Guarded wall sequences

There are N outposts on the Great Wall of China. However, only M of those have guards. The wall between two neighboring posts is guarded if it has guards at least on one of its ends. A guarded wall sequence is a non-expandable sequence of guarded walls.

Write a program that gives the count of guarded wall sequences.

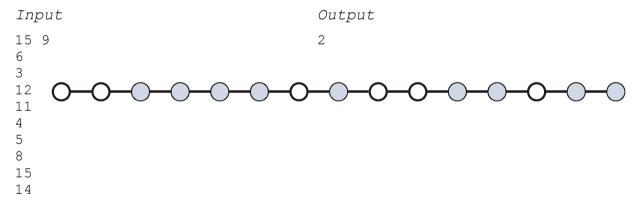
Input

The first line of the standard input contains the count of posts ($1 \le N \le 100$), and the count of posts which have guards ($1 \le M \le N$). The next M lines contain the identification numbers of guarded posts ($1 \le S_i \le N$). We know that there is at most one guard at each post.

Output

The first line of the standard output should contain the count of guarded wall sequences.

Example



Limits

Time limit: 0.1 second

Memory limit: 32 MB

Evaluation: In 40% of tests, the count of data is ≤ 20