

## 2030 Trip! Trip! Trip!

In such a demanding age, after working busily day after day, undoubtedly people would expect to enjoy their leisure time. What do they want to do first? It's the trip. Nowadays, in the eyes of a traveler who hopes to visit tourist attractions all over the country, the world is wonderful. Since there are so many travel agencies, if he wants to participate in an organized trip, he may choose any of them. But for a travel agency, the competition seems to be much more ruthless, for he has so many rivals in scrambling for the tourists.

Company trip center is one of those unfortunate travel agencies. After investigating from the questionnaires, the agent has found out that there are some tourists who do not get along with each other, so he has to choose some of them to organize a trip group. But he had made many mistakes in choosing those members before, and they caused many of his customers shift to his rivals. Although he could not tell exactly how many rivals he has, he knows clearly that his profits have diminished terribly. So he decides to take action to change the situation.

Company trip center pays attention to that problem at the beginning. Initially the agent does not know what tourists do not like each other, but after discussing with those tourists, he is able to acquire the information. So he will be able to form a trip group from some of those tourists in which no one is unwilling to get along with others. If company A could make a wise decision, there will be maximum number of tourists in this group, which will undoubtedly bring the biggest profits to him. What a great idea, isn't it?

You are required to write a program for company trip center to solve the problem. The solution will exist for sure. After writing such a program, you will get an acknowledgement from him.

### Input

The input file for this problem will consist of multiple test cases. The first line of each test case contains an integer  $n$  ( $n \leq 50$ ), which specifies the number of tourists participating in the trip group. A value of 0 for the integer  $n$  indicates the end of input, and this test case should not be processed. Each line in the following  $n$  lines contains  $n$  characters without any separators. Each character should be either '1' or '0', no characters else will appear in the input file. The character '1' means that the two tourists could not get along well with each other, so you shouldn't arrange them in one trip group. And the character '0' means they will make no difficulty to join the same group. For example, if the 2nd character in the 1st line is '1', the trip group may comprise either the 1st tourist or the 2nd tourist, if the character is '0', the trip group may comprise both of them.

**Assumption:** Obviously, a tourist could not be unwilling to get along with himself. So you may assume the corresponding character will always be '0'. If a tourist does not wish to get along with another one, the latter will be unwilling with the former either. You may assume the data in the input file appear conjugated.

### Output

For each test case, your program should output one integer in a line, which specifies the maximum tourists in the trip group. No more white spaces or blank lines in the output are allowed.

### Sample Input

010001  
100100  
000110  
011000  
001001  
100010  
0

### Sample Output

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