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``Project 2 : Multi Activity App``
1. activity main.xml :
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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"
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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 version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
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"
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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"
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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</pre>
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"
```

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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" />
```

```
<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 :
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 :
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 :
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 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();
    }
}
```