

Submissions

Scaled Triangle

9pt	Not attempted 83/100 users correct (83%)
13pt	Not attempted 78/87 users correct (90%)

Painting a Fence

7pt	Not attempted 190/199 users correct (95%)
13pt	Not attempted 113/144 users correct (78%)

Rainbow Trees

9pt	Not attempted 71/90 users correct (79%)
15pt	Not attempted 68/72 users correct (94%)

Bus Stops

8pt	Not attempted 51/57 users correct (89%)
26pt	Not attempted 16/23 users correct (70%)

Top Scores

berry	100
dzhulgakov	100
gawry	100
dgozman	100
halyavin	100
pashka	100
mystic	100
Klinck	80
.Invader	76
DmitryKlenov	76

Problem B. Painting a Fence

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  
7 points

Solve B-small

Large input  
13 points

Solve B-large

Problem

You need to hire some people to paint a fence. The fence is composed of 10000 contiguous sections, numbered from 1 to 10000.

You get some offers from painters to help paint the fence. Each painter offers to paint a contiguous subset of fence sections in a particular color. You need to accept a set of the offers, such that:

- Each section of the fence is painted.
- At most 3 colors are used to paint the fence.

If it is possible to satisfy these two requirements, find the minimum number of offers that you must accept.

Input

- One line containing an integer **T**, the number of test cases in the input file.

For each test case, there will be:

- One line containing an integer **N**, the number of offers.
- **N** lines, one for each offer, each containing "**C A B**" where **C** is the color, which is an uppercase string of up to 10 letters, **A** is the first section and **B** is the last section to be painted.  $1 \leq A \leq B \leq 10000$ .

Output

- **T** lines, one for each test case in the order they occur in the input file, each containing the string "Case #**X**: **Y**", where **X** is the case number, and **Y** is the number of offers that need to be accepted, or "Case #**X**: IMPOSSIBLE" if there is no acceptable set of offers.

Limits

$1 \leq T \leq 50$

Small dataset

$1 \leq N \leq 10$

Large dataset

$1 \leq N \leq 300$

Sample

Input	Output
5	Case #1: 2
2	Case #2: 3
BLUE 1 5000	Case #3: IMPOSSIBLE
RED 5001 10000	Case #4: IMPOSSIBLE
3	Case #5: 2
BLUE 1 6000	
RED 2000 8000	
WHITE 7000 10000	
4	
BLUE 1 3000	
RED 2000 5000	
ORANGE 4000 8000	
GREEN 7000 10000	
2	
BLUE 1 4000	
RED 4002 10000	
3	
BLUE 1 6000	
RED 4000 10000	
ORANGE 3000 8000	

In the first test case, accepting both offers will exactly paint the whole fence, 5000 sections each, with no overlap.

In the second case, the painters will overlap, which is acceptable.

In the third case, accepting all four offers would cover the whole fence, but it would use 4 different colours, so this is not acceptable.

In the fourth case, section 4001 cannot be painted.

In the fifth case, we can accept just the first and second offer and successfully paint the fence.

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