

HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

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D. Number of Different on Segment

time limit per test: 4 seconds¹
memory limit per test: 1024 megabytes
input: standard input
output: standard output

Given an array a, consisting of small integers ($1 \le a_i \le 40$). You need to build a data structure that processes two types of queries:

- 1. find the number of different elements on a segment,
- 2. change the element of the array.

Input

The first line contains two integers n and q, the length of the array and the number of queries, respectively ($1 \le n, q \le 10^5$).

The second line contains n numbers a_1 , ..., a_n , where a_i is the initial state of the array ($1 \le a_i \le 40$).

The following q lines describe the queries. Each of these lines has the format " $type_i \ x_i \ y_i$ ".

If $type_i=1$, then in the i-th query you need to find the number of different elements on a segment from x_i to y_i , inclusive (in this case $1 \le x_i \le y_i \le n$).

If $type_i=2$, then the element with the index x_i is set to y_i (in this case $1\leq x_i\leq n, 1\leq y_i\leq 40$).

Output

For each request of type 1 print the answer to this request on a separate line.

Example

input	Сору
7 6	
1 2 3 6 5 4 19	
1 1 3	
1 2 5	
1 2 4	
2 2 8	
1 1 6	
1 1 3	
output	Сору
3	
4	
3	
6	
3	

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