

Problem B. A Math Problem

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 256 mebibytes

Zenyk is given a sequence of n integers a_1, \dots, a_n and a sequence of m integers b_1, \dots, b_m . Both sequences contain only positive integers. You built a matrix of size $n \times m$ such that an element at the i -th row and the j -th column has value of LCM (least common multiple) of values a_i and b_j .

Now he wants to know how many pairs of sequences c and d are there that produce the same matrix.

Input

The first line contains two integers n and m ($1 \leq n, m \leq 10^5$). The second line contains n integers a_1, \dots, a_n . The third line contains m integers b_1, \dots, b_m ($1 \leq a_i, b_j \leq 10^9$).

Output

The number of pairs modulo 1 000 000 007 ($10^9 + 7$).

Example

| standard input | standard output |
|-----------------------|-----------------|
| 2 3 2 10 28 3 4 | 5 |