

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 class Program {
4     class OrganizationalEntity {
5         let name: String
6         var directReports = [OrganizationalEntity]()
7
8         init(name: String) {
9             self.name = name
10        }
11    }
12
13    // O(n) time | O(d) space
14    func getLowestCommonManager(_ topManager: OrganizationalEntity, _ reportOne: OrganizationalEntity, _ reportTwo: OrganizationalEntity) -> OrganizationalEntity? {
15        return getOrganizationalInfo(topManager, reportOne, reportTwo).0
16    }
17
18    func getOrganizationalInfo(_ manager: OrganizationalEntity, _ reportOne: OrganizationalEntity, _ reportTwo: OrganizationalEntity) -> (OrganizationalEntity?, Int) {
19        var numberOfImportantReports = 0
20
21        for directReport in manager.directReports {
22            let organizationalInfo = getOrganizationalInfo(directReport, reportOne, reportTwo)
23
24            if organizationalInfo.0 != nil {
25                return organizationalInfo
26            }
27
28            numberOfImportantReports += organizationalInfo.1
29        }
30
31        if manager === reportOne || manager === reportTwo {
32            numberOfImportantReports += 1
33        }
34
35        let lowestCommonManager = numberOfImportantReports == 2 ? manager : nil
36        return (lowestCommonManager, numberOfImportantReports)
37    }
38 }
39
```

