

[HOME](#) [TOP](#) [CATALOG](#) [CONTESTS](#) [GYM](#) [PROBLEMSET](#) [GROUPS](#) [RATING](#) [EDU](#) [API](#) [CALENDAR](#) [HELP](#)
[PROBLEMS](#) [SUBMIT CODE](#) [MY SUBMISSIONS](#) [STATUS](#) [HACKS](#) [ROOM](#) [STANDINGS](#) [CUSTOM INVOCATION](#)

## B. Airport

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

Lolek and Bolek are about to travel abroad by plane. The local airport has a special "Choose Your Plane" offer. The offer's conditions are as follows:

- it is up to a passenger to choose a plane to fly on;
- if the chosen plane has  $x$  ( $x > 0$ ) empty seats at the given moment, then the ticket for such a plane costs  $x$  zlotys (units of Polish currency).

The only ticket office of the airport already has a queue of  $n$  passengers in front of it. Lolek and Bolek have not stood in the queue yet, but they are already wondering what is the maximum and the minimum number of zlotys the airport administration can earn if all  $n$  passengers buy tickets according to the conditions of this offer?

The passengers buy tickets in turn, the first person in the queue goes first, then goes the second one, and so on up to  $n$ -th person.

### Input

The first line contains two integers  $n$  and  $m$  ( $1 \leq n, m \leq 1000$ ) — the number of passengers in the queue and the number of planes in the airport, correspondingly. The next line contains  $m$  integers  $a_1, a_2, \dots, a_m$  ( $1 \leq a_i \leq 1000$ ) —  $a_i$  stands for the number of empty seats in the  $i$ -th plane before the ticket office starts selling tickets.

The numbers in the lines are separated by a space. It is guaranteed that there are at least  $n$  empty seats in total.

### Output

Print two integers — the maximum and the minimum number of zlotys that the airport administration can earn, correspondingly.

### Examples

input	Copy
4 3 2 1 1	
output	Copy
5 5	

input	Copy
4 3 2 2 2	
output	Copy
7 6	

### Note

In the first test sample the number of passengers is equal to the number of empty seats, so regardless of the way the planes are chosen, the administration will earn the same sum.

#### → Attention

The package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, a solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then the value 800 ms will be displayed and used to determine the verdict.

#### Codeforces Round 134 (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

#### → Submit?

Language: GNU G++14 6.4.0

 Choose file:  No file chosen

Submit

#### → Last submissions

Submission	Time	Verdict
<a href="#">219895932</a>	Aug/22/2023 13:02	Accepted

- ↑ In the second sample the sum is maximized if the 1-st person in the queue buys a ticket to the 1-st plane, the 2-nd person — to the 2-nd plane, the 3-rd person — to the 3-rd plane, the 4-th person — to the 1-st plane. The sum is minimized if the 1-st person in the queue buys a ticket to the 1-st plane, the 2-nd person — to the 1-st plane, the 3-rd person — to the 2-nd plane, the 4-th person — to the 2-nd plane.



<a href="#">219891460</a>	Aug/22/2023 12:21	Accepted
<a href="#">219878316</a>	Aug/22/2023 10:21	Accepted
<a href="#">219878227</a>	Aug/22/2023 10:20	Wrong answer on test 2

#### → Problem tags

implementation \*1100

No tag edit access

#### → Contest materials

- Codeforces Round #134 
- Tutorial (en) 

[Codeforces](#) (c) Copyright 2010-2023 Mike Mirzayanov

The only programming contests Web 2.0 platform

Server time: Aug/23/2023 09:19:13 (g1).

Desktop version, switch to [mobile version](#).

[Privacy Policy](#)

Supported by



ITMO UNIVERSITY