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 3 10 4 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 **4**: A (10), AB (14), ABC (16), AC (12)
121 8 84 39 38 23 19 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 **128**: 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 11		ABDFG, ABDFGH, ABDFH, ABDG, ABDGH, ABDH, ABE, ABEF, ABEFG, ABEFGH, ABEFH, ABEG, ABEGH, ABEH, ABF, ABFG, ABFGH, ABFH, ABG, ABGH, ABH, AC, ACD, ACDE, ACDEF, ACDEFG, ACDEFGH, ACDEFH, ACDEG, ACDEGH, ACDEH, ACDF, ACDFG, ACDFGH, ACDFH, ACDG, ACDGH, ACDH, ACE, ACEF, ACEFG, ACEFGH, ACEFH, ACEG, ACEGH, ACEH, ACF, ACFG, ACFGH, ACFH, ACG, ACGH, ACH, ADE, ADEF, ADEFG, ADEFGH, ADEFH, ADEG, ADEGH, ADEH, ADF, ADFG, ADFGH, ADFH, ADGH, AEFG, AEFGH, AEFH, AEGH, AFGH, BCDEF, BCDEFG, BCDEFGH, BCDEFH, BCDEG, BCDEGH, BCDEH, BCDFG, BCDFGH, BCDFH, BCDGH, BCEFG, BCEFGH, BCEFH