

## C. DZY Loves Physics

time limit per test: 1 second  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

*DZY loves Physics, and he enjoys calculating density.*

Almost everything has density, even a graph. We define the density of a non-directed graph (nodes and edges of the graph have some values) as follows:

where  $v$  is the sum of the values of the nodes,  $e$  is the sum of the values of the edges.

Once DZY got a graph  $G$ , now he wants to find a connected induced subgraph  $G'$  of the graph, such that the density of  $G'$  is as large as possible.

An induced subgraph  $G'(V', E')$  of a graph  $G(V, E)$  is a graph that satisfies:

- ;
- edge if and only if , and edge ;
- the value of an edge in  $G'$  is the same as the value of the corresponding edge in  $G$ , so as the value of a node.

Help DZY to find the induced subgraph with maximum density. Note that the induced subgraph you choose must be connected.

### Input

The first line contains two space-separated integers  $n$  ( $1 \leq n \leq 500$ ), . Integer  $n$  represents the number of nodes of the graph  $G$ ,  $m$  represents the number of edges.

The second line contains  $n$  space-separated integers  $x_i$  ( $1 \leq x_i \leq 10^6$ ), where  $x_i$  represents the value of the  $i$ -th node. Consider the graph nodes are numbered from 1 to  $n$ .

Each of the next  $m$  lines contains three space-separated integers  $a_i, b_i, c_i$  ( $1 \leq a_i < b_i \leq n$ ;  $1 \leq c_i \leq 10^3$ ), denoting an edge between node  $a_i$  and  $b_i$  with value  $c_i$ . The graph won't contain multiple edges.

### Output

Output a real number denoting the answer, with an absolute or relative error of at most  $10^{-9}$ .

### Examples

<b>input</b>
1 0 1
<b>output</b>
0.0000000000000000

<b>input</b>
2 1 1 2 1 2 1
<b>output</b>
3.0000000000000000

<b>input</b>
5 6 13 56 73 98 17

1 2 56
1 3 29
1 4 42
2 3 95
2 4 88
3 4 63
output
2.965517241379311

**Note**

In the first sample, you can only choose an empty subgraph, or the subgraph containing only node 1.

In the second sample, choosing the whole graph is optimal.