

## E. Generate a String

time limit per test: 2 seconds

memory limit per test: 512 megabytes

input: standard input

output: standard output

zscoder wants to generate an input file for some programming competition problem.

His input is a string consisting of  $n$  letters 'a'. He is too lazy to write a generator so he will manually generate the input in a text editor.

Initially, the text editor is empty. It takes him  $x$  seconds to insert or delete a letter 'a' from the text file and  $y$  seconds to copy the contents of the entire text file, and duplicate it.

zscoder wants to find the minimum amount of time needed for him to create the input file of exactly  $n$  letters 'a'. Help him to determine the amount of time needed to generate the input.

### Input

The only line contains three integers  $n$ ,  $x$  and  $y$  ( $1 \leq n \leq 10^7$ ,  $1 \leq x, y \leq 10^9$ ) — the number of letters 'a' in the input file and the parameters from the problem statement.

### Output

Print the only integer  $t$  — the minimum amount of time needed to generate the input file.

### Examples

input	Copy
8 1 1	
output	Copy
4	
input	Copy
8 1 10	
output	Copy
8	