Problem A. Digits

|  |  |  |
| --- | --- | --- |
| Input file: |  | standard input |
| Output file: |  | standard output |
| Time limit: |  | 1second |
| Balloon color: |  | pink |

In 1976 the “*Four Color Map Theorem*” was proven with the assistance of a computer. This  
theorem states that every map can be colored using only four colors, in such a way that no region  
is colored using the same color as a neighbor region.  
Here you are asked to solve a simpler similar problem. You have to decide whether a given  
arbitrary connected graph can be bicolored. That is, if one can assign colors (from a palette of  
two) to the nodes in such a way that no two adjacent nodes have the same color. To simplify the  
problem you can assume:  
- No node will have an edge to itself.  
- The graph is undirected. That is, if a node *a* is said to be connected to a node *b*, then you  
must assume that *b* is connected to *a*.  
- The graph will be strongly connected. That is, there will be at least one path from any  
node to any other node.

InputThe input consists of several test cases. Each test case starts with a line containing the number *n*(1 *< n <* 200) of different nodes. The second line contains the number of edges *l*. After this, *l*lines will follow, each containing two numbers that specify an edge between the two nodes that  
they represent. A node in the graph will be labeled using a number *a* (0 *≤ a < n*).  
An input with *n* = 0 will mark the end of the input and is not to be processed.

OutputYou have to decide whether the input graph can be bicolored or not, and print it as shown below.

Example

|  |  |
| --- | --- |
| Sample Input 1 | Sample Output 1 |
| 3  3  0 1  1 2  2 0 | NOT BICOLORABLE. |

Problem B.