UVa Online Judge

11802 All Your Bases Belong to us

It is very easy to find number of trailing zero in $n!$ for a particular base b. In this problem you have to do the reverse. You have to find for how many bases b, $n!$ has k trailing zeros in base b.

Input

Input starts with a positive number $T \leq 10000$, denoting the number of test cases to follow.

Each test case contains two non-negative integers, $n \leq 10^{15}$ and $1 \leq k \leq 10^{15}$ in a line. You may assume that $n/k < 500$.

Output

For each input output one line containing the number of different bases. Print the solution *modulo* 1000000007

Sample Input

```
5
10 2
10 3
10 4
10 5
10 8
```

Sample Output

```
Case 1: 24
Case 2: 0
Case 3: 4
Case 4: 0
Case 5: 1
```