Midterm Topics (Quiz Part)

1. Important constants: 2^{20}, $10!$, $2^{20}\lg(2^{20})$, the number of subsets on 10 items, the number of permutations of 10 items, etc.

2. Bitmask operations: How |,ˆ,&,<<,>> work, and how to treat a bitmask as a set of elements.

3. Lexicographic Order: What it is.

4. Data Structures: How to access red-black trees, hashmaps, dynamically resizing arrays, priority queues, etc. in your language of choice, and what the runtimes are. What the Fenwick Tree and Union-Find data structures do, and their runtimes.

Midterm Topics (Homework Part)

1. Will ask several questions that will be nearly verbatim (with slight changes) of the homework problems.

2. The question will require you to either give pseudocode, a high level description of some part of the answer, or will ask you something about the problem related to the implementation of its answer. We may also ask you for the runtime of your solution (as a big-Oh; not in seconds). The questions are designed to be quickly solvable if you recall how you answered the problem, but overly time consuming if not.