Hard Compare

Input file:	standard input
Output file:	standard output
Time limit:	1 second
Memory limit:	256 megabytes

Given **4** numbers A, B, C and D. If $A^B > C^D$ print "**YES**" otherwise, print "**NO**".

Input

Only one line containing **4** numbers A, B, C and D $(1 \leq A, C \leq 10^7)$, $(1 \leq B, D \leq 10^{12})$

Output

Print "**YES**"or "**NO**"according to the problem above.

Examples

standard input	standard output
3 2 5 4	NO
5 2 4 2	YES
5 2 5 2	NO

Note

First Example :

$3^2 = 9$ and $5^4 = 625$ then **9** $<$ **625** so the answer is **NO**.

Second Example :

$5^2 = 25$ and $4^2 = 16$ then **25** $>$ **16** so the answer is **YES**.

Third Example :

$5^2 = 25$ and $5^2 = 25$ then **25** $=$ **25** so the answer is **NO**.