



Allotment

Stofl would like to buy some estate for an allotment. Unfortunately a zombie apocalypse happened and Stofl has to defend his garden. His neighbour Crazy Dave sells some rare plants that help against zombies. An artistic interpretation of the task can be found here (doesn't work on all browsers, edge should work). But don't waste too much time, Stofl needs your help ;).

The garden is split into a rectangular grid. For the plants to be effective, all plants of the same species have to be planted in the same column. Stofl would like to buy as many different plant species as possible to diversify his defense strategy and therefore maximize his chance against the ruthless zombies. Dave sells N different plant species, for each plant species there is a given number of seeds s_i per package (differs for each species). Stofl must sow all seeds of a package in order to gain maximal protection.

Stofl can buy up to A square meters of garden and he would like to know what dimensions he should choose, so that he is protected as good as possible (i.e. to plant as many different plant species as possible). He can choose the width w and height h of the garden and buy whatever plant species he prefers.

In the following example Stofl can afford 20 square meters. Dave offers six different plant species with the package sizes A: 4, B: 3, C: 1, D: 6, E: 3 and F: 2.



---+---+---+---+---+---					
A	B	C	E	F	
---+---+---+---+---+---					
*	*		*		
*	*				
*		*	*	*	
*	*		*	*	
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Stofl buys a garden with the dimensions 4×5 and chooses five different species (A, B, C, E and F).

Input

The first line contains two integers, the area A and the number of plant species N . On the second line follow N integers s_i (separated by spaces), the number of seeds per package of the i -th species.



Output

On the first and only line print an integer S , the maximal number of different plant species that Stofl can buy fulfilling his requirements.

Limits

There are 10 test groups, each is worth 10 points.

- Group 1 to 3 hold $1 \leq A, N, s_i \leq 10^3$.
- Group 4 to 6 hold $1 \leq A, N, s_i \leq 10^4$.
- Group 7 to 10 hold $1 \leq A, N, s_i \leq 2 * 10^5$.

Examples

Input	Output
20 6 4 3 1 6 3 2	5

Illustrated example from above.

Input	Output
17 5 1 7 5 6 1	3

Stofl buys a garden with a total amount of 15 square meters.

Input	Output
2 2 3 4	0

Stofl can't afford a single plant.