

Program 3. Create an android application to find the factorial of a given number.

Main activity.java

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity implements
    View.OnClickListener{

    EditText etNum1;
    Button btnAdd;
    TextView tvResult;
    String oper = "";

    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // find the elements

        etNum1 = (EditText) findViewById(R.id.etNum1);
        btnAdd = (Button) findViewById(R.id.btnAdd);
        tvResult = (TextView) findViewById(R.id.tvResult);

        // set a listener

        btnAdd.setOnClickListener(this);
    }
}
```

```

@Override
public void onClick(View v) {
// TODO Auto-generated method stud

    float num1=0;

    float fact=1;

    float result = 0;

// check if the fields are empty

    num1=Float.parseFloat(etNum1.getText().toString());

// read EditText and fill variables with numbers

// defines the button that has been clicked and performs the

    //corresponding operation

// write operation into oper, we will use it later for output

    switch (v.getId()) {

        case R.id.btnAdd:

            oper = "+";

            for(int i=1;i<=num1;i++)

            {

                fact=fact*i;

            }

            result=fact;

            break;

        default:

            break;

    }

// form the output line

    tvResult.setText("Factorial of" + " " + num1 + " = " + result);

}

}

```

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="fill_parent"

    android:layout_height="fill_parent"

    android:weightSum="1">

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:id="@+id/linearLayout1"

        android:layout_marginLeft="10pt"

        android:layout_marginRight="10pt"

        android:layout_marginTop="3pt">

        <EditText

            android:layout_weight="1"

            android:layout_height="wrap_content"

            android:layout_marginRight="5pt"

            android:id="@+id/etNum1"

            android:layout_width="wrap_content"

            android:inputType="numberDecimal">

        </EditText>

    </LinearLayout>

    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:id="@+id/linearLayout2"

        android:layout_marginTop="3pt"
```

```
        android:layout_marginLeft="5pt"
        android:layout_marginRight="5pt">
    <Button
        android:layout_height="wrap_content"
        android:layout_width="match_parent"
        android:layout_weight="1"
        android:text="Calculate Factorial"
        android:textSize="8pt"
        android:id="@+id/btnAdd">
    </Button>
</LinearLayout>
<TextView
    android:layout_height="wrap_content"
    android:layout_width="match_parent"
    android:layout_marginLeft="5pt"
    android:layout_marginRight="5pt"
    android:textSize="12pt"
    android:layout_marginTop="3pt"
    android:id="@+id/tvResult"
    android:gravity="center_horizontal"
    android:layout_weight="0.07">
</TextView>
</LinearLayout>
```

Output

