

H

High bridge, low bridge

Input: Standard Input
Output: Standard Output



Q: There are one high bridge and one low bridge across the river. The river has flooded twice, why the high bridge is flooded twice but the low bridge is flooded only once?

A: Because the lower bridge is so low that it's still under water *after* the first flood is over.

If you're confused, here's how it happens:

- | Suppose high bridge and low bridge's heights are 2 and 5, respectively, and river's initial water level is 1.
- | First flood: the water level is raised to 6(Both bridges are flooded), and then back to 2(high bridge is not flooded anymore, but low bridge is still flooded).
- | Second flood: the water level is raised to 8(The high bridge is flooded *again*), and then back to 3.

Just a word game, right? The key is that if a bridge is still under water (i.e. the water level is no less than the bridge height) *after* a flood, then next time it will *not* be considered flooded again.

Suppose the i -th flood raises the water level to a_i and then back to b_i . Given n bridges' heights, how many bridges are flooded at least k times? The initial water level is 1.

Input

The input contains at most 25 test cases. Each test case begins with 3 integers n, m, k in the first line ($1 \leq n, m, k \leq 10^5$). The next line contains n integers h_i , the heights of each bridge ($2 \leq h_i \leq 10^8$). Each of the next m lines contains two integers a_i and b_i ($1 \leq b_i < a_i \leq 10^8$, $a_i > b_{i-1}$). The file size of the whole input does not exceed 5MB.

Output

For each test case, print the number of bridges that is flooded at least k times.

Sample Input

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2 2 2
2 5
6 2
8 3
5 3 2
2 3 4 5 6
5 3
4 2
5 2
```

Output for Sample Input

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Case 1: 1
Case 2: 3
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Explanation

For the second sample, 5 bridges are flooded 1, 2, 3, 2, 0 times, respectively.

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