**Gryphons Contest 2014**

**Junior**

Problem 1

**Flying Plushies**

Griffy is flying to Don Mills CI to make friends (after Glenforest’s defeat in ECOO)! He would like to fly at exactly *N* meters off the ground (the most relaxing height). However, Don Mills(being a weird school) recently installed *M* giant cat girl plushies, each plushie *i* with a height of *Hi,* that span from the ground to their height inclusive. Determine how many plushies Griffy will fly into, assuming he will stay at a constant height.

**Input**

First line, *N* (1<=N<=200),

Second line, *M* (1<=M<=200),

Next *M* lines will contain *Hi* (1<=*Hi*<=400)

**Output**

Output one line, the number of plushies that Griffy will fly into.

**Sample input**

5

3

1

7

5

**Sample output**

2

Problem 2

**Parking Lot**

Griffy has made it past all of Don Mills’ plushies but he has ended up in their parking lot! However, having bumped into so many plushies, Griffy’s mind is not very clear. After a while strolling around, instead of reaching the school, Griffy is now lost! Griffy started at the position (0,0) (coordinates), and you know the sequence of moves he took. Griffy took *N* moves, each move consisting of a pair: *A(*direction) and *B*(distance). Please help him find where he has ended up!

*Note: coordinate format will be (x,y). Going north increases the y value, going east increases the x value, and the opposite is true for south and west.*

**Input**

First line, *N* (1*≤*N*≤*50)

Next 2\**N* lines, pairs of commands; A and B on separate lines

*A* will be one of four possible directions: North, South, West, East (capitalized, no spaces)

*1≤B≤20*

**Output**

One line, the coordinates where Griffy ends up, space separated.

**Sample input**

3

North

1

South

1

East

5

**Sample output**

5 0

Problem 3

**Waiting**

Griffy has arrived at Don Mills, but he’s too early and there’s no one at the school to help him with his coding! He decides to wait until school starts so he can get some pointers(see what we did there?). Given the time he arrives at and the time that school starts, determine how many seconds Griffy will need to wait.

**Input**

All times will be given in the format *HH:MM:SS* (0<=HH<=23, 0<=MM<=59, 0<=SS<=59)

First line: Time Griffy arrives (time will be less than 12:00:00)

Second line: Time school starts (time will be less than or equal to 23:59:59)

*Note: The time school starts will be strictly greater than the time griffy arrives*

**Output**

One line, the number of seconds Griffy will need to wait

**Sample input**

08:15:00

08:30:00

**Sample output**

900

Problem 4

**Tic Tac Moe!**

Griffy was about to finish the elusive a\*b problem, when Timothy Li scoffed at him and challenged him to a blind tic-tac-toe match! Griffy is playing as O and Timothy is playing as X. After a sequence of random moves, a 3 by 3 board has been filled with O’s and X’s. Both Timothy and Griffy are stuck trying to get their blindfolds off (can’t write a program for that unfortunately), so you decide to determine who wins to avoid 5 hours of blindfold-taking-off.

*Note: A player wins if there are 3 of the same character in a row, column or diagonal*

**Input**

3 lines, representing a grid, with each column space separated

**Output**

output the string “Error, redo” if both O’s and X’s win,

“Tie” if neither player wins,

“Griffy” if only O wins,

“Timothy” if only X wins.

**Sample input**

O O X

X O X

X X O

**Sample output**

Griffy

Problem 5

**Name to be added**

The programming club at Don Mills has been booming lately, and so Griffy has decided to install a system to figure out the path that students should take to reach the club room(which is not necessarily held in the same room every time). He hopes that this act of kindness will weaken Timothy Li’s defenses so he will be able to beat him at tic-tac-toe. There are *N* rooms numbered 1 to N, and *M* one way hallways that connect two locations. Each hallway takes *T* minutes to traverse. Given *Q* queries in the form *a* *b,* find the least amount of time needed to go from room *a* to room *b*. If it is not possible to get from *a* to *b*, output ‘Not enough hallways!’ without the quotes.

**Input**

First line, three integers *N(*1<=N<=1000)*,M*(1<=M<=100,000)*,T*(1<=T<=1000)

Next *M* lines, two integers *a b* on each line describing a one way hallway from *a* to *b*

Line *M*+2, one integer *Q*(1<=Q<=200,000)

Lines M+3...M+2+Q, two integers *a b* the query rooms

**Output**

One line for each query, the shortest amount of time taken to go from room *a* to room *b*

**Sample input**

7 6 8

2 3

5 7

1 7

3 4

4 3

1 2

3

1 7

4 2

1 4

**Sample output**

8

Not enough hallways!

24