

Our Solution(s)

Run Code

Your Solutions

Run Code

Solution 1

Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 // O(j + d) time | O(j + d) space
4 function topologicalSort(jobs, deps) {
5   const jobGraph = createJobGraph(jobs, deps);
6   return getOrderedJobs(jobGraph);
7 }
8
9 function createJobGraph(jobs, deps) {
10  const graph = new JobGraph(jobs);
11  for (const [prereq, job] of deps) {
12    graph.addPrereq(job, prereq);
13  }
14  return graph;
15 }
16
17 function getOrderedJobs(graph) {
18  const orderedJobs = [];
19  const {nodes} = graph;
20  while (nodes.length) {
21    const node = nodes.pop();
22    const containsCycle = depthFirstTraverse(node, orderedJobs);
23    if (containsCycle) return [];
24  }
25  return orderedJobs;
26 }
27
28 function depthFirstTraverse(node, orderedJobs) {
29  if (node.visited) return false;
30  if (node.visiting) return true;
31  node.visiting = true;
32  for (const prereqNode of node.prereqs) {
33    const containsCycle = depthFirstTraverse(prereqNode, orderedJobs);
```

Solution 1

Solution 2

Solution 3

```
1 function topologicalSort(jobs, deps) {
2   // Write your code here.
3 }
4
5 // Do not edit the line below.
6 exports.topologicalSort = topologicalSort;
7
```

Our Tests

Custom Output

Submit Code

```
1 const jobs = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h'];
2 const deps = [['a', 'b'], ['a', 'c'], ['b', 'd'], ['c', 'd'], ['d', 'e'], ['e', 'f'], ['f', 'g'], ['g', 'h']];
3
4 // Test Case 1: Topological Sort
5 console.log(topologicalSort(jobs, deps));
6
7 // Test Case 2: Cycle Detection
8 console.log(topologicalSort(jobs, []));
9
10 // Test Case 3: Cycle Detection
11 console.log(topologicalSort(jobs, [['a', 'b'], ['b', 'a']]));
12
13 // Test Case 4: Cycle Detection
14 console.log(topologicalSort(jobs, [['a', 'b'], ['b', 'c'], ['c', 'a']]));
```

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```

Run or submit code when you're ready.