

Range NEQ

Input file: **standard input**
Output file: **standard output**
Time limit: 2 seconds
Memory limit: 1024 megabytes

You are given two positive integers N and M .

Count the number of permutations $P = (P_0, P_1, \dots, P_{NM-1})$ of $(0, 1, \dots, NM-1)$ such that the following condition is satisfied, modulo 998244353.

- For all integers i such that $0 \leq i < NM$, $\left\lfloor \frac{i}{M} \right\rfloor \neq \left\lfloor \frac{P_i}{M} \right\rfloor$ holds.

Input

The input is given from Standard Input in the following format:

$N \ M$

- All values in the input are integers.
- $2 \leq N \leq 1000$
- $1 \leq M \leq 1000$

Output

Output the answer.

Examples

standard input	standard output
2 2	4
5 1	44
167 91	284830080