

Name: \_\_\_\_\_

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## Friend Circles

There are  $N$  students in a class. Some of them are friends, while some are not. Friendship is transitive in nature, i.e., if  $A$  is a friend of  $B$  and  $B$  is a friend of  $C$ , then  $A$  is also a friend of  $C$ .

A friend circle is a group of students who are directly or indirectly friends.

You must write a function `friendCircles` that returns the number of friend circles in a class. Its argument, `friends`, is an  $N \times N$  matrix that comprises characters `Y` or `N`. If `friends[i][j]` is `Y` then the  $i^{\text{th}}$  and  $j^{\text{th}}$  students are friends, otherwise they are not friends.

Constraints:

- $1 \leq N \leq 300$ .
- Each element of `friends` will be `Y` or `N`.
- The number of rows and columns in `friends` will be equal.
- `friends[i][i]` is `Y`, where  $0 \leq i < N$ .
- `friends[i][j] = friends[j][i]`, where  $0 \leq i < j < N$ .

Sample input 1:

```
Y Y N N
Y Y Y N
N Y Y N
N N N Y
```

Sample output 1:

```
2
```

Sample input 2:

```
Y N N N N
N Y N N N
N N Y N N
N N N Y N
N N N N Y
```

Sample output 2:

```
5
```