Project 2\multiActivityApp.txt

``Project 2 : Multi Activity App``

1. activity_main.xml :

```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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/button_sum"
        android:layout_width="155dp"
        android:layout_height="69dp"
        android:layout_marginStart="138dp"
        android:layout_marginEnd="183dp"
        android:onClick="open_sumActivity"
        android:text="Addition"
        android:textSize="24sp"
        android:textStyle="bold"
        android:fontFamily="sans-serif-condensed-light"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.353"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.318" />

    <Button
        android:id="@+id/button_sub"
        android:layout_width="197dp"
        android:layout_height="72dp"
        android:onClick="open_subActivity"
        android:text="Substraction"
        android:textSize="24sp"
        android:textStyle="bold"
        android:fontFamily="sans-serif-condensed-light"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.475"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.462" />

    <Button
        android:id="@+id/button_msg"
        android:layout_width="158dp"
        android:layout_height="65dp"
        android:fontFamily="sans-serif-condensed-light"
        android:onClick="show_msg"
        android:text="Message"
        android:textSize="24sp"
```

```xml
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.492"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.609" />

    <TextView
        android:id="@+id/textView7"
        android:layout_width="250dp"
        android:layout_height="56dp"
        android:fontFamily="sans-serif-smallcaps"
        android:text="Basic Calculator"
        android:textSize="30sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.559"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.145" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

2. activity_sum.xml :

```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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".sumActivity"
    tools:layout_editor_absoluteX="1dp"
    tools:layout_editor_absoluteY="36dp">

    <TextView
        android:id="@+id/textView"
        android:layout_width="263dp"
        android:layout_height="35dp"
        android:text="Addition Calculator"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.405"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.102" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter first number "
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
```

```
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="@+id/editTextSumN1"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.203" />

    <EditText
        android:id="@+id/editTextSumN1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="text"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.541"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.277" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter Second Number"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="@+id/editTextSumN2"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.414" />

    <EditText
        android:id="@+id/editTextSumN2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="text"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.571"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.507" />

    <Button
        android:id="@+id/button_back_frmSum"
        android:layout_width="141dp"
        android:layout_height="65dp"
        android:onClick="sum_to_mainPage"
        android:text="Back"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.192"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
```

```
            app:layout_constraintVertical_bias="0.702"
            app:rippleColor="#E2F00A"/>

    <Button
            android:id="@+id/button_sum_result"
            android:layout_width="139dp"
            android:layout_height="63dp"
            android:onClick="sumNumber"
            android:text="Result"
            android:textSize="24sp"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.844"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.699"
            app:rippleColor="#E2F00A"/>
</androidx.constraintlayout.widget.ConstraintLayout>

3. activity_sub.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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".subActivity"
    tools:layout_editor_absoluteX="0dp"
    tools:layout_editor_absoluteY="24dp">

    <TextView
            android:id="@+id/textView4"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Substraction Calculator"
            android:textSize="24sp"
            android:textStyle="bold"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.289"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.088" />

    <Button
            android:id="@+id/button_back_frm_sub"
            android:layout_width="115dp"
            android:layout_height="60dp"
            android:onClick="sub_to_mainPage"
            android:text="Back"
            android:textSize="24sp"
            android:textStyle="bold"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.256"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
```

```xml
        app:layout_constraintVertical_bias="0.639"
        app:rippleColor="#E2F00A" />

    <Button
        android:id="@+id/button_sub_result"
        android:layout_width="129dp"
        android:layout_height="62dp"
        android:onClick="subNumber"
        android:text="Result"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.797"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.638"
        app:rippleColor="#E2F00A" />

    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter First Number"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="@+id/editTextSubN1"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.191" />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter Second Number"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="@+id/editTextSubN2"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.381" />

    <EditText
        android:id="@+id/editTextSubN1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="text"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.496"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.278" />
```

```xml
    <EditText
        android:id="@+id/editTextSubN2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="text"
        android:textSize="24sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.496"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.46" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

4. MainActivity.java :

```java
package com.example.demomultiactivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
            return insets;
        });
    }

    public void show_msg(View v){
        Toast t = Toast.makeText(this,"Good Evening",Toast.LENGTH_LONG);
        t.show();
    }

    public void open_sumActivity(View v){
        Intent sumPage = new Intent(this,sumActivity.class);
        startActivity(sumPage);
    }

    public void open_subActivity(View v){
        Intent subPage = new Intent(this, subActivity.class);
        startActivity(subPage);
    }
}
```

5. sumActivity.java :

```java
package com.example.demomultiactivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class sumActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_sum);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
            return insets;
        });
    }

    public void sum_to_mainPage(View v){
        Intent backFrmSum = new Intent(this, MainActivity.class);
        startActivity(backFrmSum);
    }

    public void sumNumber(View v){
        EditText t1 = findViewById(R.id.editTextSumN1);
        EditText t2 = findViewById(R.id.editTextSumN2);

        String firstNumber = t1.getText().toString();
        String secondNumber = t2.getText().toString();

        int num1 = Integer.parseInt(firstNumber);
        int num2 = Integer.parseInt(secondNumber);

        int sumNumbers = num1 + num2;

        Toast.makeText(this, "The Result is : "+sumNumbers, Toast.LENGTH_SHORT).show();
    }
}
```

6. subActivity.java :

```java
package com.example.demomultiactivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
```

```java
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class subActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_sub);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
            return insets;
        });
    }

    public void sub_to_mainPage(View v){
        Intent backFrmSub = new Intent(this, MainActivity.class);
        startActivity(backFrmSub);
    }

    public void subNumber(View v){
        EditText t1 = findViewById(R.id.editTextSubN1);
        EditText t2 = findViewById(R.id.editTextSubN2);

        String SubNumber1 = t1.getText().toString();
        String SubNumber2 = t2.getText().toString();

        int num1 = Integer.parseInt(SubNumber1);
        int num2 = Integer.parseInt(SubNumber2);

        int subResult = num1 - num2;
        Toast.makeText(this, "The Result is : "+subResult, Toast.LENGTH_SHORT).show();
    }


}
```