

Daenerys and her Dragons

Time: 1s

Memory: 25 MB

After capturing the great city of Qarth, Daenerys decided to protect the city from outside attacks. The city of Qarth is situated between sea and a straight line of '**N**' mountains with heights $H_1, H_2, H_3, \dots, H_N$ respectively. She places two of her dragons, *Viserion* and *Rhaegal* on two mountains **Ma** and **Mb** ($1 \leq a < b \leq N$) respectively. Viserion will **always** be on the Mountain with smaller index than of Rhaegal.

Meanwhile, the masters of Yunkai city hired The Second Sons, to recapture the city of Qarth.

To capture the city, the Second Sons have to pass through the mountains. The dragons are tired and hungry by waiting on the mountains. So, the Second Sons decided to offer them a sheep to eat. Dragons will accept "*the*" sheep, split it in two halves and let the Second Sons go if they have seen each other on the Mountains, otherwise they will start fighting for the sheep among themselves and the Second Sons can run away to capture the city as they are busy fighting.

Now, Viserion and Rhaegal can see each other only if there is no mountain M_k in between M_a and M_b ($a < k < b$) such that its height H_k is higher than any of M_a and M_b . Technically speaking, dragons cannot see each other if **$H_k > H_a$ or $H_k > H_b$** . (Let's not go with the fundamentals of Maths for this question.)

Your task is to print in how many possible situations the Second Sons would be able to run away and capture the city of Qarth.

Input:

First line contains an integer N ($2 \leq N \leq 500,000$), the number of Mountains in line. Each of the following N lines contains a single integer, the height of a mountain, given in the order in which they are located in line.

Output:

Print the number of possible situations in which the Second Sons can capture the city, followed by a '\n'.

Constraints:

Each height is an integer that fits in an 'int' range. The input is terminated with $N = 0$, which should not be processed.

Sample Input:

6
4 3 5 2 2 5
0

Sample Output:

6

Explanation:

6 mountains with heights (4,3,5,2,2,5) respectively. In 6 situations Dragons won't see each other.

(Ma, Mb) = (1, 4) (1, 5) (1, 6) (2, 4) (2, 5) (2, 6) corresponding (Ha, Hb) would be (4,2) (4,2) (4,5) (3,2) (3,2) (3,5).