

THE ICPC 2019

VIETNAM SOUTHERN PROGRAMMING CONTEST Host: University of Science, VNU-HCM



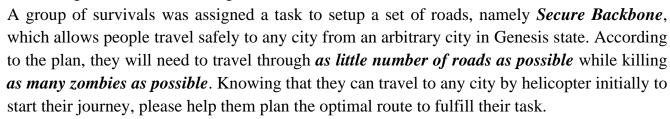


Problem E WalkingZ

Time Limit: 1 second

During the months and years of Zombie Apocalypse, a lot of zombies wander along the roads in the state of Genesis. The special thing happens in Genesis state is that:

- The cities in Genesis state forms a complete graph.
- The name of each city is a string consists of lowercase alphabetic letters only.
- The zombies only walk on the roads connecting the cities of the state without entering the city itself. They do not walk to other roads either.
- The number of zombies on the road is the length of largest common substring of the names of the two connected cities.





The first line contains a positive integer n - the number of cities in Genesis state.

In each of the following n lines, there is a non-empty string which is the name of a city. The city's name consists of lowercase alphabet letters only.

The total length of all strings does not exceed 500,000 characters.

Output

Print the maximum number of zombies that the group of survivals can kill during their journey.

Sample Input 2 xaby abuv Sample Output 2

