

## 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  $i^{\text{th}}$  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

#### Sample Output

5 1 5	2
10 20 30 40 50	3
10 20	4
10 30	5
10 40	4
10 50	
20 50	