Balanced Arrays

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	512 mebibytes

Misha is playing with an array of integers. In one operation, he may do one of the following:

- Add 1 to some suffix of the array.

- Add 1 to some prefix of the array.

For example, if Misha has the array $(1, 2, 4)$, in one operation, he can obtain one of the arrays $(2, 2, 4)$, $(2, 3, 4)$, $(2, 3, 5)$, $(1, 2, 5)$, or $(1, 3, 5)$.

An array of length n is called *balanced* if Misha can obtain it from an array of n zeroes after some operations. For example, the array $(1, 2, 1)$ is balanced, but the array $(1, 3, 1)$ is not. How many arrays of length n with elements at most m are balanced? The answer can be very large, so, output it modulo prime number $998\,244\,353$.

Input

The first line contains two integers n and m ($1 \le n, m \le 500\,000$).

Output

Output a single integer: the number of balanced arrays of length n with elements at most m. Print the answer modulo prime number $998\,244\,353$.

Example

standard input	*standard output*
2 2	9