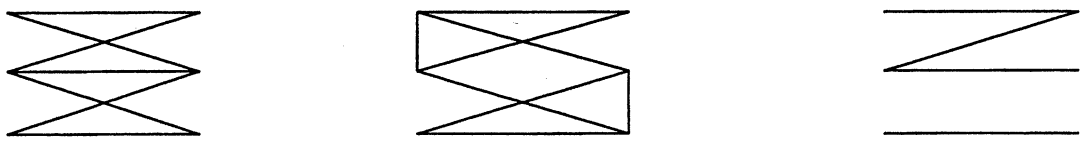
Spider-Man's Diamond Head Dilemma

Filename: SPIDEY

Spider-Man has received an ultimatum from the fiendish Green Goblin, stating that he will soon destroy the world, unless he is given the ridiculous ransom of one hundred billion dollars (in tens and twenties). Through some clever detective work, Spider-Man discovers that the Goblin is planning on dropping a huge bomb right over the famous Diamond Head volcanic crater near Honolulu, Hawaii. The bomb will not only destroy Hawaii and everyone living and visiting there, but it will cause a tectonic disturbance of such magnitude that the entire Pacific Ocean floor will erupt with fiery lava! Spidey has a plan to catch the big bomb by placing a web over the top of Diamond Head, but he needs your help to plan where to attach the web to the crater walls.

The Problem:

Given a set of points indicating where the web is attached to the crater walls, and the actual web connections between them, determine whether or not the web will safely catch and hold the bomb. The points are numbered 0 through *n*. Even numbers are attachments on the west wall of the crater, and odd numbers are on the east wall. For the web to be able to safely hold the bomb, there must be at least one web fiber connection from each point on the east wall to some point on the west wall, and vice versa. Furthermore, no point on the east wall can be directly connected to another point on the east wall, and no point on the west wall can be directly connected to another point on the west wall. Spider-Man has told you that doing so compromises the structural integrity of the web (hey, he's the expert, right?). Finally, once the web is finished, it must be all one piece. That is, Spider-Man must be able to walk from any attachment point to any other by walking across web fibers. See the illustrations below. In the illustrations, the left side of each figure represents the west wall, and the right side is the east wall.



The web on the left will safely catch the bomb. The middle web will not, because it has direct connections between two points on the same side. The web on the right will also not catch the bomb, because it is not one piece.

Note that web connections are not directed, so a connection from point 0 to point 3 is the same as a connection from point 3 to point 0.

The Input:

There will be multiple data sets. Input will begin with a single, positive integer, m, on a line by itself, representing the number of web configurations Spidey needs tested. This will be followed by m web descriptions. Each web begins with a line containing two integers, v and e, ($0<v<16$; $0<e<120$). v represents the number of attachment points, and e represents the number of web connections between the points. This line will be followed by e lines of 2 integers each, a and b ($0 \leq a,b<v$). Each pair of integers represents a web connection from point a to point b.

The Output:

For each web, print "`Way to go, Spider-Man!`" if the web will hold. If the web will not hold, print "`It's the end of the world!`" Leave one blank line after the output for each web.

Sample Input:

```
2
6 7
0 1
2 3
4 5
0 3
2 1
2 5
4 3
6 4
0 1
2 1
2 3
4 5
```

Sample Output:

```
Way to go, Spider-Man!

It's the end of the world!
```