

## Problem 1. Election

You are given the results from the elections. There are **N parties** that have enough votes and are given seats in the parliament. You are given the seats for each one of the parties. For the parties to have **majority** in the parliament they **need at least K seats** (that means **K** or more seats). Parties can combine with each other in order to have **K** or more seats together.

Write a program to find the number of all possible combinations of parties with sum of seats **K** or more.

### Input

The input data should be read from the console.

On the first input line there will be the number **K**.

On the second input line there will be the number **N**.

On each of the next **N** lines there will be the number of the seats for each of the **N** parties.

The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

The output data should be printed on the console.

On the only output line write the number of all possible combinations of parties with sum of seats **K** or more.

### Constraints

- **N** will be an integer between 1 and 100, inclusive.
- The number of seats for each party will be an integer between 1 and 1000, inclusive.
- **K** will be an integer between 1 and 100 000, inclusive.
- Allowed working time for your program: 0.30 seconds. Allowed memory: 32 MB.

### Examples

| Example input                                | Example output | Explanation   |
|--|----------------|---|
| 10<br>3<br>10<br>4<br>2                      | 4              | If we name the parties A(10), B(4) and C(2), then the number of all possible combinations of parties with sum of seats 10 or more is exactly <b>4</b> :<br>A (10), AB (14), ABC (16), AC (12)   |
| 121<br>8<br>84<br>39<br>38<br>23<br>19<br>15 | 128            | If we name the parties A(84), B(39), C(38), D(23), E(19), F(15), G(11) and H(11), then the number of all possible combinations of parties with sum of seats 121 or more is exactly <b>128</b> :<br>AB, ABC, ABCD, ABCDE, ABCDEF, ABCDEFG, ABCDEFGH, ABCDEFH, ABCDEG, ABCDEGH, ABCDEH, ABCDF, ABCDFG, ABCDFGH, ABCDFH, ABCDG, ABCDGH, ABCDH, ABCE, ABCEF, ABCEFG, ABCEFGH, ABCEFH, ABCEG, ABCEGH, ABCEH, ABCF, ABCFG, ABCFGH, ABCFH, ABCG, ABCGH, ABCH, ABD, ABDE, ABDEF, ABDEFG, ABDEFGH, ABDEFH, ABDEG, ABDEGH, ABDEH, ABDF, |

|    |  |   |
|----|--|---|
| 11 |  | ABDFG, ABDFGH, ABDFH, ABDG, ABDGH, ABDH, ABE, ABEF, ABEFG,  |
| 11 |  | ABEFGH, ABEFH, ABEG, ABEGH, ABEH, ABF, ABFG, ABFGH, ABFH, ABG,<br>ABGH, ABH, AC, ACD, ACDE, ACDEF, ACDEFG, ACDEFGH, ACDEFH, ACDEG,<br>ACDEGH, ACDEH, ACDF, ACDFG, ACDFGH, ACDFH, ACDG, ACDGH, ACDH,<br>ACE, ACEF, ACEFG, ACEFGH, ACEFH, ACEG, ACEGH, ACEH, ACF, ACFG,<br>ACFGH, ACFH, ACG, ACGH, ACH, ADE, ADEF, ADEFG, ADEFGH, ADEFH,<br>ADEG, ADEGH, ADEH, ADF, ADFG, ADFGH, ADFH, ADGH, AEF, AEFH,<br>AEFG, AEFH, AEGH, AFGH, BCDEF, BCDEFG, BCDEFGH, BCDEFH, BCDEG, BCDEGH,<br>BCDEH, BCDFG, BCDFGH, BCDFH, BCDGH, BCEFG, BCEFGH, BCEFH |