

PROBLEMSET GROUPS RATING EDU API CALENDAR HELP RAYAN 🟋 HOME TOP CATALOG CONTESTS GYM

SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION **PROBLEMS**

I. Move Between Numbers

time limit per test: 2 seconds memory limit per test: 256 megabytes

You are given n magical numbers $a_1, a_2, ..., a_n$, such that the length of each of these numbers is 20 digits.

You can move from the i^{th} number to the j^{th} number, if the number of common digits between a_i and a_j is **exactly** 17 digits.

The number of common digits between two numbers x and y is computed is follow:

$$Common(x, y) = \sum_{i=0}^{9} min(countX_i, countY_i)$$

 $Common(x,y) = \sum_{i=0}^{9} min(countX_i, countY_i)$. Where $countX_i$ is the frequency of the i^{th} digit in the number x, and $countY_i$ is the frequency of the i^{th} digit in the number y.

You are given two integers s and e, your task is to find the minimum numbers of moves you need to do, in order to finish at number a_e starting from number a_s .

Input

The first line contains an integer T ($1 \le T \le 250$), where T is the number of test cases.

The first line of each test case contains three integers n, s, and e ($1 \le n \le 250$) ($1 \le s$, $e \le n$), where n is the number of magical numbers, s is the index of the number to start from it, and e is the index of the number to finish at it.

Then n lines follow, giving the magical numbers. All numbers consisting of digits, and with length of 20 digits. Leading zeros are allowed.

Output

For each test case, print a single line containing the minimum numbers of moves you need to do, in order to finish at number a_e starting from number a_s . If there is no answer, print -1.

Example



Note

In the first test case, you can move from a_1 to a_2 , from a_2 to a_3 , and from a_3 to a_5 . So, the minimum number of moves is 3 moves.

2017 JUST Programming Contest 3.0 **Finished Practice**

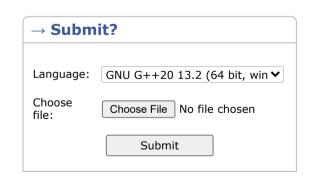


→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest





→ Last submissions		
Submission	Time	Verdict
300766650	Jan/12/2025 23:33	Accepted

→ Contest materials			
Announcement (en)	×		
Statements (en)	×		