Tutorial Evaluation

Advance Data Structure and Algorithm

November 29, 2021

Note: Codes are not expected in the tutorial- algorithm/pseudocodes are acceptable.
It is to be submitted during the tutorial session only (8:00-10:00AM).
All 3 Questions to be done [10 marks each]

Problem 1. Write an algorithm to identify the "back arcs" in a spanning forest generated by DFS of a digraph.

Problem 2. Represent a digraph using an adjacency list and write the procedure to find the shortest path between a given pair of vertices. Illustrate the process with the diagram.

Problem 3. If a digraph (G) is reversed (Gr), how many steps will be required? Estimate it. If only adjacency list representation is available, how many steps would be required? Calculate it. (Hint: Gr contains all the edges of G in reverse direction).