```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center"
        >

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Factorial"
            android:textSize="20sp"
        />

        <EditText
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:hint="Enter Number"
            android:id="@+id/fact"
            android:textSize="20sp"
            />

    </LinearLayout>

        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:hint="Enter Number"
            android:id="@+id/factbtn"
            android:text="Factorial"
            android:textSize="20sp"
            />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Result"
        android:id="@+id/result"
        android:textSize="20sp"
        />

</LinearLayout>
```

```java
package com.example.program3;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

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 implements
View.OnClickListener {

    EditText e;
    Button b;
    TextView t;

    @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;
        });

        e = (EditText)findViewById(R.id.fact);
        b = (Button)findViewById(R.id.factbtn);
        t = (TextView)findViewById(R.id.result);

        b.setOnClickListener(this);
    }

    @Override
    public void onClick(View view) {
        if(view.getId()==b.getId()){
            int num=Integer.parseInt(e.getText().toString());
            int result=1;
            if(num==0 || num==1){
                result=1;
            }
            else {
                for (int i = 2;i<=num;++i)
                    result=result*i;
            }
            t.setText("Result :  "+String.valueOf(result));

        }
    }
}
```