

Our Solution(s)

Run Code

Your Solutions

Run Code

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 using System.Collections.Generic;
4
5 public class Program {
6     // O(n) time | O(d) space - where n is the number of people
7     // in the org and d is the depth (height) of the org chart
8     public static OrgChart GetLowestCommonManager(OrgChart topManager, OrgChart reportOne, OrgChart reportTwo) {
9         OrgChart lowestCommonManager = null;
10        return getOrgInfo(topManager, reportOne, reportTwo).lowestCommonManager;
11    }
12
13    public static OrgInfo getOrgInfo(OrgChart manager, OrgChart reportOne, OrgChart reportTwo) {
14        int numImportantReports = 0;
15        foreach (OrgChart directReport in manager.directReports) {
16            OrgInfo orgInfo = getOrgInfo(directReport, reportOne, reportTwo);
17            if (orgInfo.lowestCommonManager != null) return orgInfo;
18            numImportantReports += orgInfo.numImportantReports;
19        }
20        if (manager == reportOne || manager == reportTwo) numImportantReports++;
21        OrgChart lowestCommonManager = numImportantReports == 2 ? manager : null;
22        OrgInfo newOrgInfo = new OrgInfo(lowestCommonManager, numImportantReports);
23        return newOrgInfo;
24    }
25
26    public class OrgChart {
27        public char name;
28        public List<OrgChart> directReports;
29
30        public OrgChart(char name) {
31            this.name = name;
32            this.directReports = new List<OrgChart>();
33        }
34    }
35 }
```

Solution 1

Solution 2

Solution 3

```
1 using System.Collections.Generic;
2 public class Program {
3     public static OrgChart GetLowestCommonManager(OrgChart topManager, OrgChart reportOne, OrgChart reportTwo) {
4         OrgChart lowestCommonManager = null;
5         // Write your code here.
6         return lowestCommonManager;
7     }
8
9     public class OrgChart {
10        public char name;
11        public List<OrgChart> directReports;
12
13        public OrgChart(char name) {
14            this.name = name;
15            this.directReports = new List<OrgChart>();
16        }
17
18        // This method is for testing only.
19        public void addDirectReports(OrgChart[] directReports) {
20            foreach (OrgChart directReport in directReports) {
21                this.directReports.Add(directReport);
22            }
23        }
24    }
25 }
26 }
```

Our Tests

Custom Output

Submit Code

```
1 using System.Collections.Generic;
2
3 public class Program {
4     public static OrgChart GetLowestCommonManager(OrgChart topManager, OrgChart reportOne, OrgChart reportTwo) {
5         OrgChart lowestCommonManager = null;
6         // Write your code here.
7         return lowestCommonManager;
8     }
9
10    public class OrgChart {
11        public char name;
12        public List<OrgChart> directReports;
13
14        public OrgChart(char name) {
15            this.name = name;
16            this.directReports = new List<OrgChart>();
17        }
18    }
19 }
```

Custom Output

Submit Code

Run or submit code when you're ready.

Run or submit code when you're ready.