Good String

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

We consider a string to be a good string if and only if the string contains no palindromic substrings of length greater than 2.

Now we want to know how many different good strings are there for all strings of exactly n length and character set size m (not all characters in the character set are used).

Input

Only one line contains two integer $n, m (1 \leq n \leq 10^6, 1 \leq m \leq 10^9)$.

Output

Output a integer is number of different good strings, the answer is modulo 1000000007.

Example

standard input	standard output
3 3	18