G. Kirill And The Game

Time limit: 2s Memory limit: 256 MB

Kirill plays a new computer game. He came to the potion store where he can buy any potion. Each potion is characterized by two integers — amount of experience and cost. The efficiency of a potion is the ratio of the amount of experience to the cost. Efficiency may be a non-integer number.

For each two integer numbers a and b such that $l \le a \le r$ and $x \le b \le y$ there is a potion with experience a and cost b in the store (that is, there are $(r - l + 1) \cdot (y - x + 1)$ potions).

Kirill wants to buy a potion which has efficiency k. Will he be able to do this?

Input

First string contains five integer numbers l, r, x, y, k ($1 \le l \le r \le 10^7$, $1 \le x \le y \le 10^7$, $1 \le k \le 10^7$).

Output

Print "YES" without quotes if a potion with efficiency exactly k can be bought in the store and "NO" without quotes otherwise.

You can output each of the letters in any register.

Examples

input
1 10 1 10 1
output
YES

input
1 5 6 10 1
output
NO