Mock CCC '18 Contest 5 S4 - Sparse Binary String Counting

Time limit: 0.6s **Memory limit:** 1G

Given a binary string of length N, where exactly K characters are ones, compute the number of substrings that have at least three ones.

Constraints

$1 \leq N \leq 10^9$

$0 \leq K \leq 10^6$

$1 \leq a_i \leq N$

a_i are presented in sorted order.

$K \leq N$

In tests worth 5 marks, you may assume $K \leq 10^2$.

In tests worth an additional 5 marks, you may assume $K \leq 10^5$.

Input Specification

The first line of the input contains two space-separated integers, N and K.

Each of the next K lines contains a single integer, a_i, indicating that character a_i of the string is a one.

Output Specification

Output a single integer, the number of substrings that contain at least three ones.

Sample Input

```
5 4
1
2
4
5
```

Sample Output

```
3
```