Riichi

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	512 megabytes

Mahjong is a four-player game. The rules of mahjong in this problem are slightly different from the rules of traditional mahjong. A set of Mahjong tiles contains 136 tiles,which contains 34 different types of tiles, and four tiles in each type:

Three **suits**: One to nine Man(we use 1m-9m to represent), One to nine Pin(we use 1p-9p to represent), One to nine Sou(we use 1s-9s to represent). **The ones and nines are called terminal tiles**

Seven different **honour tiles**: Ton, Nan, Sei, Pei, Haku, Hatsu, Chun(we use 1z-7z to represent).

There are 4 players A,B,C,D in the game. Before the game start, all the tiles are randomly placed in a row. We call it the wall. Then players draw tiles from the top of the wall in following order: ABCDABCD.....,until everyone has 13 tiles.

After that, they start their rounds in the following order: ABCDABCD.....

In a round,the player draw a tile from the top of the wall, and discard a tile in his hand.

These 136 tiles could be combined into different types:

1.Chow : Three consecutive tiles of the same suit

E.G.

2.Pung : Composed of three identical tiles

E.G.

3.Kong :Composed of four identical tiles

E.G.

4.Pair :Composed of two identical tiles

E.G.

5.Set: A set may be either a chow, a pung or a kong.

Winning hand: When the tiles in one's hand satisfy the winning condition, we call it Winning hand.

A complete winning hand is composed of 4 sets and 1 pair.

However,there are 2 **special** hands can be judged as a winning hand.

1.Seven pairs: Hand with seven**different** pairs.

2.Thirteen Orphans: Hand with one of each of the 13 different terminal and honour tiles plus one extra terminal or honour tile

E.G.

Tenpai: A player's hand is "Tenpai"if the hand needs only one more tile to complete a winning hand. and the set of the left tile called **"tenpai set"**,notice: **if you have 4 same tiles, this tile will not join to "tenpai set"** .

Tsu Mo: When a player draws a tile and the then tiles in his hand could be judged as a winning hand,he could declare "Tsu Mo"and win the game.

Riichi: A player whose hand is "tenpai"can declare "Riichi after declaring "Riichi when the player draw a tile, he could only "Concealed Kong". "Tsu Mo"or discard the tile **he just drew**.

Concealed Kong: If a player draws a tile,and this tile could combine with a pung in the hand, he could **fix** four tiles into a Kong and draw a new tile from the top of the wall. **And he can continue to "Tsu Mo"or Concealed Kong**,Note that :**Concealed Kong after Riichi should not change the "tenpai set"**.

Game Draw: When all the tiles in the wall were drawn, and still no one win,we called this situation "Game Draw".

Note that : There is no "chow "Pung "Exposed Kong "Ron "4 player Riichi Game Draw "4 Kons Game Draw"rules in this problem

Now 4 players A,B,C,D are playing Mahjong and they all have declared "Riichi However,no concealed kong is declared before they declared "Riichi".Now there are some tiles left in the wall, and it is the round of A. Suppose A,B,C,D know all the tiles in the wall and others' hand.

When a player draws a tile(**include the tile drawn after Concealed Kong**), he will follow such strategy below in order:

1.If he could declare "Tsu Mo he will declare "Tsu Mo"and win the game.

2.If he can't Concealed Kong,he will discard this tile.

3.If there is a way(Concealed Kong/discard this tile) that he can finally win the game, he will do this.

4.If there is a way(Concealed Kong/discard this tile) that can make Game Draw, he will do this.

5.If he could Concealed Kong, he will Concealed Kong.

If all the players play the games optimally, who will be the winner,or game draw.

Input

This problem includes T cases.

The input data begins with an integer T ($1 \leq T \leq 10^3$).

In each test case:

Each of the first four lines includes 13 tiles, indicating the tiles of A,B,C,D.

The fifth line includes an integer l,indicating the number of tiles left in the wall

The sixth line includes l tiles, indicating tiles left in the wall.

It is guaranteed that all the same tiles will not appear more than 4 times.

Output

Include T lines.

For each test case, if the game finally draws output "DRAW"(without quote). Otherwise, output the winner(Uppercase).

Example

standard input	standard output
2 2s 2s 2s 3s 6s 6s 6s 8s 8s 8z 6z 6z 6z 1s 1s 1s 2s 3s 4s 5s 6s 7s 8s 9s 9s 9s 1z 1z 1z 2z 2z 2z 3z 3z 3z 4z 4z 4z 5z 1m 1m 2m 2m 3m 3m 5m 7m 7m 8m 8m 9m 9m 3 6z 9s 1s 2s 2s 2s 3s 6s 6s 6s 8s 8s 8s 6z 6z 6z 1s 1s 1s 2s 3s 4s 5s 6s 7s 8s 9s 9s 9s 1z 1z 1z 2z 2z 2z 3z 3z 3z 4z 4z 4z 5z 1m 1m 2m 2m 3m 3m 5m 7m 7m 8m 8m 9m 9m 6 6z 9s 5z 1z 4m 5m	B DRAW

Note

In the first test case, the tiles in 4 players hands are:

No matter if A Concealed Kong Hatsu or not B will finally "Tsu Mo"and win the game.