# Genies

## Problem ID: genies

## Time limit: 2 seconds

Aladdin has just found a magical lamp, and after rubbing it a few times, a genie appears before him. Aladdin told the genie, "I have heard about genies. I can make 3 wishes but cannot wish for more wishes. Is that correct?" The genie responds with, "but there is a loophole for stronger genies like me." It turns out that there is a hierarchy of genies. A genie of rank $K$ is allowed to grant $K$ wishes, and all $K$ wishes must be used. Each genie can grant at most one wish to conjure another genie who can then grant more wishes.

However, a genie of rank $K$ can only conjure another genie of a lesser rank $K' \leq K - C$. For example, if $C = 2$, then you can ask a genie of rank 5 to conjure another genie of rank 1, 2, or 3. So Aladdin can make a wish of the form "I wish to conjure another genie of rank $K'$" for some $K' \leq K - C$. Of course, there are no genies of rank lower than 1.

A "real wish" is any wish that does not conjure a new genie. For example, Aladdin may tell the genie "I wish for all my computer programs to be bug-free."

Can Aladdin make exactly $W$ real wishes?

## Input

The first line contains three positive integers $W$ ($1 \leq W \leq 500$), $K$ ($1 \leq K \leq 200$), and $C$ ($1 \leq C \leq 200$). Here, $W$ is the number of real wishes Aladdin wants to make, $K$ is the rank of the initial genie, and $C$ dictates the rank of the genies Aladdin can wish for.

## Output

If Aladdin can make exactly $W$ real wishes, output `yes`. Otherwise, output `no`.

| Sample Input 1 | Sample Output 1 |
|---|---|
| `3 3 2` | `yes` |

| Sample Input 2 | Sample Output 2 |
|---|---|
| `16 12 2` | `yes` |

| Sample Input 3 | Sample Output 3 |
|---|---|
| `98 40 10` | `no` |