

Implementation of data structures and algorithms

Short Project 5: Depth First Search Applications

Due: Friday Mar 3, 2023, at 11:59 PM

Do not modify Graph.java

Submission procedure: same as usual.

Team task:

1. Implement `topologicalOrdering1()` in the starter code (DFS.java). This is the DFS-based algorithm for finding the topological ordering of a directed acyclic graph. Do not modify Graph.java. Use it from package `idsa`.

Practice task (optional):

2. Implement `topologicalOrdering2(g)` in the starter code. In this algorithm, we identify a node with no incoming edges, and remove it and all its edges. Repeat this until the graph is empty.
3. Implement `connectedComponents()` in the starter code. In this algorithm, use DFS to find the number of connected components of a given undirected graph. Each node gets a `cno`. All nodes in the same connected component receive the same `cno`.