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 $\mathbf{M}$ 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 $\mathbf{N}$.

But Ebru's language has some rules. Every symbol $\mathbf{i}$ in the alphabet has a limit of consecutive occurrences $\mathbf{A_i}$. Which means if symbol $\mathbf{i}$ = **a** has a value $\mathbf{A_i} = 2$, 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 $\mathbf{N}$ and $\mathbf{M}$, the upper limit for word length and number of symbols in the alphabet respectively.

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

Batch #1:

- $1 \leq \mathbf{N}, \mathbf{M} \leq 100$
- $1 \leq \mathbf{A_i} \leq \mathbf{N}$

Batch #2:

- $1 \leq \mathbf{N}, \mathbf{M} \leq 500$
- $1 \leq \mathbf{A_i} \leq \mathbf{N}$

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:

```
3 3
1
2
3
```

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**)