraintStart_toStartOf="@+id/qty_container1" />
</androidx.constraintlayout.widget.ConstraintLayout>
<androidx.constraintlayout.widget.ConstraintLayout

```

```

        android:layout_width="match_parent"
        android:layout_height="200dp">
        <ImageView
            android:id="@+id/image2"
            android:layout_width="128dp"
            android:layout_height="128dp"
            android:layout_margin="16dp"
            android:scaleType="fitXY"
            android:src="@drawable/ii2"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent" />

        <TextView
            android:id="@+id/title2"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_marginHorizontal="16dp"
            android:text="Aamras Mango Fruit Juice"
            android:textColor="#DEF4ECEC"
            android:textSize="24sp"
            android:textStyle="bold"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toEndOf="@+id/image2"
            app:layout_constraintTop_toTopOf="@+id/image2" />

        <LinearLayout
            android:id="@+id/qty_container2"
            android:layout_width="128dp"
            android:layout_height="wrap_content"
            android:orientation="horizontal"
            android:visibility="invisible"
            app:layout_constraintBottom_toBottomOf="@+id/image2"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toEndOf="@+id/image2"
            app:layout_constraintTop_toBottomOf="@+id/title2">

            <Button
                android:id="@+id/decreaseButton2"

style="@style/Widget.MaterialComponents.Button.OutlinedButton"
                android:layout_width="0dp"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:text="-"
                android:textColor="#DEF8F5F5"
                android:textSize="20sp"
                android:textStyle="bold" />

            <TextView
                android:id="@+id/qty_textView2"
                android:layout_width="0dp"
                android:layout_height="wrap_content"
                tools:text="1"
                android:paddingVertical="5dp"
                android:background="?colorPrimary"
                android:textSize="20sp"
                android:textColor="#fff"
                android:gravity="center"
                android:layout_weight="1"/>

            <Button
                android:id="@+id/increaseButton2"

style="@style/Widget.MaterialComponents.Button.OutlinedButton"
                android:layout_width="0dp"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:text="+"
                android:textColor="#DEEFEEEE"

```

```

        android:textSize="20sp"
        android:textStyle="bold" />
</LinearLayout>

<Button
    android:id="@+id/addButton2"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="Add"
    app:layout_constraintBottom_toBottomOf="@+id/qty_container2"
    app:layout_constraintEnd_toEndOf="@+id/qty_container2"
    app:layout_constraintStart_toStartOf="@+id/qty_container2" />
</androidx.constraintlayout.widget.ConstraintLayout>
<androidx.constraintlayout.widget.ConstraintLayout
    android:layout_width="match_parent"
    android:layout_height="200dp">
    <ImageView
        android:id="@+id/image3"
        android:layout_width="128dp"
        android:layout_height="128dp"
        android:layout_margin="16dp"
        android:scaleType="fitXY"
        android:src="@drawable/ii3"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/title3"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginHorizontal="16dp"
        android:text="Juice - Mango Refresh"
        android:textColor="#DEF4EBEB"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/image3"
        app:layout_constraintTop_toTopOf="@+id/image3" />

    <LinearLayout
        android:id="@+id/qty_container3"
        android:layout_width="128dp"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:visibility="invisible"
        app:layout_constraintBottom_toBottomOf="@+id/image3"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toEndOf="@+id/image3"
        app:layout_constraintTop_toBottomOf="@+id/title3">

        <Button
            android:id="@+id/decreaseButton3"

style="@style/Widget.MaterialComponents.Button.OutlinedButton"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:text="-"
            android:textColor="#DEF1EAEA"
            android:textSize="20sp"
            android:textStyle="bold" />

        <TextView
            android:id="@+id/qty_textView3"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            tools:text="1"
            android:paddingVertical="5dp"
            android:background="?colorPrimary"

```

```

        android:textSize="20sp"
        android:textColor="#fff"
        android:gravity="center"
        android:layout_weight="1"/>

<Button
    android:id="@+id/increaseButton3"

style="@style/Widget.MaterialComponents.Button.OutlinedButton"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:text="+"
    android:textColor="#DEF6F2F2"
    android:textSize="20sp"
    android:textStyle="bold" />
</LinearLayout>

<Button
    android:id="@+id/addButton3"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="Add"
    app:layout_constraintBottom_toBottomOf="@+id/qty_container3"
    app:layout_constraintEnd_toEndOf="@+id/qty_container3"
    app:layout_constraintStart_toStartOf="@+id/qty_container3" />
</androidx.constraintlayout.widget.ConstraintLayout>
</LinearLayout>

```

java:

```

package com.example.lab21;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.TextView;

import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity{
    private final View[] qtyContainers = new View[3];
    private final Button[] increaseButtons = new Button[3];
    private final Button[] decreaseButtons = new Button[3];
    private final Button[] addButtons = new Button[3];
    private final TextView[] qtyTextViews = new TextView[3];
    private final int[] quantities = {0,0,0};
    ImageView i1,i2,i3;

    public MainActivity() {
    }

    @Override
    protected void onCreate(@Nullable Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        i1=findViewById(R.id.image1);
        i2=findViewById(R.id.image2);
        i3=findViewById(R.id.image3);
        i1.setImageResource(R.drawable.ii1);
        i2.setImageResource(R.drawable.ii2);
        i3.setImageResource(R.drawable.ii3);
        qtyContainers[0] = findViewById(R.id.qty_container1);
        qtyContainers[1] = findViewById(R.id.qty_container2);
        qtyContainers[2] = findViewById(R.id.qty_container3);
        increaseButtons[0] = findViewById(R.id.increaseButton1);
    }
}

```

```

        increaseButtons[1] = findViewById(R.id.increaseButton2);
        increaseButtons[2] = findViewById(R.id.increaseButton3);
        decreaseButtons[0] = findViewById(R.id.decreaseButton1);
        decreaseButtons[1] = findViewById(R.id.decreaseButton2);
        decreaseButtons[2] = findViewById(R.id.decreaseButton3);
        addButtons[0] = findViewById(R.id.addButton1);
        addButtons[1] = findViewById(R.id.addButton2);
        addButtons[2] = findViewById(R.id.addButton3);
        qtyTextViews[0] = findViewById(R.id.qty_textView1);
        qtyTextViews[1] = findViewById(R.id.qty_textView2);
        qtyTextViews[2] = findViewById(R.id.qty_textView3);

        //add click listeners to the addButtons
        for (int i = 0; i < addButtons.length; i++) {
            int finalI = i;
            addButtons[i].setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    showQtyContainer(finalI);
                }
            });
        }

        private void showQtyContainer(int position) {
            quantities[position] = 1;

            qtyTextViews[position].setText(String.valueOf(quantities[position]));
            addButtons[position].setVisibility(View.INVISIBLE);
            qtyContainers[position].setVisibility(View.VISIBLE);
            increaseButtons[position].setOnClickListener(new
            View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    //increase button increases the quantity of the item at
                    position index
                    quantities[position] += 1;

                    qtyTextViews[position].setText(String.valueOf(quantities[position]));
                }
            });
            decreaseButtons[position].setOnClickListener(new
            View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    //decrease button decreases the quantity of the item at
                    position index
                    quantities[position] -= 1;

                    qtyTextViews[position].setText(String.valueOf(quantities[position]));
                    //if the quantity gets 0 at any point
                    if(quantities[position] <= 0){
                        //the add button is made visible and quantity container
                        is made invisible
                        quantities[position] = 0;
                        addButtons[position].setVisibility(View.VISIBLE);
                        qtyContainers[position].setVisibility(View.INVISIBLE);
                    }
                }
            });
        }
    }
}

```

output:

lab21

**Aamras Mango Fruit Juice**

-

2

+

**Aamras Mango Fruit Juice**

-

3

+

**Juice - Mango Refresh**

-

1

+

lab21

**Aamras Mango Fruit Juice**

-

2

+

**Aamras Mango Fruit Juice**

ADD

**Juice - Mango Refresh**

ADD

lab21

**Aamras Mango Fruit Juice**

ADD

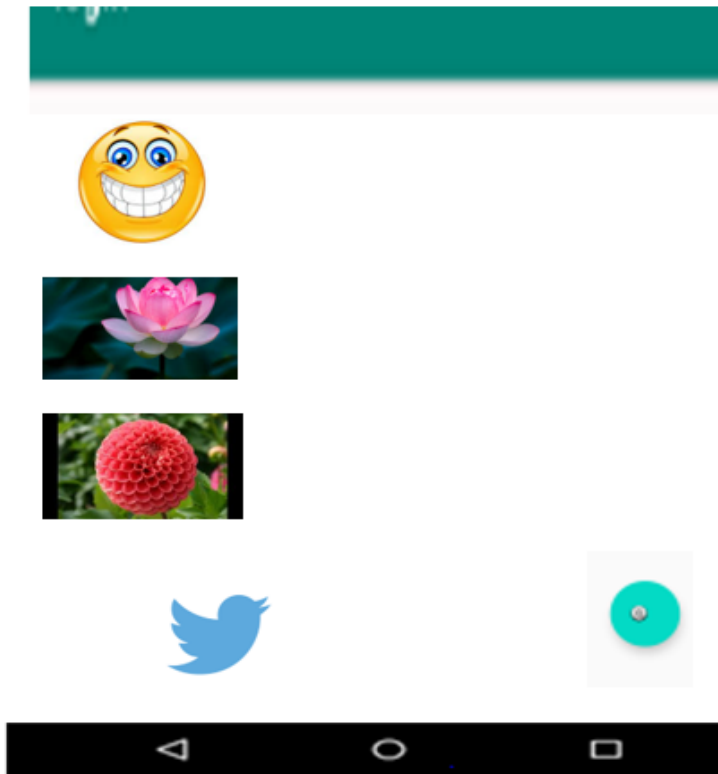
**Aamras Mango Fruit Juice**

ADD

**Juice - Mango Refresh**

ADD

Design an Application to create one FAB and 4 image view. When the FAB is clicked each image should be applied with animation property scale, rotate, translate and alpha property respectively and when clicked again it should perform the same in reverse.



Code:

Xml:

Main Activity.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">

    <com.google.android.material.floatingactionbutton.FloatingActionButton
        android:id="@+id/floatingActionButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="17dp"
        android:layout_marginBottom="67dp"
        android:clickable="true"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:srcCompat="@android:drawable/ic_input_add" />

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="wrap_content"
```

```

android:layout_height="wrap_content"
android:layout_marginStart="38dp"
android:layout_marginTop="83dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:srcCompat="@drawable/i1" />

<ImageView
android:id="@+id/imageView2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="40dp"
android:layout_marginTop="28dp"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/imageView"
app:srcCompat="@drawable/i2" />

<ImageView
android:id="@+id/imageView3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="2dp"
android:layout_marginTop="28dp"
app:layout_constraintStart_toStartOf="@+id/imageView2"
app:layout_constraintTop_toBottomOf="@+id/imageView2"
app:srcCompat="@drawable/i3" />

<ImageView
android:id="@+id/imageView4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="11dp"
android:layout_marginTop="36dp"
app:layout_constraintStart_toStartOf="@+id/imageView3"
app:layout_constraintTop_toBottomOf="@+id/imageView3"
app:srcCompat="@drawable/i4" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

FAB_OPEN.XML:

```

<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android"
    android:fillAfter="true"
    android:interpolator="@android:anim/linear_interpolator">
    <scale
        android:duration="2000"
        android:fromXScale="1.0"
        android:fromYScale="1.0"
        android:pivotX="20%"
        android:pivotY="20%"
        android:toXScale="3.0"
        android:toYScale="3.0"
    />
    <alpha
        android:duration="2000"
        android:fromAlpha="1.0"
        android:toAlpha="2.0"

    />
    <rotate
        android:duration="2000"
        android:fromDegrees="0"
        android:toDegrees="25"
        android:pivotX="20%"
        android:pivotY="20%"
    />

```

```

        <translate
            android:fromXDelta="0%p"
            android:toXDelta="20%p"
            android:duration="2000"/>

</set>

FAB_CLOSE.XML
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android"
    android:fillAfter="true"
    android:interpolator="@android:anim/linear_interpolator">
    <scale
        android:duration="2000"
        android:fromXScale="3.0"
        android:fromYScale="3.0"
        android:pivotX="20%"
        android:pivotY="20%"
        android:toXScale="1.0"
        android:toYScale="1.0"
    />
    <alpha
        android:duration="2000"
        android:fromAlpha="2.0"
        android:toAlpha="1.0"

    />
    <rotate
        android:duration="2000"
        android:fromDegrees="25"
        android:toDegrees="0"
        android:pivotX="20%"
        android:pivotY="20%"
    />
    <translate
        android:fromXDelta="20%p"
        android:toXDelta="0%p"
        android:duration="2000"/>

</set>

```

Java:

```

package com.example.fab;

import static com.example.fab.R.animator.fab_open;

import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.View;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;

import com.google.android.material.floatingactionbutton.FloatingActionButton;

public class MainActivity extends <booleanisOpen> AppCompatActivity {

    Animation fab_open, fab_close;
    FloatingActionButtonfb;
    ImageViewi1,i2,i3,i4;
    booleanisOpen, isClose;
    @SuppressLint("ResourceType")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        i1=findViewById(R.id.imageView);
    }
}

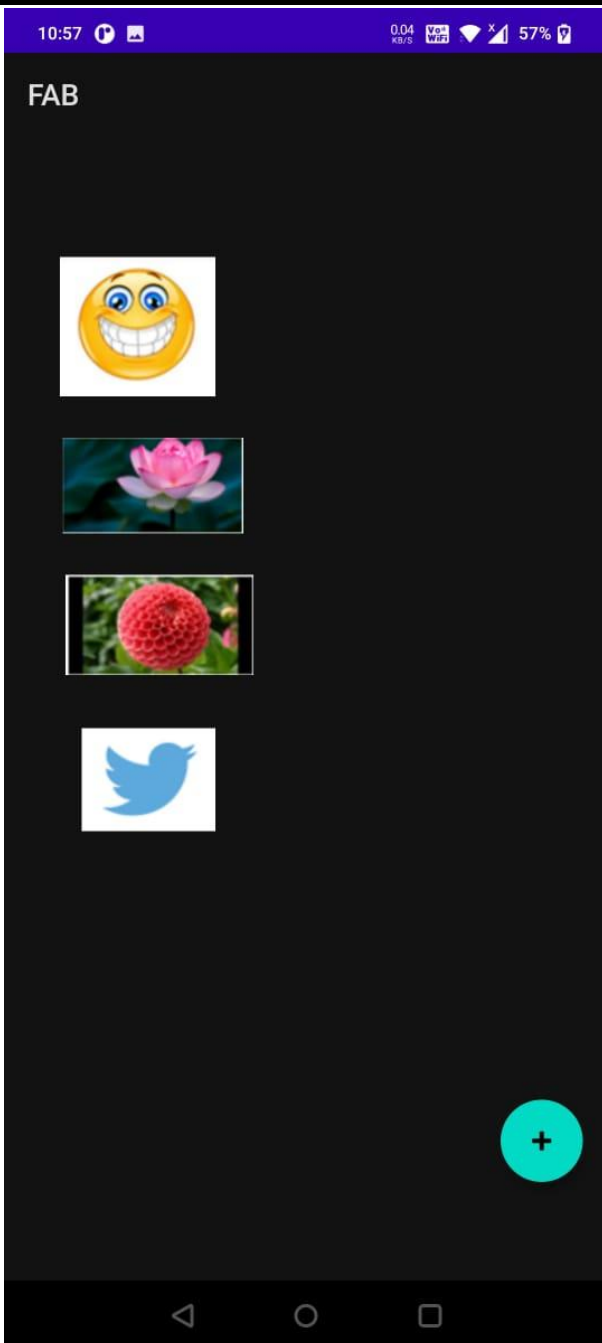
```

```

        i2=findViewById(R.id.imageView2);
        i3=findViewById(R.id.imageView3);
        i4=findViewById(R.id.imageView4);
        i1.setImageResource(R.drawable.i1);
        i2.setImageResource(R.drawable.i2);
        i3.setImageResource(R.drawable.i3);
        i4.setImageResource(R.drawable.i4);
        fb=(FloatingActionButton)findViewById(R.id.floatingActionButton);
        fab_open= AnimationUtils.loadAnimation(getApplicationContext(),
R.animator.fab_open);
        fab_close=
AnimationUtils.loadAnimation(getApplicationContext(),R.animator.fab_close);
        fb.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if(!isOpen)
                {
                    i1.startAnimation(fab_open);
                    i2.startAnimation(fab_open);
                    i3.startAnimation(fab_open);
                    i4.startAnimation(fab_open);
                    isOpen=true;
                }
                else{
                    i1.startAnimation(fab_close);
                    i2.startAnimation(fab_close);
                    i3.startAnimation(fab_close);
                    i4.startAnimation(fab_close);
                    isOpen=false;
                }
            }
        });
    }
}

```

Output:





10:57

4.79 KB/S VoWiFi 57%

FAB

