

Calculate the coefficients

Problem Description

Given a polynomial $(by+ax)^k$, please calculate the coefficients of the $x^n \times y^m$ term when the polynomial is expanded.

Input

The input is only one line and contains 5 integers called a,b,k,n,m, separated by spaces.

Output

The output is only one line and contains an integer representing the desired coefficient. This coefficient can be very large, so output the result modulo 10007.

Sample Input

1 1 3 1 2

Sample Output

3

Hint

[Data Range]

For 30% of the data, $0 \leq k \leq 10$.

For 50% of the data, $a=1, b=1$.

For 100% of the data, $0 \leq k \leq 1000, 0 \leq n, m \leq k, n+m=k, 0 \leq a, b \leq 10^6$.