**ALERT BOX:**

**Create an Android Application to find the factorial of a number and Display the Result**

**XML code:**

*<?*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:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:padding="16dp"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/numberEditText"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter a number"  
 android:inputType="number" />  
  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Calculate Factorial"  
 android:onClick="calculateFactorial"  
 android:layout\_marginTop="20dp"/>  
  
</LinearLayout>

**Java code:**

package com.example.myapplication;

import android.app.AlertDialog;

import android.content.DialogInterface;

import android.os.Bundle;

import android.view.View;

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*);

}

public void calculateFactorial(View view) {

EditText numberEditText = findViewById(R.id.*numberEditText*);

String input = numberEditText.getText().toString();

if (input.isEmpty()) {

displayResult("Please enter a number.");

return;

}

int number = Integer.*parseInt*(input);

long factorial = calculateFactorial(number);

displayResult("Factorial of " + number + " is " + factorial);

}

private long calculateFactorial(int n) {

if (n <= 1) {

return 1;

}

return n \* calculateFactorial(n - 1);

}

private void displayResult(String message) {

AlertDialog.Builder builder = new AlertDialog.Builder(this);

builder.setMessage(message).setPositiveButton("OK", new DialogInterface.OnClickListener()

{

public void onClick(DialogInterface dialog, int id) {

dialog.dismiss();

}

});

builder.create().show();

}

}