**CS242 Test Two Review Outline**

**These are topics reviewed as part of the class review. They are not necessarily comprehensive.**

Sedgewick Chapter 4

1. Graphs
   1. Representations
      1. Adjacency lists for undirected
   2. Depth-first Search
   3. Breadth-first Search
   4. Symbol Graphs
      1. 6 Degrees of Kevin Bacon problem
   5. Digraphs
      1. Adjacency lists for directed graphs
      2. Directed Acyclic Graphs (DAGs)
   6. Minimum Spanning Tree
      1. Prim’s Algorithm (Lazy)
      2. Prim’s Algorithm (Eager)
      3. Priority Queues (Heaps)
      4. Indexed Priority Queues (Heaps where we can change values of elements already in the heap)
      5. Dijkstra’s Shortest Path Algorithm

Sedgewick Chapter 5

1. Basic Recursion
2. Key-Indexed Sorting
3. LSD String Sorting
4. Tries
   1. Insert
   2. Lookup
   3. Delete
   4. Keys that
      1. Match a prefix
      2. Match a wildcard
   5. Ternary Search Trees
5. Substring search
   1. Knuth-Morris-Pratt
      1. Create a DFA for a search string
      2. Draw the DFA table
      3. Boyer-Moore substring search
      4. Rabin-Karp substring search