
6. Full House

Program Name: FullHouse.java

Input File: fullhouse.dat

There are many games that are played with 5 standard six-sided dice with numbers one through six on a side. In a poker type game, one of the hands a player can have is a full house. A full house consists of three dice that have the same number and the remaining two dice that have a different same number. For example, 3 3 3 5 5 is a full house. Ties are broken first by numbers on the three matching dice, with one being the lowest and six being the highest. If the three dice match in two or more hands, the tie is broken by the two matching dice, again with one being the lowest die and six being the highest. If the tie is not broken by one of these two methods, a tie exists.

For the purpose of this program, you will be given the outcomes after each of three players has rolled their dice. You are to determine if any of the players has a full house and, if more than one player has a full house, which player or players have the highest hand.

Input

The first line of input will contain a single integer *n* that indicates the number of games to be played. For each game, there will be three lines, one for each player in the game, and each will have a player's first name followed by the five dice the player had after the third roll. There will be a single space following the player's name and the dice will each be separated by a space.

Output

For each game

- If there is exactly one person with a full house, you will print the name of that person.
- If there is more than one person with a full house, you will print the name of the person with the highest full house. For example, a roll of 5 5 5 2 2 would beat a person with a roll of 4 4 4 6 6.
- If there is more than one person with the same three matching dice, you will check the two matching dice to see which hand is the winner and print the name of the winner. For example, a roll of 5 5 5 2 2 would beat a person with a roll of 5 5 5 1 1.
- If there is more than one person with the same full house, there is a tie and you will print, on a single line, the word "TIE" followed by the names of the players who were tied in alphabetical order and separated by a space.
- If no hands contain a full house, you will print "NO WINNER".

Example Input File

```
4
MARY 4 4 4 4 3
JOAN 4 4 4 3 3
ART 3 3 3 2 1
RON 4 4 4 4 1
ALEX 4 3 3 1 4
CHEZ 2 6 6 6 3
AMY 4 5 4 4 5
REX 4 5 4 5 4
RICK 2 2 4 2 3
GEORGE 5 1 5 1 1
JOHN 1 5 1 5 1
DICK 1 1 2 2 2
```

Example Output to Screen

```
JOAN
NO WINNER
TIE AMY REX
DICK
```