Contest Duration: 2025-05-10(Sat) 08:00 (http://www.timeanddate.com/worldclock/fixedtime.html?
iso=20250510T2100&p1=248) - 2025-05-10(Sat) 09:40 (http://www.timeanddate.com/worldclock/fixedtime.html?
iso=20250510T2240&p1=248) (local time) (100 minutes)   Back to Home (/home)

G - Range Shuffle Query   Editorial (/contests/abc405/tasks/abc405_g/editorial)

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Time Limit: 2 sec / Memory Limit: 1024 MB

Score : 625 points

Problem Statement

You are given a length-N sequence $A = (A_1, A_2, \ldots, A_N)$.

Process Q queries.

Each query gives you integers L, R, X and asks you to solve the following.

> Let $B = (A_L, A_{L+1}, \ldots, A_R)$ be the sequence formed by the L-th through R-th
> elements of A.
>
> Perform the following procedure exactly once:
>
> - First, remove from B every element whose value is at least X.
> - Then, rearrange the remaining elements of B arbitrarily.
>
> How many distinct sequences B can result? Find the count modulo 998244353.

Constraints

- $1 \leq N \leq 2.5 \times 10^5$
- $1 \leq Q \leq 2.5 \times 10^5$

- $1 \le A_i \le N$
- $1 \le L \le R \le N$
- $1 \le X \le N$
- All input values are integers.

Input

The input is given from Standard Input in the following format, where query_i denotes the i-th query:

```
N  Q
A_1  A_2  ...  A_N
query_1
query_2
:
query_Q
```

Each query is given in the following format:

```
L  R  X
```

Output

Output Q lines. The i-th line should contain the answer to the i-th query.

Sample Input 1   Copy

```
5 3
1 2 3 3 1
1 5 3
3 4 1
1 3 4
```

Sample Output 1   Copy

```
3
1
6
```

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For the first query, there are three possible resulting sequences B: $(1, 1, 2), (1, 2, 1)$, and $(2, 1, 1)$.

For the second query, there is one possible resulting sequence B: the empty sequence $()$.

Sample Input 2   Copy

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

Copy

Sample Output 2   Copy

```
1
120
6
3
1
2
```

Copy

Language

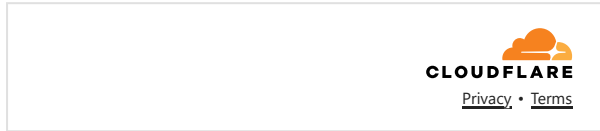Python (CPython 3.11.4)

Source Code

📁 Open File   ⚙ Customize   Toggle Editor   Auto Height

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* at most 512 KiB

* Your source code will be saved as Main.*extension*.

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