

Name: _____

Name: _____

Name: _____

Name: _____

Algorithms, Friend Circles - Sunday, February 28, 2021

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^{th} and j^{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:

```
YNNN
YYYN
NYYN
NNNY
```

Sample output 1:

2

Sample input 2:

```
YNNNN
NYNNN
NNYNN
NNNYN
NNNNY
```

Sample output 2:

5