


PEKING UNIVERSITY

JUDGE ONLINE FOR ACM/ICPC



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Sumdiv

Time Limit: 1000MS **Memory Limit:** 30000K

Total Submissions: 23155 **Accepted:** 5765

Language:

Description

Consider two natural numbers A and B. Let S be the sum of all natural divisors of A^B . Determine S modulo 9901 (the rest of the division of S by 9901).

Input

The only line contains the two natural numbers A and B, ($0 \leq A, B \leq 500000000$) separated by blanks.

Output

The only line of the output will contain S modulo 9901.

Sample Input

2 3

Sample Output

15

Hint

$2^3 = 8$.

The natural divisors of 8 are: 1,2,4,8. Their sum is 15.

15 modulo 9901 is 15 (that should be output).

Source

Romania OI 2002

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