Lazy Hike

You are planning a hike through the notoriously hilly *Bitwise Ranges*. The ranges are made up of N mountains (numbered from 1 to N). The i-th mountain has a height of h_i metres. **No two mountains have the same height**. The mountains are connected by M bidirectional trails. The i-th trail connects mountain u_i to mountain v_i. No two trails connect the same pair of mountains.

When walking along a trail from mountain i to mountain j:

- if $h_i < h_j$, then you are walking *uphill* for $|h_i - h_j|$ metres.
- if $h_i > h_j$, then you are walking *downhill* for $|h_i - h_j|$ metres.

You have already decided to begin your hike from mountain 1, but have not decided which mountain you will finish on.

How many mountains could you finish on if you are willing to walk **at most A metres uphill in total, and at most B metres downhill in total**? Note that mountain 1 is a possible finishing mountain.

Subtasks and Constraints

For all subtasks, you are guaranteed that:

- $2 \leq N \leq 100\,000$.
- $0 \leq A, B \leq 1\,000\,000\,000$.
- $1 \leq h_i \leq 1\,000\,000\,000$ for all i.
- No two mountains have the same height.
- $1 \leq M \leq 100\,000$.
- $1 \leq u_i, v_i \leq N$, $u_i \neq v_i$ for all i.
- No two trails connect the same pair of mountains.

Additional constraints for each subtask are given below.

Subtask	Points	Additional constraints
1	20	$A = 0$.
2	20	$A = 1$.
3	40	$N, A, B, M \leq 100$. $h_i \leq 100$, for all i.
4	20	No additional constraints.

Input

- The first line of input contains the integers N, A and B.
- The second line contains N integers $h_1, h_2, \ldots, h_N$.
- The third line contains the integer M.
- The following M lines describe the trails. The i-th line contains u_i and v_i.

Output

Output a single integer, the number of mountains you could finish on.

Note: Your solution may involve integers which are large. Consider using 64-bit integers ('long long' in C++) in your solution.

Sample Input 1

```
7 20 10
15 40 9 25 13 10 5
7
2 1
4 6
1 7
7 2
7 4
4 3
1 6
```

Sample Output 1

```
4
```

Sample Input 2

```
7 0 4
6 8 14 2 4 1 3
8
1 4
6 4
6 7
4 7
2 3
1 5
1 6
6 5
```

Sample Output 2

```
3
```

Sample Input 3

```
10 1 1000
40 7 10 20 21 30 35 14 6 4
9
3 10
4 5
6 7
5 9
7 8
2 9
1 3
1 4
1 6
```

Sample Output 3

```
7
```

Explanation

The sample cases are illustrated below. The mountains that you can finish your hike on are shaded orange.

In Sample Input 1, there are 4 possible finishing mountains:

- You could hike $1 \to 6 \to 4$ for a total of 15 metres uphill and 5 metres downhill.
- You could hike $1 \to 6$ for a total of 0 metres uphill and 5 metres downhill.
- You could hike $1 \to 7$ for a total of 0 metres uphill and 10 metres downhill.
- You could start and finish your hike on mountain 1.

Sample Inputs 2 and 3 are left as an exercise to the reader.

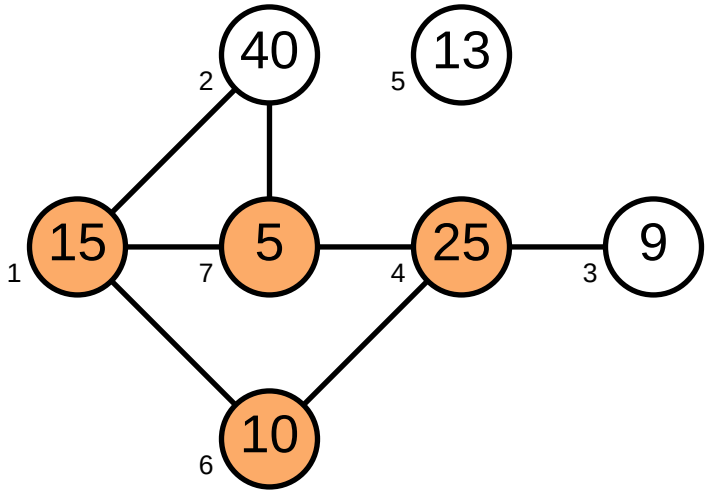

Figure 1: Sample Input 1

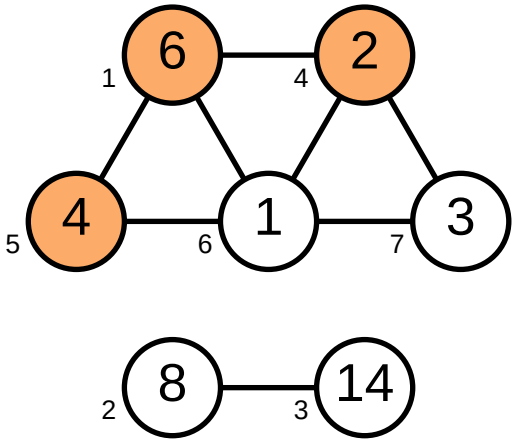

Figure 2: Sample Input 2

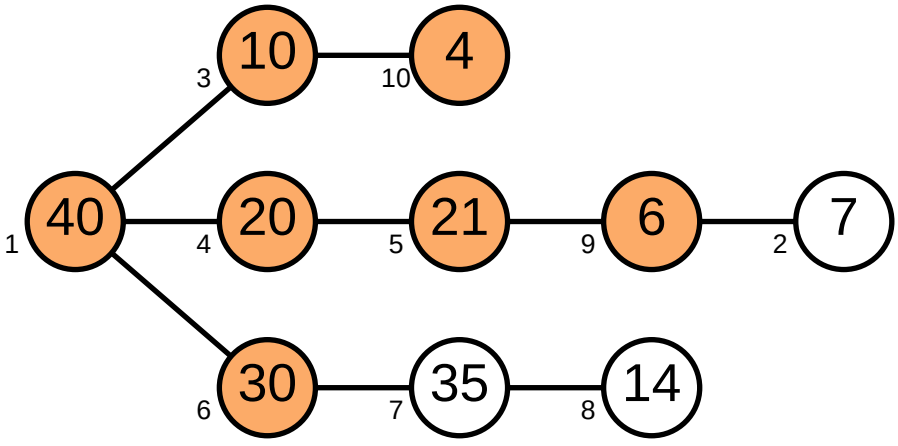

Figure 3: Sample Input 3