Week 6: Assignment 6

The next data in numbering this assignment begins.

Due on 2020-08-20, 23:59 IST.

Course Outline
What to do in OPT for this week?

Week 5: Preparatory

Week 4: Linear Algebra

Week 3: Graph Theory

Week 2: Graph Algorithms

Week 1: Computational Graphs

Course Notes

Week 6: Assignment 6

1. Consider the following problem: For any graph $G=(V,E)$, find the minimum cut.
   - Use matrices to represent the graph.
   - Find the minimum cut.

2. Consider the following problem: Given a directed graph $G=(V,E)$, find the shortest path from $s$ to $t$.
   - Use Dijkstra's algorithm to find the shortest path.

3. Consider the following problem: Given a weighted graph $G=(V,E)$, find the minimum spanning tree.
   - Use Prim's algorithm to find the minimum spanning tree.

4. Consider the following problem: Given a weighted graph $G=(V,E)$, find the maximum flow.
   - Use the Ford-Fulkerson algorithm to find the maximum flow.

5. Consider the following problem: Given a weighted graph $G=(V,E)$, determine if there is a cycle.
   - Use the Bellman-Ford algorithm to determine if there is a cycle.

6. Consider the following problem: Given a weighted graph $G=(V,E)$, find the shortest path from $s$ to $t$.
   - Use the Dijkstra's algorithm to find the shortest path.

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