**A. Problem Description**

In this problem, you are given a list of numbers. After that there will be some queries. In each query, there will be an integer number L. For each query, you have to find how many times the number L belongs in the list. See the sample input and output for more clarifications.

**Input**

The first line of input contains two integers N and Q.

The next line contains N space separated integer (X) numbers.

After that, each of the Q lines contains an integer L.

1<N<100007

1<Q<100007

-1000000000 <=X, L <= 1000000000

**Output**

For each query, you just need to print the number of times that input number exists in the given list of integer.

|  |  |
| --- | --- |
| Sample Input | Sample Output |
| 10 5  1 5 1 7 2 30 7 2 1 4  1  4  9  30  7 | 3  1  0  1  2 |

**B. Problem Description**

In this problem, you are given a list of numbers L. After that there will be some queries.

* I <number> : insert <number>
* D <number> : delete <number>
* S <number> : search number in the list

**Input**

The first line of input contains an integer N and Q. The next line contains N space separated integer number. After that, each of the Q lines contains a query in the above format.

1<N<100001

1<Q<100001

**Output**

For each search query, print **“Yes”** if list contains the search query number, otherwise print **“No”**.

|  |  |
| --- | --- |
| Sample Input | Sample Output |
| 6 8  3 3 1 0 7 5  S 6  D 2  D 1  S 5  I 2  D 3  I 9  S 1 | No  Yes  No |

**C. Problem Description**

In this problem, you are given a list of numbers L. After that there will be some queries.

* I <number> : insert <number>
* D <number> : delete <number>
* S <number> : search upper bound of <number> in the list

**Input**

The first line of input contains an integer N and Q. The next line contains N space separated integer number. After that, each of the Q lines contains a query in the above format.

0<N<100000

0<Q<100000

**Output**

For each search query, print upper bound number from the list.If the list does not contain the upper bound of the search query number, then print **“No such number”**.

|  |  |
| --- | --- |
| Sample Input | Sample Output |
| 6 8  3 3 1 0 7 5  S 6  D 2  D 1  S 5  I 2  D 3  I 9  S 1  S 10 | 7  7  2  No such number |

**D. Problem Description**

In this problem, you are given a list of product name and the price of each product. After that you are given a shopping list, which consists of a list of product name. You need to calculate the total cost to buy the products in the shopping list.

**Input**

The first line of input contains two integers N and Q. The next N lines contains the list of products and the corresponding price of each product. The next Q lines contains a list of product name in the shopping list. Each product name consists of upper and lower case alphabetic characters.

0< word length < 11

0<N<100001

**Output**

Calculate the total price of products in the shopping list. In the product list, if the multiple price exist for a product then maximum price of that product must be considered.

|  |  |
| --- | --- |
| Sample Input | Sample Output |
| 5 3  Laptop 50000  Apple 100  Rice 50  Shirt 200  Chocolate 120  Apple  Chocolate  Shirt | 420 |