Here is a list of concepts, definitions and algorithms that you should know from lectures, discussions and homework assignments #4, #5 and #6. This is not meant to be comprehensive. It is merely a reminder of what we need to review for the upcoming midterm exam II.

**Algorithms and case studies**

1. Greedy Algorithms
   - Activity selection problems
   - Huffman coding
   - 0-1 Knapsack problem

2. Dynamic Programming
   - Rod cutting problem
   - Matrix-chain multiplication
   - Longest common subsequence/substring
   - 0-1 Knapsack problem

3. Elementary graph algorithms
   - Breadth-first search (BFS)
   - Depth-first search (DFS)
   - Applications:
     - Topological sort of a dag
     - Finding a sink
     - Finding the connected components of a undirected graph
     - Determining whether a graph contains a cycle

**Definitions, concepts and data structures**

1. Elements of greedy algorithms
2. Elements of dynamics programming
3. Graph terminology: graph, path, connected graph, cycle, acyclic, dag, tree, spanning tree ...
4. Graph representations: adjacency matrix, incidence matrix, adjacency list
5. Data structures:
   - FIFO queue
   - LIFO stack