Non Coprime Sequences

You are given two integers, **n** and **m**.

Find and print the number of sequences of length n which satisfy:

- All elements of the sequence are positive divisors of m
- For any two adjacent elements, say p and q, there exists at least one prime which divides both of them.

Print the number of such sequences modulo 10^9+7

Input

The only line of input contains two integers, n and m.

Constraints

- $0 < n \le 10^5$
- $0 < m \le 10^{18}$

Output

Print the number of valid sequences modulo 10^9+7

Example

Input:
2 10

Output:
7