

Problem A. Rabbit Lunch

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 256 mebibytes

Snuke wants to feed rabbits. He has the following food for rabbits' lunch:

- M types of carrots. There are m_i carrots of the i -th type.
- N types of kiwis. There are n_i kiwis of the i -th type.

Types are numbered by sequential integers, starting from zero.

Rabbits' lunch must follow the following rules. First, each rabbit must eat a carrot and a kiwi. Second, no two rabbits are allowed to have the exactly same lunch (i.e., same carrot and same kiwi). Compute the maximum number of rabbits who can have lunch.

The input is huge, so use the following recurrence formula to generate m_i and n_i :

- $m_0 = m0$
- $m_{i+1} = (m_i * 58 + md) \bmod (N + 1)$
- $n_0 = n0$
- $n_{i+1} = (n_i * 58 + nd) \bmod (M + 1)$

Input

First line of the input consists of 5 integers $M, N, m0, md, n0, nd$.

Constraints:

- $1 \leq M \leq 2,500,000$
- $1 \leq N \leq 2,500,000$
- $0 \leq m0, md \leq N$
- $0 \leq n0, nd \leq M$

Output

Print the maximal number of rabbits who can have lunch.

Examples

standard input	standard output
2 3 1 3 1 0	2
5 8 1 2 3 4	19