

This time your assignment is really simple.

Calculate $\text{GCD}(1, 1) * \text{GCD}(1, 2) * \dots * \text{GCD}(1, M) * \text{GCD}(2, 1) * \text{GCD}(2, 2) * \dots * \text{GCD}(2, M) * \dots * \text{GCD}(N, 1) * \text{GCD}(N, 2) * \dots * \text{GCD}(N, M)$.

where GCD is defined as the [Greatest Common Divisor](#).

Input Format

The first and only line contains two space separated integers N and M .

Output Format

Output the required product modulo 10^9+7 .

Constraints

$$1 \leq N, M \leq 1.5 * 10^7$$

Sample input:

4 4

Sample output:

96

Explanation

For the above testcase, $N = 4, M = 4$. So,

$$\text{GCD}(1, 1) * \text{GCD}(1, 2) * \dots * \text{GCD}(4, 4) = 1 * 1 * 1 * 1 * 1 * 2 * 1 * 2 * 1 * 1 * 3 * 1 * 1 * 2 * 1 * 4 = 96.$$