## Tetrahedrons in the country

Today we continue examine topology of the ancient country GRAPH. It was said that any four cities form a tetrahedron (or 4-vertex clique) if from every city of the tetrahedron there is a road to another tetrahedron city. In the picture below is an example of tetrahedron.

Theoretical note: all test cases are Erdős-Rényi connected low density graphs.


Your task is to find the number of tetrahedrons in the country.

## Input

The first line of input will contain one integer number $4 \leq N \leq 900$, number of cities in GRAPH. Follow $N$ lines. Each line represents cities (direct neighbors) connected to the city number $i$ (cities numbering is zero based) by one road.

## Output

Print number of tetrahedrons in the GRAPH.

## Example

Input:

123
023
013
012
Output:

