Equalizer Ehrmantraut

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	256 megabytes

You know how they say, 'It's been a pleasure?' It hasn't.

—Mike Ehrmantraut, *Breaking Bad*

When Mike Ehrmantraut started being a cop, he wanted all people to be equal before the law. Now he is retired, but he still prefers **almost equal** arrays.

Here two arrays a and b of length n are called **almost equal** if the following condition holds:

- For any $1 \le i < j \le n$, $min(a_i, b_j) = min(a_j, b_i)$

Given two integers n and m, find the number of **almost equal** pairs (a, b) of integer arrays of length n with elements from 1 to m. As this number can be large, output it modulo 998244353.

Input

The only line of the input contains two integers n, m ($1 \le n, m \le 10^6$).

Output

Output a single integer — output to the problem modulo 998244353.

Examples

standard input	standard output
1 3	9
2 2	10
69 42	608932821

Note

In the first sample, any pair of arrays $([x], [y])$ with $1 \le x, y \le 3$ satisfies the conditions from the statement, there are 9 of them.

In the second sample, there are the 10 pairs of arrays: $([1,1],[1,1])$, $([1,1],[1,2])$, $([1,1],[2,1])$, $([1,1],[2,2])$, $([1,2],[1,1])$, $([1,2],[1,2])$, $([2,1],[1,1])$, $([2,1],[2,1])$, $([2,2],[1,1])$, $([2,2],[2,2])$.