**Week 4: Create native calculator application**

# activity\_main.xml

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

<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="<http://schemas.android.com/apk/res/androi> d"

xmlns:app[="http://schem](http://schemas.android.com/apk/res-auto)as[.android.com/apk/res-auto"](http://schemas.android.com/apk/res-auto) xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools) android:id="@+id/main" android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".MainActivity">

<EditText android:id="@+id/editTextText"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:ems="10"

android:hint="Enter the value of a" android:inputType="number" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.497" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.185" />

<EditText

android:id="@+id/editTextText2" android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:ems="10" android:inputType="number" android:hint="Enter the value of b"

app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.497" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.386" />

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

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Add" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.232" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.638" />

<Button android:id="@+id/button2"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content"

android:text="Subtract" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.74" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.638" />

<Button android:id="@+id/button3"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Multiply" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.234" app:layout\_constraintStart\_toStartOf="parent" app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.837" />

<Button android:id="@+id/button4"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:text="Divide" app:layout\_constraintBottom\_toBottomOf="parent" app:layout\_constraintEnd\_toEndOf="parent" app:layout\_constraintHorizontal\_bias="0.752" app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" app:layout\_constraintVertical\_bias="0.837" />

</androidx.constraintlayout.widget.ConstraintLayout>

# MainActivity.java

package com.example.week4;

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

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.*activity\_main*);

EditText a = (EditText) findViewById(R.id.*editTextText*); EditText b = (EditText) findViewById(R.id.*editTextText2*); Button sum = (Button) findViewById(R.id.*button*); Button sub = (Button) findViewById(R.id.*button2*); Button mul = (Button) findViewById(R.id.*button3*); Button div = (Button) findViewById(R.id.*button4*);

sum.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

float x = Float.*parseFloat*(a.getText().toString()); float y = Float.*parseFloat*(b.getText().toString()); float z = x + y;

Intent i = new Intent(MainActivity.this, Result.class); i.putExtra("result", z);

startActivity(i);

}

});

sub.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

float x = Float.*parseFloat*(a.getText().toString()); float y = Float.*parseFloat*(b.getText().toString()); float z = x - y;

Intent i = new Intent(MainActivity.this, Result.class); i.putExtra("result", z);

startActivity(i);

}

});

mul.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

float x = Float.*parseFloat*(a.getText().toString()); float y = Float.*parseFloat*(b.getText().toString()); float z = x \* y;

Intent i = new Intent(MainActivity.this, Result.class);

}

});

i.putExtra("result", z); startActivity(i);

div.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

float x = Float.*parseFloat*(a.getText().toString()); float y = Float.*parseFloat*(b.getText().toString()); float z = x / y;

Intent i = new Intent(MainActivity.this, Result.class); i.putExtra("result", z);

startActivity(i);

}

});

}

}

# activity\_result.xml

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

<RelativeLayout

xmlns:android="<http://schemas.android.com/apk/res/androi> d"

xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent"

tools:context=".Result">

<TextView android:id="@+id/textView"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_centerInParent="true" android:textSize="24sp" android:textColor="#FFFFFFFF" />

</RelativeLayout>

# Result.java

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

<RelativeLayout

xmlns:android="<http://schemas.android.com/apk/res/androi> d"

xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools) android:layout\_width="match\_parent" android:layout\_height="match\_parent" tools:context=".Result">

<TextView android:id="@+id/textView"

android:layout\_width="wrap\_content" android:layout\_height="wrap\_content" android:layout\_centerInParent="true" android:textSize="24sp"

android:textColor="#FFFFFFFF" />

</RelativeLayout>

# AndroidManifest.xml

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

<manifest xmlns:android="<http://schemas.android.com/apk/res/androi> d"

xmlns:tools="[http://schemas.android.com/tools"](http://schemas.android.com/tools)>

<application android:allowBackup="true"

android:icon="@mipmap/ic\_launcher" android:label="@string/app\_name" android:roundIcon="@mipmap/ic\_launcher\_round" android:supportsRtl="true" android:theme="@style/Theme.Week4">

<activity android:name=".MainActivity" android:exported="true">

<intent-filter>

<action android:name="android.intent.action.MAIN"

/>

<category

android:name="android.intent.category.LAUNCHER" />

</intent-filter>

</activity>

<activity android:name=".Result" android:exported="true" />

</application>

</manifest>