CSCI B505 – Fall 2018

Written Assignment 5 - Graph Algorithms:

Due online Dec 5, 2018, 11:59pm EST.

You can use LaTeX, Word, or even pen and paper to write down your answers. But **please try to submit a PDF file.**

1. A forest is a collection of trees. Given n nodes of a forest and their edges, describe and prove an algorithm (i.e., show correctness) that finds the number of trees in the forest.

2. You are given a tree T with directed tree edges (each edge points from the parent to the child). How can you topologically sort the vertices of T without doing DFS? Analyze running time.

3. Given a directed graph G, give an algorithm that tests if G is a DAG. Analyze running time.