3319 - Primorial

Description

The factorial of a positive integer N is defined in principle as the product of all the positive integers from 1 (i.e. natural numbers) to N, and it is indicated as N!. For example, 5! = 1 * 2 * 3 * 4 * 5 = 120. You can also define it by the recurrence relation:

$$n! = \begin{cases} 1 & \text{si, } n = 0 \\ (n-1)! \times n & \text{si, } n > 0 \end{cases}$$

The primorial of a positive integer N is defined similarly to the factorial, but only is taken the product of prime numbers which are less than or equal to N, and it is indicated as N#.

Given an integer N, you must calculate N#.

Input specification

In the first line a integer 1 <= T <= 100 will be given and represents the amount of case to process. For each case will be a line with a integer number 2 <= N <= 50, for which you must calculate the primorial.

Output specification

For each case you must print a line with the primorial found.

Sample input

```
3
2
4
10
```

Sample output

```
2
6
```

210

Hint(s)

Source	Yonny Mondelo Hernández
Added by	**alfredo12345**
Addition date	2015-06-12
Time limit (ms)	2000
Test limit (ms)	1000
Memory limit (kb)	67108864
Output limit (mb)	64
Size limit (bytes)	16384
Enabled languages	Bash C C# C++ C++11 Java JavaScript-NodeJS Pascal Perl PHP Prolog Python Ruby Text