Ebru's New Language

Time Limit: 1.0s  Memory Limit: 256M

Ebru wants to create a new language. They create every word from their alphabet consisting of $M$ symbols and each word contains at least 1 letter. Also for ease of use, they limit the length of every word to be at most $N$.

But Ebru's language has some rules. Every symbol $i$ in the alphabet has a limit of consecutive occurrences $A_i$. Which means if symbol $i = a$ has a value $A_i = 2$, it cannot repeat consecutively, meaning that a word can include $a$ or $aa$ but cannot include $aaa$.

Ebru wonders how many words are there in their new language. Can you help them find out?

**Input**

First-line consists of two space-separated integers $N$ and $M$, the upper limit for word length and number of symbols in the alphabet respectively.

Next $M$ lines have values of $A_i$, where each $A_i$ is the upper limit of consecutive occurrence for $i$th symbol.

**Batch #1:**
- $1 \leq N, M \leq 100$
- $1 \leq A_i \leq N$

**Batch #2:**
- $1 \leq N, M \leq 500$
- $1 \leq A_i \leq N$

**Output**

Count of words in the language. Since this count can be huge, you need to take the modulo $10^9 + 7$ before printing it.

**Examples**

Input:
Output:

32

Input:

5 2
1
2

Output:

21

**Explanation**

**1st Input**

Let's say the symbols are a, b and c respectively:

- a can consecutively occur at most 1,
- b can consecutively occur at most 2,
- c can consecutively occur at most 3 times.

In this case, number of words of length 1 is 1. (a, b, c)

Number of words of length 2 is 8. (ab, ac, ba, bb, bc, ca, cb, cc)

Number of words of length 3 is 21. (aba, abb, abc, bab, ...)

**2nd Input**

Let's say the symbols are a, b and c respectively:

- a can consecutively occur at most 1,
- b can consecutively occur at most 2 times.
In this case, number of words of length 1 is 1. (a, b)

Number of words of length 2 is 3. (ab, ba, bb)

Number of words of length 3 is 4. (aba, abb, bab, bba)

Number of words of length 4 is 5. (abab, abba, babb, baba, bbab)

Number of words of length 5 is 7. (ababa, ababb, abbab, babab, babba, bbaba, bbabb)