Pro – Zadanie z Codeforces / Div2 / B

Zadanie pochodzi z platformy Codeforces:

https://codeforces.com/problemset/problem/1697/B

B. Promo

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

The store sells n items, the price of the i-th item is p_i . The store's management is going to hold a promotion: if a customer purchases at least x items, y cheapest of them are free.

The management has not yet decided on the exact values of x and y. Therefore, they ask you to process q queries: for the given values of x and y, determine the maximum total value of items received for free, if a customer makes **one purchase**.

Note that all queries are independent; they don't affect the store's stock.

Input

The first line contains two integers n and q ($1 \le n, q \le 2 \cdot 10^5$) — the number of items in the store and the number of queries, respectively.

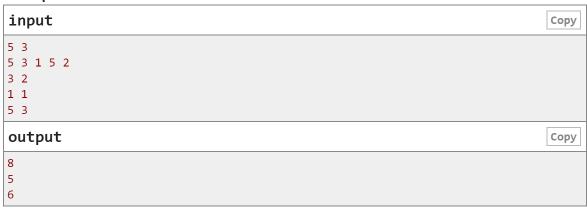
The second line contains n integers p_1, p_2, \ldots, p_n $(1 \le p_i \le 10^6)$, where p_i — the price of the i-th item.

The following q lines contain two integers x_i and y_i each $(1 \le y_i \le x_i \le n)$ — the values of the parameters x and y in the i-th query.

Output

For each query, print a single integer — the maximum total value of items received for free **for one purchase**.

Example



Note

In the first query, a customer can buy three items worth 5,3,5, the two cheapest of them are 3+5=8.

In the second query, a customer can buy two items worth 5 and 5, the cheapest of them is 5.

In the third query, a customer has to buy all the items to receive the three cheapest of them for free; their total price is 1+2+3=6.