

4541 RSA Factorization

The positive integer n is given. It is known that $n = p * q$, where p and q are primes, $p \leq q$ and $|q - kp| \leq 10^5$ for some given positive integer k . You must find p and q .

Input

Each line contains integers n ($1 < n < 10^{120}$) and k ($0 < k < 10^8$).

Output

For each pair of numbers n and k print in separate line the product $p * q$ such that $p \leq q$.

Sample Input

```
35 1
121 1
1000730021 9
```

Sample Output

```
5 * 7
11 * 11
10007 * 100003
```