# Cola

| | |
|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 2 seconds |
| Memory limit: | 1024 megabytes |

Alice has a favorite permutation $P = (P_1, P_2, \ldots, P_N)$ of $(1, 2, \ldots, N)$. Bob found out that if he guesses $P$, he will receive a cola from Alice. So, Bob decides to ask Alice questions to guess $P$.

Bob can ask the following question up to $M$ times:

- Choose a permutation $Q = (Q_1, Q_2, \ldots, Q_N)$ of $(1, 2, \ldots, N)$ and ask Alice if her favorite permutation is $Q$.

Here, $M \leq N$ holds.

Alice will respond to Bob's questions with the following actions:

- If $P = Q$, Alice will give a cola to Bob.
- If $P \neq Q$, Alice will tell Bob the smallest index $i$ such that $P_i \neq Q_i$.

For example, if $P = (4, 3, 2, 1)$ and Bob asks the question with $Q = (4, 3, 1, 2)$, Alice informs Bob that there exists an index $i$ such that $P_i \neq Q_i$, and the smallest such $i$ is 3.

**Note that even if Bob identifies $P$ after the $M$-th question, he won't receive a cola.**

Initially, Bob has no information about $P$. Please calculate the maximum probability that Bob receives a cola from Alice, and output this probability modulo 998244353.

**Definition of probability modulo** 998244353

It can be proven that the probability sought in this problem will always be a rational number. Also, in the constraints of this problem, it is guaranteed that when the sought probability is expressed in the form of an irreducible fraction $\frac{y}{x}$, $x$ is not divisible by 998244353. In this case, there exists a unique $0 \leq z < 998244353$ satisfying $y \equiv xz \pmod{998244353}$, so output $z$.

## Input

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

| |
|---|
| $N$ $M$ |

- All values in the input are integers.
- $1 \leq M \leq N \leq 10^7$

## Output

Output the answer.

## Examples

| standard input | standard output |
|---|---|
| 2 1 | 499122177 |
| 1 1 | 1 |
| 167 91 | 469117530 |

## Note

In the first example, since there is only one question allowed, and there are two possible permutations for $P$, Bob can receive a cola with a probability of $\frac{1}{2}$.

**Note that even if Bob misses on the first question, he can still identify $P$, but he won't receive a cola.**

In the second sample, Bob will always receive a cola with the first question.