# **Friend Circles**



There are N students in a class. Some of them are friends, while some are not. Their friendship is transitive in nature, i.e., if A is friend of B and B is friend of C, then A is also friend of C. A friend circle is a group of students who are directly or indirectly friends.

You are given a  $N \times N - matrix \ M$  which consists of characters Y or N. If M[i][j] = Y, then  $i^{th}$  and  $j^{th}$  students are friends with each other, otherwise not. You have to print the total number of friend circles in the class.

#### **Input Format**

First line of the input contains an integer N - (size of the matrix), followed by N lines each having N characters.

# **Output Format**

Print the maximum number of friend circles.

#### **Constraints**

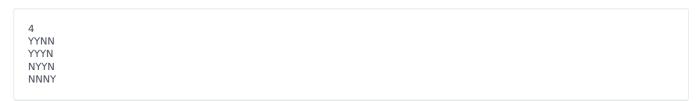
 $1 \le N \le 300$ 

Each element of matrix friends will be Y or N.

Number of rows and columns will be equal in the matrix.

$$M[i][i] = Y$$
, where  $0 \leq i < N$   $M[i][j] = M[j][i]$ , where  $0 \leq i < j < N$ 

## Sample Input#00



## **Sample Output**

2

**Explanation:** There are two pairs of friends (0,1) and (1,2). So (0,2) is also a pair of friends by transitivity. So first friend circle contains (0,1,2), and second friend circle contains only student 3.

#### Sample Input#01



#### Sample Output#01

5

**Explanation:** No students are friends with each other. So each friend circle will contain of only one student  $\{0\}, \{1\}, \{2\}, \{3\}, \{4\}$ .