**Roman shepherds**

In the ancient Rome, shepherds lead sheep to the pasture in the morning and take them back in the evening. They need to count the number of sheep. In the Roman times there was no pencil, so shepherds used k sticks of the same shape and of the same size to count the number of sheep. Each stick represents one, but you can use Roman numerals as follows:

* You can make IV with three sticks, then it is four.
* You can make V with two sticks, then it is five.
* You can make IX with three sticks, then it is nine.
* Finally, you can make X with two sticks, then it is ten.

Of course you can use four, five, nine, and ten sticks to represent these numbers. Shepherds are not good at math, so they can do addition, but they cannot subtraction, multiplication, and division. Also, they know is I, X, V, and combination of them.

Shepherds are interested in representing the number of sheep n with exactly k sticks, that is, without bending or breaking sticks, and without remaining sticks. For example, if you have ten sheep and four sticks, you can represent ten with VV. But if you have three sheep and two sticks, there is no way you represent the number of sheeps with given sticks.

Given two integers n and k, your program should tell whether it is possible to represent the number of sheep n with k sticks.

[Input]

The first line of the input file contains the number T of test cases in the file, where T ≤ 100. Each test case consists of exactly one line. It contains two positive integers n and k, where n is the number of sheep (1 ≤ n ≤ 50,000), and k is the number of sticks (1 ≤ k ≤ 10,000).

There are three kinds of inputs listed as follows.

* Set 1: n ≤ 10.
* Set 2: k ≤ 1,000.
* Set 3: n ≤ 10,000.

[출력]

The output consists of exactly one line. If it is possible to represent n with k sticks, print O. otherwise, print X.

[I/O Example]  
Input

|  |
| --- |
| 2  10 4  3 2 |

Output

|  |
| --- |
| O  X |