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# Chef and calculation

Problem Code: RESCALC

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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 their storage, followed by  $c[i]$  space separated integers  $type[i][j]$  which

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## Output

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All Submissions

Successful Submissions



Save my Cookies

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

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## Constraints and Subtasks

### Subtask #1 : (20 points)

- $1 \leq T \leq 10$
- $1 \leq N \leq 100$
- $1 \leq c[i] \leq 100$
- $1 \leq \text{type}[i][j] \leq 3$

### Subtask #2 : (80 points)

- $1 \leq T \leq 10$
- $1 \leq N \leq 100$
- $1 \leq c[i] \leq 100$
- $1 \leq \text{type}[i][j] \leq 6$

---

## 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.

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Editorial: <http://discuss.codechef.com/problems/RESCALC>

Tags: [ad-hoc](#), [basic-math](#), [bitset](#), [easy](#), [omelyanenko](#), [sept16](#)

Date Added: 26-07-2016

Time Limit: 0.5 secs

Source Limit: 50000 Bytes

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