

Problem G. Buying Shovels

Time limit 2000 ms

Mem limit 262144 kB

Polycarp wants to buy **exactly** n shovels. The shop sells packages with shovels. The store has k types of packages: the package of the i -th type consists of exactly i shovels ($1 \leq i \leq k$). The store has an infinite number of packages of each type.

Polycarp wants to choose **one** type of packages and then buy several (one or more) packages of this type. What is the smallest number of packages Polycarp will have to buy to get exactly n shovels?

For example, if $n = 8$ and $k = 7$, then Polycarp will buy 2 packages of 4 shovels.

Help Polycarp find the minimum number of packages that he needs to buy, given that he:

- will buy exactly n shovels in total;
- the sizes of **all** packages he will buy are all the same and the number of shovels in each package is an integer from 1 to k , inclusive.

Input

The first line contains an integer t ($1 \leq t \leq 100$) — the number of test cases in the input. Then, t test cases follow, one per line.

Each test case consists of two positive integers n ($1 \leq n \leq 10^9$) and k ($1 \leq k \leq 10^9$) — the number of shovels and the number of types of packages.

Output

Print t answers to the test cases. Each answer is a positive integer — the minimum number of packages.

Examples

Input	Output
5 8 7 8 1 6 10 999999733 999999732 999999733 999999733	2 8 1 999999733 1

Note

The answer to the first test case was explained in the statement.

In the second test case, there is only one way to buy 8 shovels — 8 packages of one shovel.

In the third test case, you need to buy a 1 package of 6 shovels.