

# Problem A

## Archaeological Collection Mystery

Time limit: 5 seconds

*Mille, Ethiopia*

In the highlands of Ethiopia, the Homo Sapiens Paleoanthropology Committee (HSPC) has made a remarkable discovery at a previously unexplored dig site. They’ve uncovered numerous human skeletal remains dating back thousands of years, but the bones are scattered and fragmented throughout the excavation area.

You’ve been tasked with determining the possible number of individuals represented in this collection. You know that a complete human skeleton contains a specific number of each type of bone (for example, 1 skull, 2 femurs, 12 ribs, etc.). However, due to natural decomposition, animal scavenging, and other taphonomic processes, not all bones from each individual have survived.

Given the number of each type of bone found at the excavation ( $v_i$ ) and the number of each bone type in a complete human skeleton ( $h_i$ ), you need to calculate both the minimum and maximum number of individuals that could be represented in the remains.



Partial *Australopithecus afarensis* remains in the National Museum of Ethiopia.  
 By Radoslaw Botev, CC BY 3.0 pl, acquired from Wikimedia Commons.

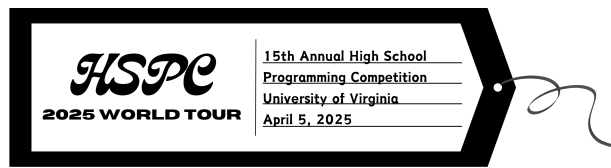
### Input

The first line contains a single integer  $n$  ( $1 \leq n \leq 10^5$ )—the number of different bone types considered in the analysis. The second line contains  $n$  space-separated integers  $h_1, h_2, \dots, h_n$  ( $1 \leq h_i \leq 10^3$ )—the number of each bone type in a complete human skeleton. The third line contains  $n$  space-separated integers  $v_1, v_2, \dots, v_n$  ( $0 \leq v_i \leq 10^3$ )—the number of each bone type found at the excavation site.

### Output

Output two space-separated integers—the minimum and maximum possible number of individuals represented by the remains.

Sample Input 1	Sample Output 1
3 1 2 2 5 7 3	5 15
Sample Input 2	Sample Output 2
4 1 3 2 26 5 27 16 75	9 123



**Sample Input 3**

1	1 1
2	
1	

**Sample Output 3**

**Sample Input 4**

1	0 0
2	
0	

**Sample Output 4**