Midterm Exams

1. We will have two midterm exams:
    - Midterm Exam 1, Oct 20
    - Midterm Exam 2, Nov 28
2. Midterm Exam 1 covers
    - 1. Introduction (Search and Sorting)
    - 2. Divide and Conquer Algorithms
    - 3. Graphs
    - 4. Dynamic Programming
3. Midterm Exam 2 covers
    - 5. Greedy Algorithms
    - 6. Randomized Algorithms
    - 7. P and NP
    - 8. Work with NP-Hard Problems
4. Each exam
    - Will be closed book
    - Will be in the lecture time
    - Will contain 5-6 questions
5. Main types of questions
    - Design algorithm
    - Analyze algorithm
    - Prove statement
    - Apply algorithm from presentation
6. Algorithms from Presentations for Exam 1:
    - Insertion sort
    - Merge sort
    - Integer multiplication
    - Matrix multiplication
    - Topological ordering for DAG
    - Chain matrix multiplication
    - Floyd-Warshall algorithm
    - Edit distance
    - Subarray problem – maximization of sum and length
7. Algorithms from Presentations for Exam 2:
    - Dijkstra's algorithm
    - Prim's algorithm
    - Huffman’s algorithm
    - Selection algorithm
    - Quick Sort algorithm
    - Contraction algorithm
    - Greedy algorithm for Set Cover problem
    - Dynamic programming algorithm for Maximum Independent Set problem in tree
    - Polynomial time algorithm for 2-SAT Problem