Problem C: Sort Problems

Time limit: 1s; Memory limit: 256 MB

You are given a result ranking in two rounds of n participants in an ACM/ICPC Contest. Suppose that Elo of one participant certainly higher than other participant's elo when he/she has higher ranking in all rounds than other one ($r_{1A} < r_{1B}$ AND $r_{2A} < r_{2B}$ where r_{1A} and r_{2A} are A's ranking of round 1 and round 2, and r_{1B} and r_{2B} are similar with B's); otherwise it's not certain. You have to find how many ways to select k participants in this contest and can be sorted by descending Elo of these participants.

Input

First line contains two integer values n – number of participants in this ACM/ICPC Contest and k ($1 \le n \le 10^5$, $1 \le k \le 10$).

Next n lines contain two integer r_{1i}, r_{2i} ($1 \le r_{1i}, r_{2i} \le n$). All values *ranking in each round* are different.

Output

Print one integer — the answer to the problem. It is guaranteed that the answer is not greater than 2^{63}.

Sample

Input	Output
5 3 2 2 1 1 3 3 5 4 4 5	7
3 2 1 1 2 3 3 2	2