Problem D. Linear Recursive Sequence

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	512 mebibytes

A well-known linear recursive sequence $f(n)$ is defined as follows:

- for $k \leq 0$, $f(k) = 1$;
- for $k \geq 1$, $f(k) = a \cdot f(k-p) + b \cdot f(k-q)$.

Given n, a, b, p, q, find the value of $f(n)$ modulo 119.

Input

First line of the input contains 5 integers n, a, b, p, q ($1 \leq n \leq 2 \cdot 10^9, 0 \leq a, b \leq 2 \cdot 10^9, 1 \leq p < q \leq 10^4$).

Output

Print the value of $f(n)$ modulo 119.

Examples

standard input	standard output
1 1 1 1 2	2
1000000000 1 2 3 4	100