

LAB 9:

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Instructions:

- Uploaded the file with questions in MS TEAM
- Complete all the programs, put the code, input and output Screenshots in a single file.
- File name should be your **registerno_lab9 eg 18ABC1234_LAB9.doc**
- Upload it in assignment ->LAB9 in MS TEAM

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:

MainActivity.java

Import android.os.Bundle;

Import android.view.View;

Import android.widget.Button;

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};  
  
@Override  
Protected void onCreate(@Nullable Bundle savedInstanceState) {  
    Super.onCreate(savedInstanceState);  
    setContentView(R.layout.activity_main);  
  
    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);
        }
    }
});
}
}

```

Activity_main.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/image1"

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"
App:layout_constraintEnd_toEndOf="parent"
Android:text="Aamras Mango Fruit Juice"
Android:textColor="#de000000"
Android:layout_marginHorizontal="16dp"
Android:textStyle="bold"
Android:textSize="24sp"
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"
Android:layout_width="0dp"
Android:layout_height="wrap_content"

Style="@style/Widget.MaterialComponents.Button.OutlinedButton"

Android:text="-“
Android:textSize="20sp"
Android:textStyle="bold"
Android:textColor="#de000000"
Android:layout_weight="1"/>

<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"
Android:layout_width="0dp"
Android:layout_height="wrap_content"

Style="@style/Widget.MaterialComponents.Button.OutlinedButton"

Android:textSize="20sp"
Android:textStyle="bold"
Android:textColor="#de000000"
Android:text="+"


```
        Android:layout_weight="1"/>  
</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/image2"  
        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"
App:layout_constraintEnd_toEndOf="parent"
Android:text="Aamras Mango Fruit Juice"
Android:textColor="#de000000"
Android:layout_marginHorizontal="16dp"
Android:textStyle="bold"
Android:textSize="24sp"
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"

Android:layout_width="0dp"

Android:layout_height="wrap_content"

Style="@style/Widget.MaterialComponents.Button.OutlinedButton"

Android:text="-"

Android:textSize="20sp"

Android:textStyle="bold"

Android:textColor="#de000000"

Android:layout_weight="1"/>

<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"

Android:layout_width="0dp"

Android:layout_height="wrap_content"

Style="@style/Widget.MaterialComponents.Button.OutlinedButton"

```
        Android:textSize="20sp"  
        Android:textStyle="bold"  
        Android:textColor="#de000000"  
        Android:text="+"  
        Android:layout_weight="1"/>  
</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/image3"
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"
App:layout_constraintEnd_toEndOf="parent"
Android:text="Juice – Mango Refresh"
Android:textColor="#de000000"
Android:layout_marginHorizontal="16dp"
Android:textStyle="bold"
Android:textSize="24sp"
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"
Android:layout_width="0dp"
Android:layout_height="wrap_content"

Style="@style/Widget.MaterialComponents.Button.OutlinedButton"

Android:text="-"
Android:textSize="20sp"
Android:textStyle="bold"
Android:textColor="#de000000"
Android:layout_weight="1"/>

<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"

Android:layout_width="0dp"

Android:layout_height="wrap_content"

Style="@style/Widget.MaterialComponents.Button.OutlinedButton"

Android:textSize="20sp"

Android:textStyle="bold"

Android:textColor="#de000000"

Android:text="+"

Android:layout_weight="1"/>

</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>

Output:-



Multi Pack


3
PIECES

Aamras Mango Fruit Juice

1 L - (3x1L) ▾

₹252 ~~₹360~~

- 1 +



Multi Pack

6
PIECES


PAPER BOAT 🕒 1 day

Aamras Mango Fruit Juice

6x200 ml - Multipack ▾

₹180

Add



Maaza

150
ml

MAAZA 🕒 1 day

Juice - Mango Refresh

150 ml - Carton ▾

₹10

Add



Aamras Mango Fruit Juice

ADD



Aamras Mango Fruit Juice

ADD



Juice - Mango Refresh

ADD



Aamras Mango Fruit Juice

- 6 +



Aamras Mango Fruit Juice

- 11 +



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.

Main.java

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        ImageView tenz=findViewById(R.id.tenz);
        findViewById(R.id.btnAdd).setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                tenz.startAnimation(AnimationUtils.loadAnimation(
                    getApplicationContext(),
                    R.anim.zoom_in

                ));
            }
        });

        findViewById(R.id.btnAdd).setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View view) {
                tenz.startAnimation(AnimationUtils.loadAnimation(
                    getApplicationContext(),
                    R.anim.zoom_out

                ));
            }
        });

        ImageView neymar=findViewById(R.id.neymar);
        findViewById(R.id.btnAdd).setOnClickListener(new
```

```

View.OnClickListener() {
    @Override
    public void onClick(View view) {
        tenz.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.zoom_in ));
        neymar.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.fade_in
        ));
    }
});

```

```

        findViewById(R.id.btnAdd).setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View view) {
        tenz.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.zoom_out ));
        neymar.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.fade_out
        ));
    }
});

```

```

        ImageView scream=findViewById(R.id.scream);
        findViewById(R.id.btnAdd).setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View view) {
        tenz.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.zoom_in ));
        neymar.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.fade_in ));
        scream.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.rotate
        ));
    }
});

```

```

        findViewById(R.id.btnAdd).setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View view) {
        tenz.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.zoom_out ));
        neymar.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),

```

```

        R.anim.fade_out ));
        scream.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.rotate

        ));
    }
});

ImageView jett2=findViewById(R.id.jett2);
findViewById(R.id.btnAdd).setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View view) {
        tenz.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.zoom_in ));
        neymar.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.fade_in ));
        scream.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.rotate ));
        jett2.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.translate

        ));
    }
});

findViewById(R.id.btnAdd).setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View view) {
        tenz.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.zoom_out ));
        neymar.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.fade_out ));
        scream.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.rotate ));
        jett2.startAnimation(AnimationUtils.loadAnimation(
            getApplicationContext(),
            R.anim.translate

        ));
    }
});
}
}

```

main.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">

    <ImageView
        android:id="@+id/tenz"
        android:layout_width="172dp"
        android:layout_height="128dp"
        android:layout_marginBottom="564dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:srcCompat="@drawable/img" />

    <ImageView
        android:id="@+id/neymar"
        android:layout_width="211dp"
        android:layout_height="157dp"
        android:layout_marginStart="16dp"
        android:layout_marginBottom="404dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:srcCompat="@drawable/img" />

    <ImageView
        android:id="@+id/scream"
        android:layout_width="194dp"
        android:layout_height="185dp"
        android:layout_marginStart="16dp"
        android:layout_marginBottom="216dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:srcCompat="@drawable/img" />

    <com.google.android.material.floatingactionbutton.FloatingActionButton
        android:id="@+id/btnAdd"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="321dp"
        android:layout_marginBottom="16dp"
        android:clickable="true"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:srcCompat="@android:drawable/ic_input_add"
        tools:ignore="SpeakableTextPresentCheck" />
```

```

        <ImageView
            android:id="@+id/jett2"
            android:layout_width="134dp"
            android:layout_height="199dp"
            android:layout_marginStart="45dp"
            android:layout_marginBottom="16dp"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:srcCompat="@drawable/img" />
    </androidx.constraintlayout.widget.ConstraintLayout>

```

Zoom_in.xml

```

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

    <scale
        android:duration="800"
        android:fromXScale="0"
        android:fromYScale="0"
        android:pivotX="50%"
        android:pivotY="50%"
        android:toXScale="1"
        android:toYScale="1" />

</set>

```

Zoom_out

```

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

    <scale
        android:duration="800"
        android:fromXScale="1"
        android:fromYScale="1"
        android:pivotX="50%"
        android:pivotY="50%"
        android:toXScale="0"
        android:toYScale="0" />

</set>

```

Fade_in.

```

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

    <alpha
        android:duration="800"

```

```
        android:fromAlpha="0"  
        android:interpolator="@android:anim/accelerate_interpolator"  
        android:toAlpha="1" />
```

```
</set>
```

Fade_out

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

```
        <alpha  
            android:duration="800"  
            android:fromAlpha="1"  
            android:interpolator="@android:anim/accelerate_interpolator"  
            android:toAlpha="0" />
```

```
</set>
```

Translate

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

```
        <translate  
            android:fromXDelta="0"  
            android:toXDelta="65%p"  
            android:toYDelta="0%"  
            android:duration="600"  
            android:fromYDelta="0"  
            android:zAdjustment="top" />
```

```
</set>
```

Output

