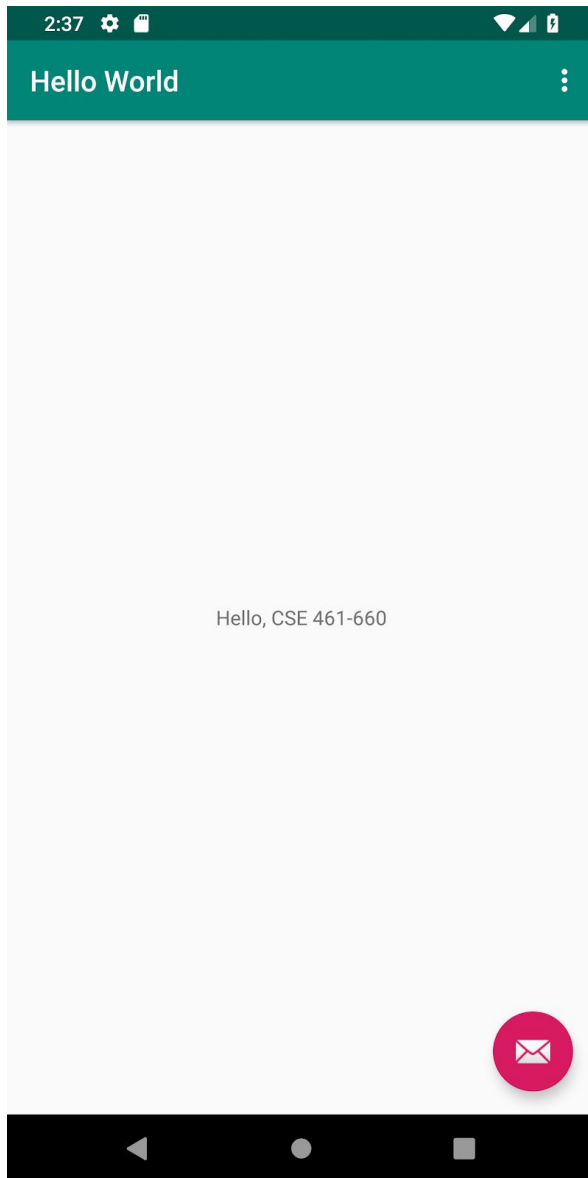


## Lab Report 3

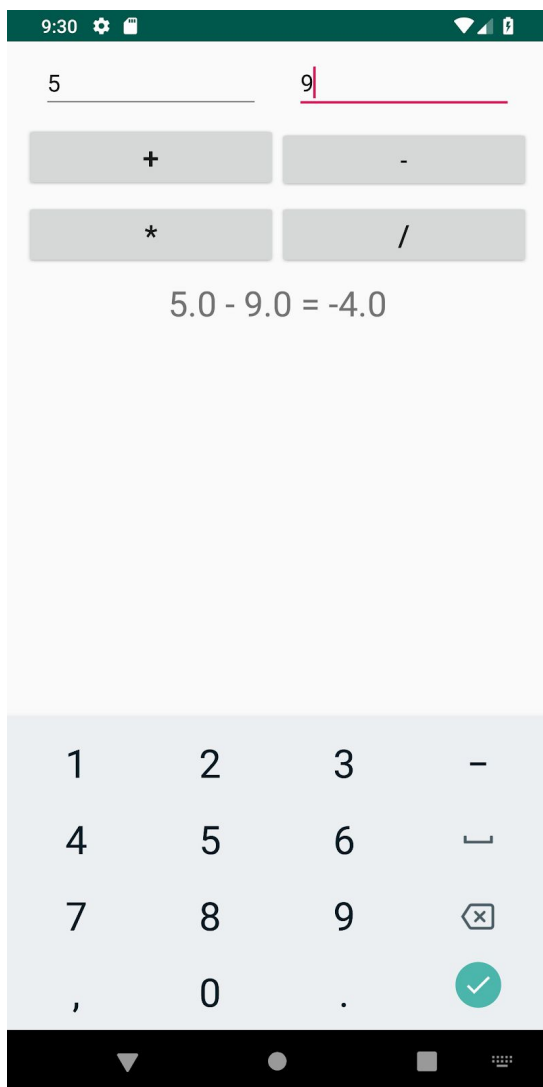
### 1. Hello World



#### Difficulties and Conclusion for Fragments for Part 1:

Super easy to get done because all you really have to do is make an empty project and then overwrite the property that say "Hello World" with what we needed to do.

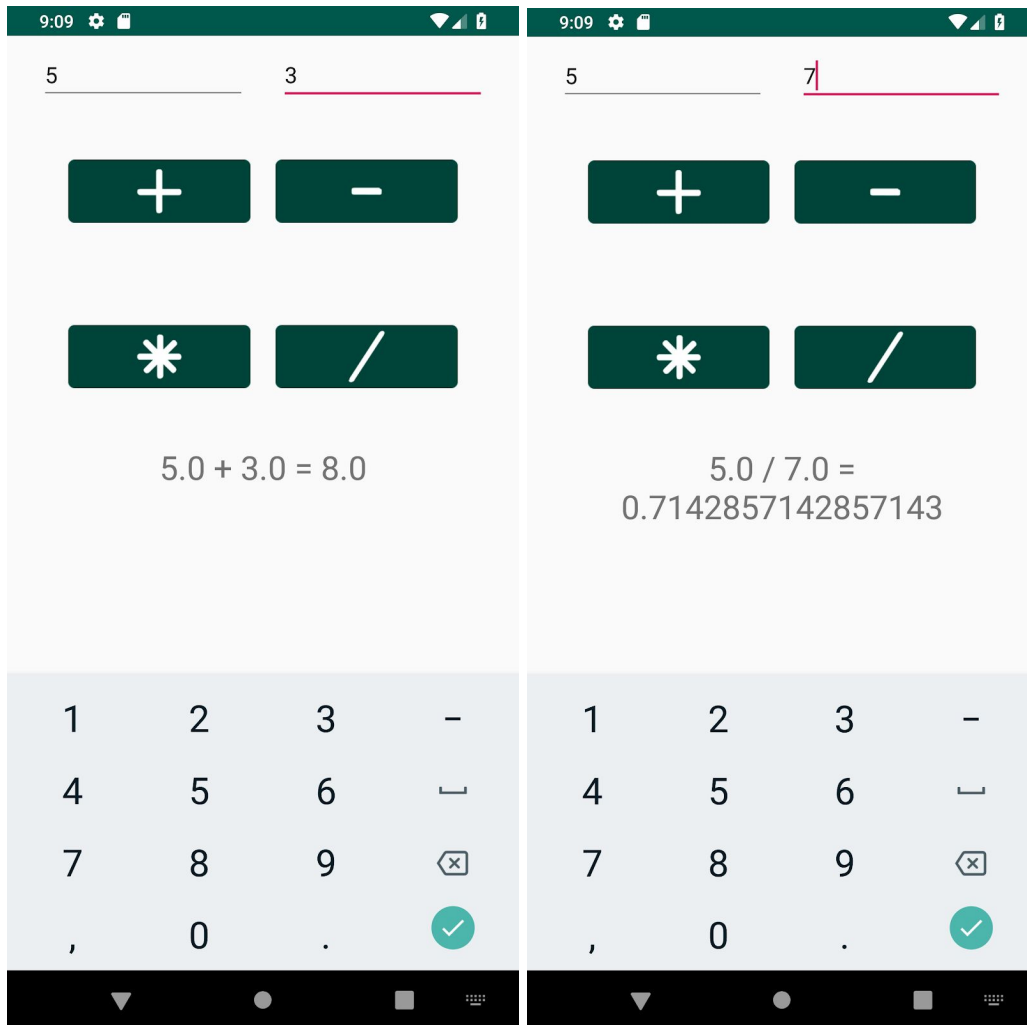
## 2A. Simple Calculator



### Difficulties and Conclusion for Fragments for Part 2A:

Just have to really follow that tutorial to get this part done. Not all that hard at the end of the day.

## 2B. Simple Calculator (ImageButton)



### MainActivity.java

```
package com.example.cse_461_lab03_part2_simple_calculator;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.View;
import android.widget.EditText;
import android.widget.ImageButton;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {
    EditText t1;
    EditText t2;
```

```
ImageButton plus;
ImageButton minus;
ImageButton multiply;
ImageButton divide;
TextView displayResult;
String oper = "";
/** Called when the activity is first created. */
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    t1 = (EditText) findViewById(R.id.t1);
    t2 = (EditText) findViewById(R.id.t2);
    plus = (ImageButton) findViewById(R.id.plus);
    minus = (ImageButton) findViewById(R.id.minus);
    multiply = (ImageButton) findViewById(R.id.multiply);
    divide = (ImageButton) findViewById(R.id.divide);
    displayResult = (TextView)
        findViewById(R.id.displayResult);

    plus.setOnClickListener(this);
    minus.setOnClickListener(this);
    multiply.setOnClickListener(this);
    divide.setOnClickListener(this);
}

public void onClick( View view ) {
    double num1 = 0;
    double num2 = 0;
    double result = 0;

    if (TextUtils.isEmpty(t1.getText().toString())
        || TextUtils.isEmpty(t2.getText().toString())) {
        return;
    }

    num1 = Float.parseFloat(t1.getText().toString());
    num2 = Float.parseFloat(t2.getText().toString());

    switch ( view.getId() )
    {
        case R.id.plus:
            oper = "+";
            result = num1 + num2;
            break;
        case R.id.minus:
            oper = "-";
            result = num1 - num2;
```

```
        break;
    case R.id.multiply:
        oper = "*";
        result = num1 * num2;
        break;
    case R.id.divide:
        oper = "/";
        result = num1 / num2;
        break;
    default:
        break;
}

displayResult.setText(num1 + " " + oper + " " + num2 + " = " + result);
}
}
```

XML Source Code:

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

<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent">

    <!-- text inputs -->
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/linearLayout1"
        android:layout_marginLeft="12pt"
        android:layout_marginRight="12pt"
        android:layout_marginTop="4pt">
        <EditText
            android:layout_weight="1"
            android:layout_height="wrap_content"
            android:layout_marginRight="6pt"
            android:id="@+id/t1"
            android:layout_width="match_parent"
            android:inputType="numberDecimal">
        </EditText>
    </LinearLayout>
```

```
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:layout_marginLeft="6pt"
        android:id="@+id/t2"
        android:layout_width="match_parent"
        android:inputType="numberDecimal">
    </EditText>
</LinearLayout>

<!-- plus and minus buttons -->
<LinearLayout
    android:layout_height="wrap_content"
    android:id="@+id/linearLayout2"
    android:layout_marginTop="4pt"
    android:layout_marginLeft="6pt"
    android:layout_marginRight="6pt"
    android:layout_gravity="center"
    android:layout_width="wrap_content">
    <ImageButton
        android:layout_height="wrap_content"
        android:layout_width="75pt"
        android:src="@drawable/plus_icon"
        android:background="@null"
        android:scaleType="fitCenter"
        android:padding="10dp"
        android:id="@+id/plus">
    </ImageButton>
    <ImageButton
        android:layout_height="wrap_content"
        android:layout_width="75pt"
        android:src="@drawable/minus_icon"
        android:background="@null"
        android:scaleType="fitCenter"
        android:padding="10dp"
        android:id="@+id/minus">
    </ImageButton>
</LinearLayout>

<!-- multiply and divide buttons -->
<LinearLayout
    android:layout_height="wrap_content"
```

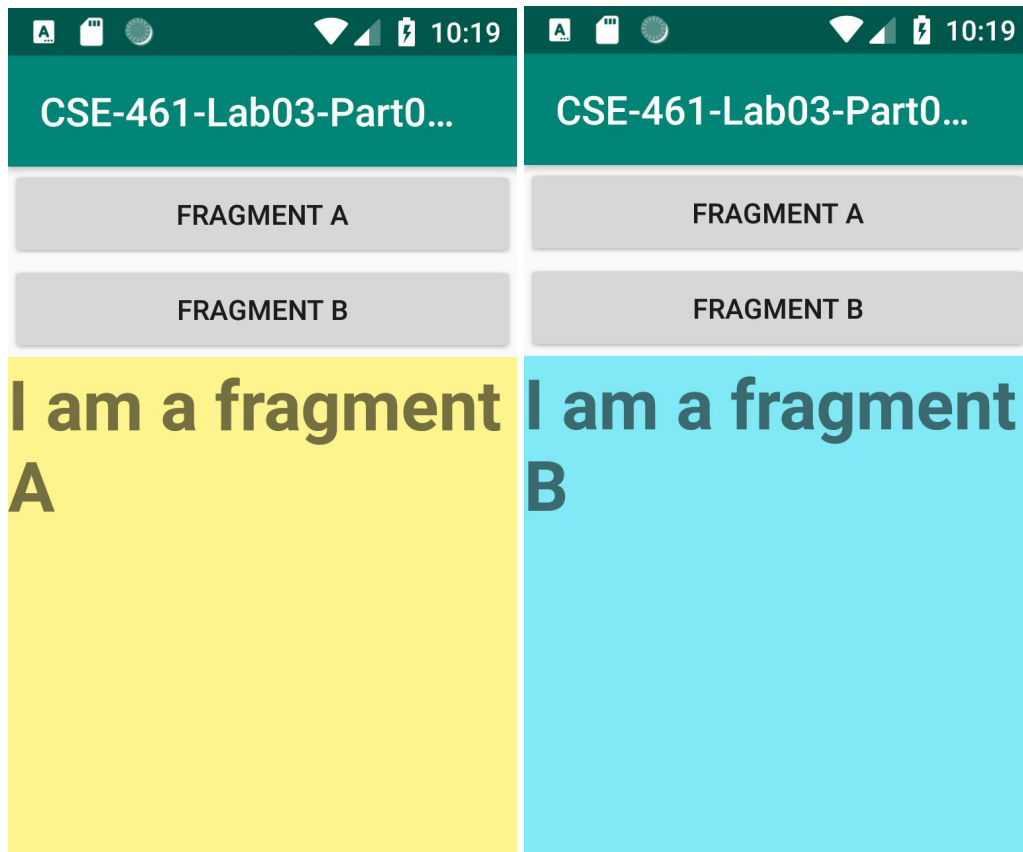
```
        android:id="@+id/linearLayout3"
        android:layout_marginTop="4pt"
        android:layout_marginLeft="6pt"
        android:layout_marginRight="6pt"
        android:layout_gravity="center"
        android:layout_width="wrap_content">
        <ImageButton
            android:layout_height="wrap_content"
            android:layout_width="75pt"
            android:src="@drawable/mult_icon"
            android:background="@null"
            android:scaleType="fitCenter"
            android:padding="10dp"
            android:id="@+id/multiply">
        </ImageButton>
        <ImageButton
            android:layout_height="wrap_content"
            android:layout_width="75pt"
            android:src="@drawable/div_icon"
            android:background="@null"
            android:scaleType="fitCenter"
            android:padding="10dp"
            android:id="@+id/divide">
        </ImageButton>
    </LinearLayout>

    <!-- output -->
    <TextView
        android:layout_height="wrap_content"
        android:layout_width="match_parent"
        android:layout_marginLeft="6pt"
        android:layout_marginRight="6pt"
        android:textSize="12pt"
        android:layout_marginTop="4pt"
        android:id="@+id/displayResult"
        android:gravity="center_horizontal">
    </TextView>
</LinearLayout>
```

### Difficulties and Conclusion for Fragments for Part 2B:

Easy to do if part 2A was done correctly because all you have to do is change “Button” to “ImageButton” and then inside of the xml tell it where the image is and name of it.

### 3. Android Fragments



#### MainActivity.java

```
package com.example.cse_461_lab03_part03_fragments;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.support.v4.app.Fragment;
import android.support.v4.app.FragmentManager;
import android.support.v4.app.FragmentTransaction;
import android.widget.Button;
import android.view.View;

public class MainActivity extends AppCompatActivity implements View.OnClickListener
{
    Button fragA;
    Button fragB;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
```



```
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
fragA = (Button) findViewById(R.id.fragA);
fragB = (Button) findViewById(R.id.fragB);
fragA.setOnClickListener(this);
fragB.setOnClickListener(this);

if (findViewById(R.id.main_frame) != null) {
    if (savedInstanceState != null)
        return;
    FragmentManager fm = getSupportFragmentManager();
    FragmentTransaction ft = fm.beginTransaction();
    ft.replace(R.id.main_frame, new FragmentOne());
    ft.commit();
}

public void onClick( View view )
{
    Fragment fragment;

    if(view == findViewById(R.id.fragA))
    {
        fragment = new FragmentOne();
        FragmentManager fm = getSupportFragmentManager();
        FragmentTransaction ft = fm.beginTransaction();
        ft.replace(R.id.main_frame, fragment); ft.commit();
    }

    if(view == findViewById(R.id.fragB))
    {
        fragment = new FragmentTwo();
        FragmentManager fm = getSupportFragmentManager();
        FragmentTransaction ft = fm.beginTransaction();
        ft.replace(R.id.main_frame, fragment); ft.commit();
    }
}
```

### Activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">
    <Button android:id="@+id/fragA" android:layout_width="match_parent"
        android:layout_height="wrap_content" android:text="Fragment A" />
    <Button android:id="@+id/fragB" android:layout_width="match_parent"
        android:layout_height="wrap_content" android:text="FRAGMENT B" />
</LinearLayout>
```

```
<FrameLayout android:layout_width="match_parent" android:layout_height="match_parent"
android:layout_weight="1" android:id="@+id/main_frame" />
</LinearLayout>
```

### FragmentOne.java

```
package com.example.cse_461_lab03_part03_fragments;

import android.os.Bundle;
import android.support.annotation.Nullable;
import android.support.v4.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;

public class FragmentOne extends Fragment
{
    @Nullable @Override public View onCreateView(LayoutInflater inflater, ViewGroup
container, Bundle savedInstanceState)
    {
        return inflater.inflate(R.layout.fragment_one_layout, container, false);
    }
}
```

### Fragment\_one\_layout.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:orientation="vertical"
android:layout_width="match_parent" android:layout_height="match_parent"
tools:context="com.example.cse_461_lab03_part03_fragments.MainActivity"
android:background="#FFFD48D">
    <TextView android:id="@+id/textView" android:layout_width="match_parent"
android:layout_height="wrap_content" android:text="I am a fragment A" tools:text="I am a
fragment A" android:textStyle="bold" android:textSize="35dp"/>
</LinearLayout>
```

### FragmentTwo.java

```
package com.example.cse_461_lab03_part03_fragments;

import android.os.Bundle;
import android.support.annotation.Nullable;
import android.support.v4.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
```

```
import android.view.ViewGroup;

public class FragmentTwo extends Fragment
{
    @Nullable @Override public View onCreateView(LayoutInflater inflater, ViewGroup
container, Bundle savedInstanceState)
    {
        return inflater.inflate(R.layout.fragment_two_layout, container, false);
    }
}
```

#### Fragment\_two\_layout.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:orientation="vertical"
android:layout_width="match_parent" android:layout_height="match_parent"
tools:context="com.example.cse_461_lab03_part03_fragments.MainActivity"
android:background="#FF81E8F5">
    <TextView android:id="@+id/textView" android:layout_width="match_parent"
android:layout_height="wrap_content" android:text="I am a fragment B" tools:text="I am a
fragment B" android:textStyle="bold" android:textSize="35dp" />
</LinearLayout>
```

#### **Difficulties and Conclusion for Fragments for Part 3:**

Was a little harder to do but with all the info out there now a days on the web there are some good tutorials that tell you how fragments work and show you a lot of samples. Had a lot of fun learning about them and their going to help when we have to take CSE-455.