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All Domains > Algorithms > Graph Theory > Even Tree

Badge Progress

⭐ ⭐ ⭐ ⭐
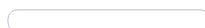
Points: 2300.44 Rank: 1301

Even Tree

| Problem | Submissions | Leaderboard | Discussions | Editorial |

You are given a tree (a simple connected graph with no cycles). You have to remove as *many edges from the tree as possible* to obtain a [forest] with the condition that : *Each connected component of the forest should contain an even number of vertices.*

To accomplish this, you will remove some edges from the tree. Find out the number of removed edges.

Input Format
The first line of input contains two integers N and M. N is the number of vertices and M is the number of edges.
The next M lines contain two integers ui and vi which specifies an edge of the tree. (1-based index)

Output Format
Print the answer, a single integer.

Constraints
2 <= N <= 100.

Note: The tree in the input will be such that it can always be decomposed into components containing even number of nodes.

Sample Input

```
10 9
2 1
3 1
4 3
5 2
6 1
7 2
8 6
9 8
10 8
```
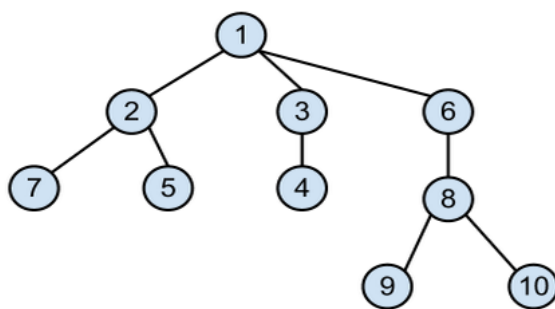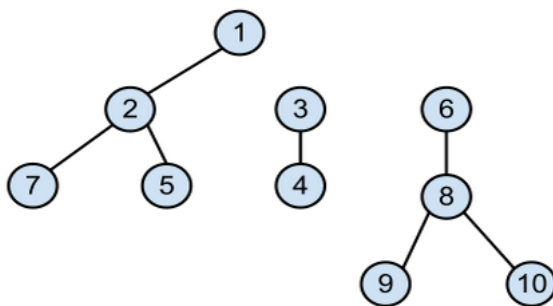
Sample Output

```
2
```

Explanation
On removing edges (1, 3) and (1, 6), we can get the desired result.

Original tree:

Decomposed tree:

Submissions: 11249

Max Score: 50

Difficulty: Moderate

More

Current Buffer (saved locally, editable)	Java 8 ⌄

```
1  import java.io.*;
2  import java.util.*;
3
4  public class Solution {
5
6      public static void main(String[] args) {
7          /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named
   Solution. */
8      }
9  }
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ **Test against custom input**   Run Code   Submit Code

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