Python

Difficulty: **Category:** **Successful Submissions:** 73,705+

Depth-first Search

You're given a `Node` class that has a `name` and an array of optional `children` nodes. When put together, nodes form an acyclic tree-like structure.

Implement the `depthFirstSearch` method on the `Node` class, which takes in an empty array, traverses the tree using the Depth-first Search approach (specifically navigating the tree from left to right), stores all of the nodes' names in the input array, and returns it.

If you're unfamiliar with Depth-first Search, we recommend watching the Conceptual Overview section of this question's video explanation before starting to code.

Sample Input

```
graph = A
      /  |  \
     B   C   D
    / \     / \
   E   F   G   H
      / \   \
     I   J   K
```

Sample Output

```
["A", "B", "E", "F", "I", "J", "C", "D", "G", "K", "H"]
```

Hints

Hint 1

Hint 2

Optimal Space & Time Complexity

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