Problem H. Blind Box

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

You are the owner of a store.

The store has launched a new blind box campaign. Each blind box contains n cards, and there is a positive integer written on each card. The cards in each box are ordered in such a way that the number on the i-th card is greater than or equal to the number on the $(i-1)$-th card for every $i > 1$. Additionally, the integer on each card does not exceed m.

The store has **all** possible blind boxes satisfying the conditions above, and every two blind boxes in the store are different. Two boxes are considered different if and only if there is an index i such that the numbers on the i-th cards in the two boxes are different.

You sell blind boxes at a fixed price. After buying and opening a blind box, customers will ask you for a cashback, and the amount equals the product of the numbers on the n cards in the box. Please calculate the minimum price of each blind box to ensure that, after selling all blind boxes, your net income is non-negative.

Input

The first line of input contains two integers n and m: the number of cards in each box and the maximum value on a card ($1 \le n, m \le 10^5$).

Output

Print a single integer: the minimum price to ensure a non-negative net income. The price may be fractional, but you have to output this price modulo 998 244 353. Formally, let the minimum price be an irreducible fraction $\frac{x}{y}$. They you have to print $x \cdot y^{-1} \bmod 998\,244\,353$, where y^{-1} is an integer such that $y \cdot y^{-1} \bmod 998\,244\,353 = 1$.

Examples

standard input	standard output
2 2	332748120
5 5	499122514

Note

Explanation of the first example:

There are three different blind boxes: $(1, 1)$, $(1, 2)$, and $(2, 2)$.

The amounts of cashback are 1, 2, and 4, respectively.

So, the minimum price should be $\frac{7}{3}$.

And the answer in the second example is $\frac{42525}{126} = \frac{675}{2}$.