Chef and calculation

Problem code: RESCALC

Read problems statements in Mandarin Chinese, Russian and Vietnamese as well.

Every Friday Chef and his **N - 1** friends go for a party. At these parties, they play board games. This Friday, they are playing a game named "Boats! Boats! Boats!". In this game players have to transport cookies between Venice and Constantinople. Each player has a personal storage. The players are numbered from 1 to **N**, Chef is numbered 1. Rules for determining a winner are very difficult, therefore Chef asks you to write a program, which will determine who is a winner.

There are 6 types of cookies. For each cookie in the storage player gets 1 point. Also player gets additional points if he packs his cookies in some boxes as follows:

- A box containing 4 different types of cookies fetches 1 additional point.
- A box containing 5 different types of cookies fetches 2 additional points.
- A box containing 6 different types of cookies fetches 4 additional points.

Obviously a cookie can be put into a single box.

For each player, you know the number of cookies in his storage (denoted by **c[i]**), also the types of cookies in the storage given denoted by **type[i][j]**.

Your task is to determine the winner of this game. Output "tie" if there are two or more players with same maximum score, "chef" if only Chef has a maximum score, winner's index in all other cases.

Input

The first line of input contains a single integer **T** denoting the number of test cases. This will be followed by **T** test cases.

The first line of each test case contains an integer **N** denoting the number of players.

The second line of each test case contains an integer **c[i]** denoting the number of cookies in the i-th storage, followed by **c[i]** space-separated integers **type[i][j]** which denote the type if j-th cookie in the storage i-th.

Output

For each test case, output a single line containing the answer as specified in the statement.

Constraints and Subtasks

Subtask #1 : (20 points)

- **1 ≤ T ≤ 10**
- **1 ≤ N ≤ 100**
- **1 ≤ c[i] ≤ 100**
- **1 ≤ type[i][j] ≤ 3**

Subtask #2 : (80 points)

- **1 ≤ T ≤ 10**
- **1 ≤ N ≤ 100**
- **1 ≤ c[i] ≤ 100**
- **1 ≤ type[i][j] ≤ 6**

Example

Input:

```
3
2
6 1 2 3 4 5 6
9 3 3 3 4 4 4 5 5 5
2
5 2 3 4 5 6
7 1 1 2 2 3 3 4
3
4 1 1 2 3
4 1 2 2 3
4 1 2 3 3
```

Output:

```
chef
2
tie
```

Explanation

Example case 1.

Chef has total 6 cookie, so he gets 6 points for that. Also, he can put all his cookies (as they are all distinct) in a bag of size 6. It will fetch him additional 4 points. So, Chef's total points will be 10

The second player has 9 cookies, he gets 9 points for that. Other than this, he can't create a bag with either 4, 5 or 6 distinct cookies. So, his final score is 9.

10 > 9 - Chef wins.

Example case 2.

Chef has 5 + 2 (a bag with 5 different cookies) = 7.

The second player has 7 + 1(a bag with 4 different cookies) = 8.

7 < 8 - the second player wins.

Example case 3.

Every player has 4 cookies and can't create any bag of sweets. So, it's a tie.

Author:	omelyanenko
Tester:	dpraveen_admin
Date Added:	26-07-2016
Time Limit:	0.5 sec
Source Limit:	50000 Bytes
Languages:	ADA, ASM, BASH, BF, C, C99 strict, CAML, CLOJ, CLPS, CPP 4.3.2, CPP 4.9.2, CPP14, CS2, D, ERL, FORT, FS, GO, HASK, ICK, ICON, JAVA, JS, LISP clisp, LISP sbcl, LUA, NEM, NICE, NODEJS, PAS fpc, PAS gpc, PERL, PERL6, PHP, PIKE, PRLG, PYPY, PYTH, PYTH 3.4, RUBY, SCALA, SCM chicken, SCM guile, SCM qobi, ST, TCL, TEXT, WSPC

SUBMIT

Comments were last fetched 40 minutes ago. Refresh

Comments

Need help? Post a comment. But before that please spare a moment to read the guidelines.

Help:
Supports **markdown**
Supports @mention e.g **@admin**

Preview Post

vin3022 6 hours ago
what should be the output for: 7 1 2 3 4 5 6 7 ..??

Reply

vin3022 6 hours ago
I'm sorry for the typo, what should be the score for: 7 1 2 3 4 5 6 7 ..??

Reply

omelyanenko 5 hours ago
This test isn't valid. Guaranteed that 1 <= type[i][j] <= 6.

Reply

youssef29 9 hours ago
I'm getting run time error on the last task, and SIGABRT when trying to assert (1 <= type[i][j] && type[i][j] <= 6).

Reply

omelyanenko 7 hours ago
I have checked this, everything is fine. Check your code, maybe an order of reading is wrong.

Reply

youssef29 6 hours ago
Yes, it is my fault, it was a silly mistake :D Thanks for your concern and sorry for the inconvenience.

Reply

shivangnlucky 13 hours ago
what will be the score for a player having following cookies?? 15 1 1 1 2 2 2 3 3 3 4 4 4 5 5 6

Reply

omelyanenko 10 hours ago
It will be 15 + 4 (1X4) + 2(1X2) + 1(1X1) = 22.

Reply

nikunj30 2 days ago
getting an NZEC in last subtask task 4. using python2 checked all related to nzec in stakcoverflow,discussCodechef,nothing to my relevance. plz help if you can.

Reply

codedecode0111 3 days ago
Not reading this line carefully made me submit a lot of WA's. Output "tie" if there are two or more players with same maximum score. Finally AC ! :D

Reply

kakliya_adi 10 hours ago
If any two players have same score but that is not maximum then is it a tie or not?

Reply

omelyanenko 5 hours ago
No, it's not a tie.

Reply

heya_all 3 days ago
12 3 3 3 4 4 4 5 5 5 6 6 6

For this case will the points be 12+3*1=15?

Reply

omelyanenko 3 days ago
Yes, It will be 15.

Reply

ruskinmanku 2 days ago
Can you tell me why it will be 3*1 ?.....is it so because he can make 3 bags ?

Reply

omelyanenko a day ago
Yes, It's because he can make 3 bags with 4 cookies.

Reply

kapilmatani 4 days ago
If suppose we have 16 numbers 1 and 2 twice, 3 4 5 and 6 thrice So our ans would be 16 + 2*4* + *1*1 or 16 + 4*2 or 16 + 4 ??

Reply

omelyanenko 3 days ago
Answer is 16 + 4X2(8) + 1X1(1) = 25.

Reply

revanth_97 4 days ago
when I submit it shows wrong answer for subtask 2, task 3, task 4, what does that mean? and one more doubt is what if user enters type[i][j] which doesnt belong to [1,6], should the program exit or just the current test case must exit? if current test case exits what should the output be, chef or tie or winner's index? @admin

Reply

omelyanenko 3 days ago
It means that your program writes wrong answer for testcases. Guaranteed that 1 <= type[i][j] <= 6.

Reply

vijayair01 5 days ago
if there are more than 6 different types of cookies. can he make two bags?

Reply

vijayair01 5 days ago
like 1,1,2,2,3,4,3,4,5,6,5,6 can he make 2 bags 123456 and 123456 each

Reply

omelyanenko 3 days ago
Yes, he can. The answer for this testcase is 12 + 8(4X2) = 20.

Reply

drexon_raid 5 days ago
Can we assume that the types are given sorted ?

Reply

omelyanenko 3 days ago
No, you can't.

Reply

ullahzaid 5 days ago
what if there are two winners?

Reply

omelyanenko 3 days ago
"Output "tie" if there are two or more players with same maximum score."

Reply

patrick_silva 5 days ago
what would be answer for this case? 12 1 2 3 4 5 6 1 2 3 4 5 6

12+4 or 12+4+4

Reply

omelyanenko 3 days ago
12 + 4 + 4

Reply

dinesh123bhai 6 days ago
"Output "tie" if there are two or more players with same maximum score, " what does this mean??? for eg in the test case 3 if the input is 3 4 1 1 2 3 4 1 2 2 3 6 1 2 3 4 5 6

will it be tie???

Reply

omelyanenko 3 days ago
No, the answer is 3. Third player has more points than first and second.

Reply

zehra123 6 days ago
Can player create multiple bag of different cookies??Suppose after creating a bag of 6 distinct cookies if there are still remaining cookies by which other bag can be created of 5 or 4 distinct cookies?

Reply

omelyanenko 3 days ago
Yes, they can.

Reply

parthendo 7 days ago
suppose a playe has 1 2 3 4 5 6 1 2 3 4 5 6 cookies in the storage, so what would be his points 4 or 8?

Reply

omelyanenko 3 days ago
It would be 20. 12 cookies + 8(4X2).

Reply

animi_murali 7 days ago
will the cookie numbers jumble? like in the example 6 1 2 3 4 5 6 can the input contain these values: 6 5 6 1 2 3 4?

Reply

omelyanenko 3 days ago
Yes, it can be.

Reply

phantomhive 8 days ago
Sub-Task Task # Score Result (time) 1 1 NA AC (0.020000) 1 2 NA AC (0.020000) Final Score - 20.000000 Result - AC 2 0 NA AC (0.000000) 2 3 NA WA (0.020000) 2 4 NA WA (0.020000) Final Score - 0.000000 Result - WA

does this mean my code is wrong for the big input or did i exceed the time limit for big inputs and need to optimise the code?

Reply

omelyanenko 3 days ago
It means that you code writes a wrong answer for second subtask.

Reply

---

ruhul1995 9 days ago
@omelyanenko : how output for 2nd testcase is 2 ?? is it coz 2nd player wins??? plz reply

Reply

omelyanenko 3 days ago
Yes, it is because player with number 2 has a maximum score in the game.

Reply

---

sampatghosh 10 days ago
@admin is there any limit in no. of boxes ??

Reply

omelyanenko 3 days ago
There isn't any limit.

Reply

---

meetparekh09 10 days ago
@admin Is there a typo in the input section last line which mentions "type if j-th cookie in the storage i-th" shouldn't it be "type of j-th cookie in the storage i-th"?

Reply

omelyanenko 3 days ago
Yes, it's a typo. It should be "type of j-th cookie in the storage i-th".

Reply

---

vishnuhdadhich 10 days ago
Lets suppose chef has: 8,1,2,3,4,1,2,3,4 what should be his points ? 9 or 10 ?

Reply

omelyanenko 3 days ago
It should be 10.

Reply

---

xvetox 11 days ago
What do we output when someone has the same score as chef which is also the maximum score ?

Reply

omelyanenko 3 days ago
You have to write "tie".

Reply

---

rohitangira 11 days ago
question is poorly framed their can be more then 6 types of cookies.... @admin

Reply

omelyanenko 3 days ago
No, it can't be more than 6. Guaranteed that 1 <= type[i][j] <= 6.

Reply

---

bajjoo 11 days ago
What if two win?

Reply

bajjoo 11 days ago
@dpraveen_admin 2 out of 3 win

Reply

omelyanenko 3 days ago
it's a tie.

Reply

---

dibya1rb12_3 11 days ago
For a case of 3 players with score 6 10 10

Do I need to print the indexes of winning score as space separated format?

Reply

omelyanenko 3 days ago
You have to print "tie".

Reply

---

ghamandipp 11 days ago
@admin @omelyanenko @dpraveen_admin what t[i][j] signifies. i'm not getting

Reply

omelyanenko 3 days ago
Type[i][j] is a type of j-th cookie in the storage with number i. The storage with number i belongs to the player with number i.

Reply

---

amitg87 11 days ago
In example 3 - all players have 4 cookies - so each gets 4 points. No boxes - so no bonus and a tie. Right?

Reply

omelyanenko 3 days ago
Right.

Reply

---

adijimmy 11 days ago
What to print if Chef is only playing the game ?

Reply

omelyanenko 3 days ago
chef

Reply

---

saeedjassani 11 days ago
is it possible that a player gets 10 different types of cookies?

Reply

omelyanenko 3 days ago
Guaranteed that 1 <= type[i][j] <= 6.

Reply

---

abhi008 11 days ago
if we consider this 12 3 3 3 4 4 4 5 5 5 6 6 6

for this case total points should be 15? 12 for the cookies and 3 for the 3 groups of "3 4 5 6". Please correct me if I am wrong.

Reply

omelyanenko 3 days ago
Yes, it should be 15.

Reply

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vicennial 11 days ago

Do the players have infinite amount of bags to pack the cookies in? For eg if chef has 1 1 2 2 3 3 4 4 cookies in his bag, does he get an additional of 1 point or 2 points(2 points because he can pack 2 bags which contain 1 2 3 4 type cookies each) ?

Reply

omelyanenko 3 days ago
Yes, they have infinite amount of bags.

Reply

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saaket1996 11 days ago
can there be multiple bags for each player like 1 1 1 2 2 2 3 3 3 4 4 4 5 5 5 6 here he can create one bag of 6cookies another 2 bag of 5 cookies so his total point will be 16+(14)+(22)=24 or (16 +4)=20

Reply

omelyanenko 3 days ago
It will be 16 + 4(1X4) + 4(2X2) = 24.

Reply