-----Factorial-----

import java.math.BigInteger;

import java.util.Scanner;

public class Factorial {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

int n = input.nextInt();

String fact = Factorial(n);

System.out.println(fact+"\n"+ fact.length());

}

public static String Factorial(int n) {

BigInteger fact = new BigInteger("1");

if (n <= 0) {

return "1";

}

else{

for (int i = 1; i <= n; i++) {

fact = fact.multiply(new BigInteger(i+ ""));

}

}

return fact.toString();

}

}

---------Fibonacci---------

import java.math.BigInteger;

import java.util.Scanner;

import java.math.\*;

public class Fibonacci {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

BigInteger arr[] = new BigInteger[50000];

arr[0] = BigInteger.valueOf(1);

arr[1] = BigInteger.valueOf(2);

for (int i = 2; i < 50000; i++) {

arr[i] = arr[i-1].add(arr[i-2]);

}

while(true){

BigInteger a,b;

a = input.nextBigInteger();

b = input.nextBigInteger();

if(b.compareTo(BigInteger.valueOf(0))==0){

break;

}

int count = 0;

for (int i = 0; i < 10; i++) {

if (arr[i].compareTo(a)>=0 && arr[i].compareTo(b)<=0) {

count++;

}

if (arr[i].compareTo(b)>0 ){

break;

}

}

System.out.println(count);

}

}

}

---------Subtraction-------

import java.math.BigInteger;

import java.util.Scanner;

public class Subtraction {

public static void main(String[] args) {

// TODO code application logic here

Scanner input = new Scanner(System.in);

while(input.hasNext()){

int a,b;

a = input.nextInt();

b = input.nextInt();

BigInteger A = BigInteger.valueOf(a);

BigInteger B = BigInteger.valueOf(b);

String x,y,z;

y=A.pow(b).toString();

z=B.pow(a).toString();

int c = y.length();

int d = z.length();

x = A.pow(b).subtract(B.pow(a)).toString();

//z = x-y;

System.out.println(x+"\n"+c+"\n"+d);

} }}

------Code 118A-----

import java.util.\*;

public class Code118A {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

while (input.hasNext()) {

String st = input.nextLine();

String st1;

st1 = st.toLowerCase().replaceAll("[aeiouAEIOU]", "");

StringBuilder str = new StringBuilder();

for (int i = 0; i < st1.length(); i++) {

str.append(".");

str.append(st1.charAt(i));}

System.out.println(str);

} }}

import java.util.Scanner;

public class Code71A {

public static void main(String[] args) {

Scanner input = new Scanner(System.in);

int n, i;

n = input.nextInt();

i = 0;

while ( i < n) {

String str = input.nextLine();

if (str.length() <= 10) {

System.out.print(str.charAt(0));

System.out.print(str.length()-2);

System.out.print(str.charAt(str.length()-1));

System.out.println();

}

else {

System.out.println(str);

}

i++; } }}