

## Problem Statement

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

$$1 \leq N \leq 300$$

Each element of matrix friends will be **Y** or **N**.

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

$$M[i][i] = Y, \text{ where } 0 \leq i < N$$

$$M[i][j] = M[j][i], \text{ where } 0 \leq i < j < N$$

## Sample Input#00

```
4
YYNN
YYYN
NYYN
NNNY
```

## 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

```
5
YNNNN
NYNNN
NNYNN
NNNYN
NNNNY
```

## Sample Output#01

```
5
```

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