B. MEX and Array

1 second, 256 megabytes

Let there be an array $b_1, b_2, \ldots, b_k$. Let there be a partition of this array into segments $[l_1; r_1], [l_2; r_2], \ldots, [l_c; r_c]$, where $l_1 = 1$, $r_c = k$, and for any $2 \leq i \leq c$ holds that $r_{i-1} + 1 = l_i$. In other words, each element of the array belongs to exactly one segment.

Let's define the *cost* of a partition as

$$c + \sum_{i=1}^{c} \operatorname{mex}(\{b_{l_i}, b_{l_i+1}, \ldots, b_{r_i}\}),$$

where mex of a set of numbers S is the smallest non-negative integer that does not occur in the set S. In other words, the *cost* of a partition is the number of segments plus the sum of MEX over all segments. Let's define the *value* of an array $b_1, b_2, \ldots, b_k$ as the **maximum** possible *cost* over all partitions of this array.

You are given an array a of size n. Find the sum of *values* of all its subsegments.

An array x is a subsegment of an array y if x can be obtained from y by deletion of several (possibly, zero or all) elements from the beginning and several (possibly, zero or all) elements from the end.

Input

The input contains several test cases. The first line contains one integer t ($1 \leq t \leq 30$) — the number of test cases.

The first line for each test case contains one integer n ($1 \leq n \leq 100$) — the length of the array.

The second line contains a sequence of integers $a_1, a_2, \ldots, a_n$ ($0 \leq a_i \leq 10^9$) — the array elements.

It is guaranteed that the sum of the values n over all test cases does not exceed 100.

Output

For each test case print a single integer — the answer to the problem.

input

```
4
2
1 2
3
2 0 1
4
2 0 5 1
5
0 1 1 0 1
```

output

```
4
14
26
48
```

In the second test case:

- The best partition for the subsegment $[2, 0, 1]$: $[2], [0, 1]$. The cost of this partition equals to $2 + \operatorname{mex}(\{2\}) + \operatorname{mex}(\{0, 1\}) = 2 + 0 + 2 = 4$.
- The best partition for the subsegment $[2, 0]$: $[2], [0]$. The cost of this partition equals to $2 + \operatorname{mex}(\{2\}) + \operatorname{mex}(\{0\}) = 2 + 0 + 1 = 3$
- The best partition for the subsegment $[2]$: $[2]$. The cost of this partition equals to $1 + \operatorname{mex}(\{2\}) = 1 + 0 = 1$.

- The best partition for the subsegment $[0, 1]$: $[0, 1]$. The cost of this partition equals to $1 + \operatorname{mex}(\{0, 1\}) = 1 + 2 = 3$.
- The best partition for the subsegment $[0]$: $[0]$. The cost of this partition equals to $1 + \operatorname{mex}(\{0\}) = 1 + 1 = 2$.
- The best partition for the subsegment $[1]$: $[1]$. The cost of this partition equals to $1 + \operatorname{mex}(\{1\}) = 1 + 0 = 1$.

The sum of values over all subsegments equals to $4 + 3 + 1 + 3 + 2 + 1 = 14$.