Questionnaire

1. Have you taken an undergraduate or graduate course on the design and analysis of algorithms?

2. Are you familiar with the following data structures?

   - Linked lists:

   - Stacks and queues:

   - Binary search trees:

   - Balanced binary search trees (e.g., AVL trees, 2-3 trees, red-black trees, B-trees):

   - Hash tables:

3. Which sorting algorithms have you learned? (List up to five algorithms.) For each one, write "yes" if you also analyzed the running time and "no" if not.

4. Are you familiar with the following graph algorithms?

   - Depth-first search:

   - Breadth-first search:

   - Topological sort:

   - Minimum spanning trees:

   - Network flows:

5. Are you familiar with asymptotic analysis – the $O(\cdot)$, $o(\cdot)$, and $\Omega(\cdot)$ notation, and techniques for solving recurrences?

6. Are you comfortable with elementary probability theory: the notions of random variable, expectation, and conditional probability?