

Problem C

DJ Music Mixer

Time Limit: 2 seconds

Tom loves music and he is learning to become a professional DJ (disc jockey).

His first assignment is as follows. There are N audio clips. The i^{th} audio clip has the duration t_i seconds. Tom should sequentially play K audio clips continuously so that the total duration is between L and R (seconds), inclusively. Each of the N audio clips can be selected to play multiple times.



A DJ sequence is an array A with K audio clip indices:

$$A = (a_1, a_2, \dots, a_K) \text{ where } a_i \in \{1, 2, \dots, N\} \text{ for } 1 \leq i \leq K.$$

Tom should calculate how many different DJ sequences he can mix with N audio clips. Two DJ sequences A and B are different if there exists an index $1 \leq j \leq K$ such that $a_j \neq b_j$.

Input

The first line contains three integers: N , K and Q – the number of cases ($1 \leq N, Q, K \leq 10^5$).

The second line contains N integers t_1, t_2, \dots, t_N , the duration of audio clips ($1 \leq t_i \leq 5 \times 10^4$). Numbers are separated by white spaces.

Each of the following Q lines contains two integers L and R , the minimum and maximum duration time to play the sequence of clips for each test case ($1 \leq L \leq R \leq 5 \times 10^4$).

Output

Display in Q lines the results of each test case. Since the answer can be very large, output it modulo 786433.

Sample Input

```
5 1 5
10 20 30 40 50
10 20
10 30
10 40
10 50
20 50
```

Sample Output

```
2
3
4
5
4
```