



Practice Mode

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Round D APAC Test

[A. Cube IV](#)[B. GBus count](#)**C. Sort a scrambled itinerary**[D. Itz Chess](#)[Questions asked](#) 4**Submissions****Cube IV**

8pt	Not attempted 1708/2380 users correct (72%)
15pt	Not attempted 1492/1679 users correct (89%)

GBus count

9pt	Not attempted 2048/2354 users correct (87%)
15pt	Not attempted 1865/2018 users correct (92%)

Sort a scrambled itinerary

11pt	Not attempted 1623/1914 users correct (85%)
15pt	Not attempted 1483/1602 users correct (93%)

Itz Chess

12pt	Not attempted 654/1008 users correct (65%)
15pt	Not attempted 393/622 users correct (63%)

Top Scores

Kirino	100
Kriii	100
Balajiganapathi	100
uws933	100
NExPlain	100
culaucon	100
fahimzubayer18	100
pattara.s	100
buaamm	100
LiJiancheng	100

Problem C. Sort a scrambled itinerary

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the [Quick-Start Guide](#) to get started.

Small input
11 points

[Download C-small-practice.in](#)

your output file: No file chosen

source file(s): not needed for the practice contest

Large input
15 points

[Download C-large-practice.in](#)

your output file: No file chosen

source file(s): not needed for the practice contest

Problem

Once upon a day, Mary bought a one-way ticket from somewhere to somewhere with some flight transfers.

For example: SFO->DFW DFW->JFK JFK->MIA MIA->ORD.

Obviously, transfer flights at a city twice or more doesn't make any sense. So Mary will not do that.

Unfortunately, after she received the tickets, she messed up the tickets and she forgot the order of the ticket.

Help Mary rearrange the tickets to make the tickets in correct order.

Input

The first line contains the number of test cases **T**, after which **T** cases follow. For each case, it starts with an integer **N**. There are **N** flight tickets follow. Each of the next 2 lines contains the source and destination of a flight ticket.

Output

For each test case, output one line containing "Case #x: itinerary", where **x** is the test case number (starting from 1) and **itinerary** is sorted list of flight tickets which represents the actual itinerary. Each flight segment in the itinerary should be outputted as pair of source-destination airport codes.

Limits

$1 \leq T \leq 100$.

For each case, the input tickets are messed up from an entire itinerary bought by Mary. In other words, it's ensured can be recovered to a valid itinerary.

Small dataset

$1 \leq N \leq 100$.

Large dataset

$$1 \leq N \leq 10^4.$$

(The segment for second case in sample can be seen as below) MIA-ORD, DFW-JFK, SFO-DFW, JFK-MIA

Sample

Input	Output
2	Case #1: SFO-DFW
1	Case #2: SFO-DFW DFW-JFK JFK-MIA MIA-ORD
SFO	
DFW	
4	
MIA	
ORD	
DFW	
JFK	
SFO	
DFW	
JFK	
MIA	

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