Reading List for Quiz 8 (Theorem Proving Quiz)

All questions are from Module 5

1) (Slides 60-61-62) Prove that if a graph has unique edge weights, there exists only one minimum spanning tree for the graph.

2) (Slide 17) Prove the necessary condition: A topological sort of the vertices in a directed graph is possible only if the graph does not have any cycle.

3) (Slides 37-38) Prove the following statement regarding the correctness of Dijkstra algorithm: When a vertex v is picked for relaxation, we have optimized the vertex (i.e., found the shortest path for the vertex from a source vertex s).