

DRD String

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

A string S is called **DRD String** if there exist certain non-empty strings D and R , and S is formed by connecting D, R, D in this order. Now we can use M sorts of alphabets. Find the number, modulo 998244353, of DRD strings with a length N .

Input

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

$N M$

- All input values are integers.
- $3 \leq N \leq 10^6$
- $1 \leq M \leq 10^6$

Output

Print the answer in a single line.

Examples

standard input	standard output
6 2	40
3017 7801	515391664

Note

If we can use a and b in example 1, **abbaab** and **aaaaaa** are DRD strings with a length 6, but **abbabb** and **aaabbb** are not.