

## C. Little Girl and Maximum Sum

time limit per test: 1 second

memory limit per test: 256 megabytes

input: standard input

output: standard output

The little girl loves the problems on array queries very much.

One day she came across a rather well-known problem: you've got an array of  $n$  elements (the elements of the array are indexed starting from 1); also, there are  $q$  queries, each one is defined by a pair of integers  $l_i, r_i$  ( $1 \leq l_i \leq r_i \leq n$ ). You need to find for each query the sum of elements of the array with indexes from  $l_i$  to  $r_i$ , inclusive.

The little girl found the problem rather boring. She decided to reorder the array elements before replying to the queries in a way that makes the sum of query replies maximum possible. Your task is to find the value of this maximum sum.

### Input

The first line contains two space-separated integers  $n$  ( $1 \leq n \leq 2 \cdot 10^5$ ) and  $q$  ( $1 \leq q \leq 2 \cdot 10^5$ ) — the number of elements in the array and the number of queries, correspondingly.

The next line contains  $n$  space-separated integers  $a_i$  ( $1 \leq a_i \leq 2 \cdot 10^5$ ) — the array elements.

Each of the following  $q$  lines contains two space-separated integers  $l_i$  and  $r_i$  ( $1 \leq l_i \leq r_i \leq n$ ) — the  $i$ -th query.

### Output

In a single line print, a single integer — the maximum sum of query replies after the array elements

### Codeforces Round 169 (Div. 2)

Finished

Practice



### → Virtual participation



Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

### → Clone Contest to Mashup



You can clone this contest to a mashup.

Clone Contest

are reordered.

Please, do not use the `%lld` specifier to read or write 64-bit integers in C++. It is preferred to use the `cin`, `cout` streams or the `%I64d` specifier.

### Examples

input	Copy
<pre>3 3 5 3 2 1 2 2 3 1 3</pre>	
output	Copy
<pre>25</pre>	

input	Copy
<pre>5 3 5 2 4 1 3 1 5 2 3 2 3</pre>	
output	Copy
<pre>33</pre>	

### → Submit?

Language: GNU G++20 11.2.0 (64 bit, v ▼

Choose file: Browse... No file selected.

Submit

### → Problem tags

data structures greedy implementation

sortings \*1500

No tag edit access

### → Contest materials

- Announcement ×
- Tutorial #1 ×
- Tutorial #2 (en) ×

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