Begin: 2022-02-12 12:00 UTC-3

TEP 2021.02 - Lista #03

End: 2022-02-27 12:00 UTC-3

Elapsed: 251:18:55

Running

Remaining: 108:41:04

Time limit

2000 ms

Memory limit

1048576 kB

B - Product Max

Problem Statement

Given are integers a, b, c and d. If x and y are integers and $a \leq x \leq b$ and $c \leq y \leq d$ hold, what is the maximum possible value of $x \times y$?

Constraints

- $-10^9 \leq a \leq b \leq 10^9$
- $-10^9 \leq c \leq d \leq 10^9$
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

$a\ b\ c\ d$

Output

Print the answer.

Sample 1

Input	copy	Output	copy
1 2 1 1		2	

If $x = 1$ and $y = 1$ then $x \times y = 1$. If $x = 2$ and $y = 1$ then $x \times y = 2$. Therefore, the answer is 2.

Sample 2

Input	copy	Output	copy
3 5 -4 -2		-6	

The answer can be negative.

Sample 3

Input	copy	Output	copy
-1000000000 0 -1000000000 0		1000000000000000000	

Server Time: 2022-02-22 23:18:55 UTC-3