NTUC2

Input file: standard input
Output file: standard output
Time limit: 1 second
Memory limit: 512 Megabytes

After a successful shopping trip for tyxs at NTUC, Reverberate heads to the bakery section. He discovers a special promotion. The rules are simple: for any type of bread where you have exactly two loaves in your cart, you get a special bonus! Each loaf of bread is labelled with a positive integer denoting its types.

Reverberate starts by putting N loaves of bread into his cart. He then continues shopping. Naturally, he is very keen on maximizing his bonuses, so at various points, he wants to know for how many different bread types he currently qualifies for the deal.

After his initial haul of N items, he continues to perform a series of Q additional actions. You will be given these Q actions as queries, which are one of two types:

- Type 1: Reverberate puts a new loaf of bread of a certain type denoted by A into his cart.
- Type 2: Reverberate, curious about his discount, wants to know for how many distinct bread types he has exactly two loaves in his cart, denoted by C.

Input format

```
N Q
T[0], T[1], T[2] … T[N − 1]
…
1 A1
…
2
…
1 A2
…
```

Output format

```
C1
C2
C3
…
```

Input format

The first line of input contains two space-separated integers, N and Q, representing the number of loaves already in the shopping cart and the number of subsequent queries, respectively.
The second line contains N space-separated integers, T[0], T[1], ..., T[N-1], where T[i] is the type of the i-th bread initially in the cart.
The next Q lines each describe a query, which will be in one of the following two formats:

- 1 A: A Type 1 query. This means Reverberate adds a new loaf of bread of type A to his cart.
- 2: A Type 2 query. This is a request for the current number of bread types that qualify for the bonus.

Output format

For each query of Type 2, you must print a single integer on a new line: the number of distinct bread types that have a count of exactly two in the cart at that moment. The order of your outputs must correspond to the order of the Type 2 queries in the input.

Constraints

- $1 \leq N, Q \leq 200,000$
- $1 \leq T[i], A \leq 10^9$

Subtasks

Subtask	Score	Additional Constraints
1	0	Sample Testcases
2	30	$1 \leq N, Q \leq 2,000$
3	30	$1 \leq T[i], A \leq 10^6$
4	40	-

Example

Consider the following input:

```
5 4
10 20 10 30 40
2
1 30
2
1 10
2
```

The correct output is:

```
1
2
1
```

Initially, the cart contains two loaves of type 10, and one loaf each of types 20, 30, and 40. Only type 10 has exactly two loaves, so the count of pairs is 1.

1. The first query asks for this count. Output: 1.
2. Next, a loaf of type 30 is added. The number of type 30 loaves is now two. This creates a new pair, increasing the total count to 2.
3. The second query asks for the new count. Output: 2.
4. Then, a loaf of type 10 is added. The number of type 10 loaves becomes three. This means it no longer qualifies as a pair, so the total count decreases to 1.
5. The final query asks for this last count. Output: 1.