IPEIS team

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

The members of the ipeis competitive programming club wanted to from a team to compete in many contests . Every member has a_i IQ .

Mahdi , the president of the club , wanted to form a team that have the maximum sum of IQs . But there is a problem , there are some members that hate each other so they can't be in the team at the same time .

Each member hates at most one other member , and if a member A hates a member B then the member B hates the member A also .

Of course mahdi still studying physics , so he asked you to help him to find the maximum sum of IQs in the team . The team can be composed of any number of members .

Input

The first line contains 2 space seperated integers n , k ($1 \leq n \leq 10^5$, $0 \leq k \leq n/2$) .

The second line contains n integers a_1,a_2,...,a_n ($1 \leq a_i \leq 200$) – the IQs of the members .

The next k lines each contains 2 integers x , y ($1 \leq x$,$y \leq n$, $x \neq y$)– the members that hates eachother . It's guaranteed that every x from 1 to n appears at most 1 time in the input .

Output

Print one integer the answer the problem .

Example

standard input	standard output
5 2 1 2 3 4 5 3 4 2 5	10