**Who's Our Boss?**

**Directions:**

You'll have up to **60 minutes** to complete the coding question and send it back to me, in a single text file. Here is some of the information you'll need for the code once it's sent, I wanted to give you the information ahead of time so you'll know what to expect.

Your task is to implement an interface we have defined, in any of the following languages: C++, Java, or C#. Your solutions must conform to these **MANDATORY** items:

1. **DO YOUR OWN WORK.** If it appears not to be your own work, it will be disqualified. In addition, limit your solution to the standard libraries available in your language. Do not use any databases, external libraries, or third party solutions.
2. **CODE MUST COMPILE.** Solutions must compile and function at a minimum for consideration however additional credit will be given for elegant and robust code.
3. **DOCUMENT ALL ASSUMPTIONS.** Explain why you made that assumption. You may make the wrong assumption, but if it's well-documented, you'll help us see your thought process. Undocumented assumptions can't help us help you.
4. **DESCRIBE THE RUNTIME AND SPATIAL COMPLEXITY OF YOUR SOLUTIONS.** This must be stated somewhere in your solution for each of the questions, preferably in the comments above each solution. Runtime and spatial analyses are core elements of software engineering. Because of this, solutions without runtime and spatial analyses will not be considered.
5. **PROVIDE THE MOST EFFICIENT SOLUTION POSSIBLE.** We will be evaluating the quality of your algorithm.
6. **HAVE FUN.** This will likely be challenging, but take this opportunity to exercise your creativity.

**The Question:**

Initech is a company which has CEO Bill and a hierarchy of employees. Employees can have a list of other employees reporting to them, which can themselves have reports, and so on. An employee with at least one report is called a manager.

Please implement the closestCommonManager method to find the closest manager (i.e. farthest from the CEO) to two employees. You may assume that all employees eventually report up to the CEO.
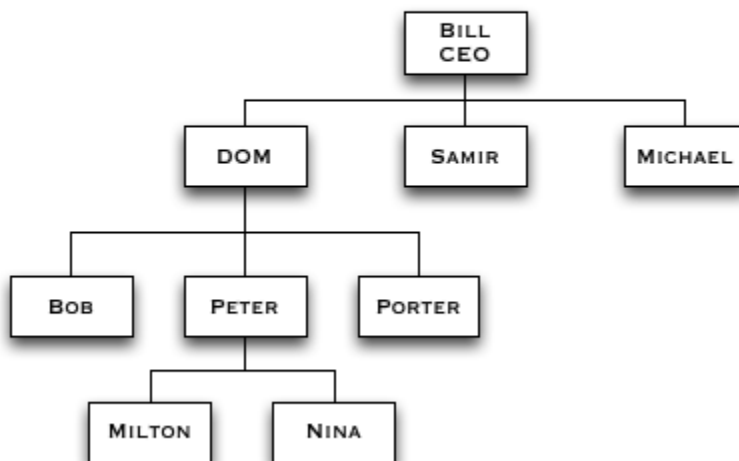
Sample Data: CEO Bill has 3 employees reporting to him: {Dom, Samir, Michael}
Dom has three reports { Peter, Bob, Porter}
Samir has no reports {}
Michael has no reports {}
Peter has 2 reports {Milton, Nina}
Bob has no reports {}
Porter has no reports {}
Milton has no reports {}
Nina has no reports {}

Sample calls: closestCommonManager(Milton, Nina) = Peter
closestCommonManager(Nina, Porter) = Dom
closestCommonManager(Nina, Samir) = Bill
closestCommonManager(Peter, Nina) = Peter