Problem C. Meet in the Middle

Time limit 1000 ms
Mem limit 524288 kB

You are given an array of n numbers. In how many ways can you choose a subset of the numbers with sum x?

Input

The first input line has two numbers n and x: the array size and the required sum.

The second line has n integers $t_1, t_2, \ldots, t_n$: the numbers in the array.

Output

Print the number of ways you can create the sum x.

Constraints

- $1 \leq n \leq 40$
- $1 \leq x \leq 10^9$
- $1 \leq t_i \leq 10^9$

Sample

Input	Output
4 5 1 2 3 2	3