Canteen: Count

Like often before, mouse Stofl has to stand in a long queue in the canteen (called Mensa) to get his well-deserved lunch.

He is bored and looks at his N coins and wonders in how many way he can pay the menu of M centimes precisely.

Input

On the first line, M and N are given.

The second line contains N numbers m_i, the values of the coins of mouse Stofl.

Output

Print the number of possibilities to pay exactly M centimes.

Limits

There are two test groups, each of which is worth 50 points.

- In test group 1, we have $N \leq 20$ and all coin values are at most 20.
- In test group 2, we have $N \leq 1000$ and all coin values are at most 1000.

Examples

Input	Output
9 620 500 200 200 200 20 20 20 20 20	5

Input	Output
9 670 50 100 200 500 10 200 10 200 20	4