Lab 6: Graph Search
COSC 3020: Algorithms and Data Structures

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Instructions

Attempt to finish the tasks below during the lab time. You may ask your TA for feedback before submitting, but this feedback will be qualitative only.

You may *not* use external libraries in your code unless explicitly stated.

1 Depth-First Search

Recall the pseudocode for Depth-First Search:
Given a graph, a start node, and a node we're looking for:

- starting at the start node, while unvisited nodes remain

    - if current vertex v is the node we're looking for, return it
    - mark v as visited
    - for each edge (v, w)
        * recursively process w unless marked visited

Implement the algorithm and test it on a few different graphs. You can choose any of the data structures we covered (adjacency matrix or adjacency list) for the implementation. The signature of the function should be

function depthFirstSearch(graph, start, node);

What is the worst-case big-Θ complexity of your implementation?
Total 10 points.