Problem RIGIDITY: Rigidity

The department of Computer Science has been growing for years and years in Erlangen. To handle the masses of students and employees, the university decides to build a new tower. But they need your help to construct a robust building.
The skeleton will be built of balks with a hole at each end. Two or more balks may be connected by an axis, which fixes the relative positions of the respective end. The balks still can rotate around that axis and move freely, basically.

Figure 1: The balks can rotate freely around their connecting axis.

The architect of the university used this pattern to design a whole tower as a graph. His plan only consists of the connection axis and which axes are connected by a balk. So he keeps the balk lengths as a secret. The architect wants you to determine, if a given graph of balks defines a rigid building in principle (i.e. if one can not rotate or move any balks or axes relative to the others). He further restricts the definition of rigidity to graphs that are constructed as follows. The following graphs are considered rigid:

1. A single balk.
2. A rigid graph to which a new axis is added, together with two new balks that connect the new axis with two previously existing axis.
3. A rigid graph of which one balk is subdivided by a new axis at the point of division, and a new balk added, connecting the new axis to a previously exisiting axis.

To make the building even more robust, the architect is allowed to add an arbitrary number of additional balks (but no axis) to the graph afterwards.

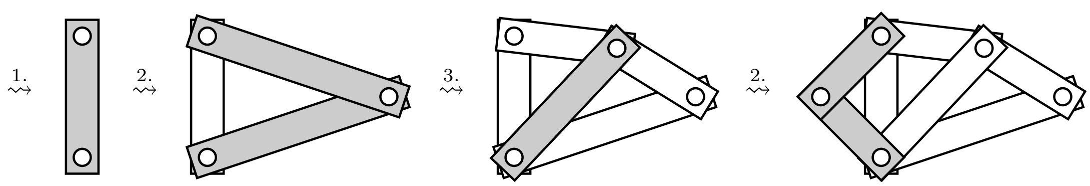

Figure 2: Example construction of a rigid graph. Note that the architect may add additonal balks afterwards.

There might be many ways to draw the given graph, but the architect does not care about that. You may assume that, for ridigity concerns, it does not matter how the tower actually looks or how long the balks are. Assume that the balks are of appropriate length such that it will wiggle if the plan allows it in principle.

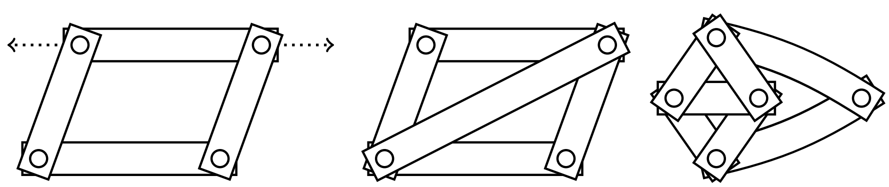

Figure 3: Three example graphs, the left one is movable, while the others are rigid.

Input

The first line of the input contains the number of test cases on a line (< 10). Each test case starts with a line containing two integers, the number of axes $1 \leq A \leq 50$ and the number of balks $1 \leq B \leq 100$. Then B lines follow, each containing two integers c d ($0 \leq c, d < A$, $c \neq d$). It describes that there is a balk spanning from the cth to the dth axis. You may assume that each axis is used by at least one balk, the graph is connected and planar.

Output

For each test case, print a line with either `Movable` or `Rigid` answering the problem described above.

Sample Input 1

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

Sample Output 1

```
Rigid
```

Sample Input 2

```
2
4 4
0 1
1 2
2 3
3 0
4 5
0 1
1 2
2 3
3 0
0 2
```

Sample Output 2

```
Movable
Rigid
```