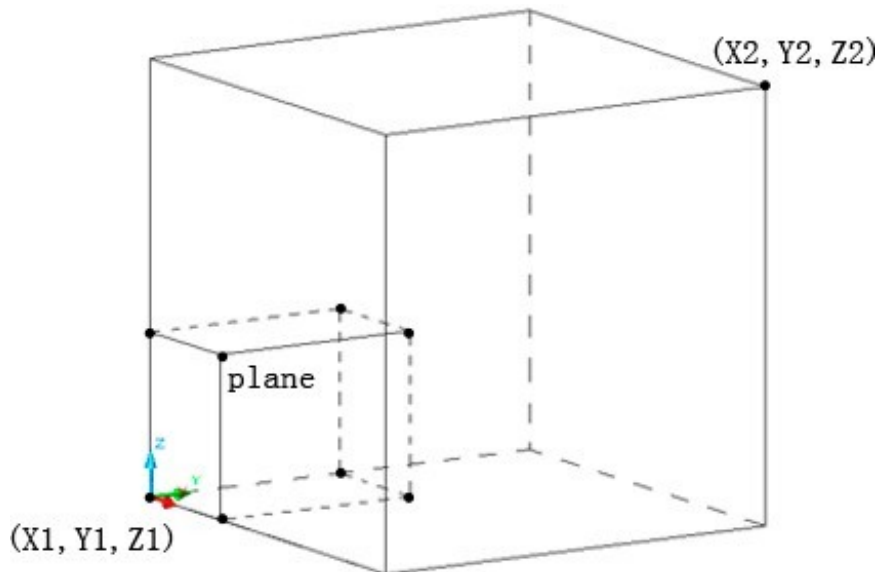


Air Combat

An air combat is on the way, you are asked to command this war. Now planes of enemy are full of the sky. A plane is described with three-dimensional coordinate (x, y, z) ($1000 < x, y, z < 1200$), and all coordinates are integers. As is show below:



You have created a missile which can destroy all the planes in a cube whose center is (x, y, z) , and the cube can be as large as $(x-r, y-r, z-r)$ $(x+r, y+r, z+r)$. This missile is so fierce that it will destroy not only enemy in that space, but also friends. And after that a position is occupied by a plane belongs to the opposite side before the explosion, that is to say an enemy plane will be replaced by a friend, a friend will be replaced by an enemy.

You want to reduce our loss, so you need to know which side a plane belongs to in a position.

□

Input

The first line contains the number of scenarios.

For each scenario you are given a line containing $x_1 y_1 z_1 x_2 y_2 z_2$, defining the two corners $A(x_1, y_1, z_1)$, $B(x_2, y_2, z_2)$ ($1000 \leq x_1 < x_2, y_1 < y_2, z_1 < z_2 \leq 1200$) of the sky. The combat is so fierce that every point in the cube is occupied by an enemy plane at first.

Next line is a number of operation q .

Next q lines: ($0 < q < 10000$)

A character 'U': followed by 4 integers, a center point $M(x_i, y_i, z_i)$, the range is r_i .

A character 'Q': followed by 3 integers, a position $N(x_i, y_i, z_i)$, if a plane belongs to us, print "Friend" else print "Enemy".

Points M and N are all in cube given above.

Output

Print a line for every 'Q' operation.

Example

Input:

```
1
1000 1000 1000 1002 1002 1002
4
U 1000 1000 1000 0
U 1001 1001 1001 1
Q 1000 1000 1000
Q 1001 1001 1001
```

Output:

```
Enemy
Friend
```