

1. Briefly sketch and explain how a binary indexed list would work, and why lookup time would be  $O(\log N)$ .
2. What is the main problem with binary indexed lists?
3. How do Skiplists attempt to deal with this problem?

4. How many potential solutions do we need to try for the  $N$  non-attacking queens problem if we
  - a. Use pure brute force (no restrictions on where each queen can be placed)?
  - b. Disallow two queens on same square?
  - c. Also disallow two queens in same column?
  - d. Also disallow two queens in same row?
  
5. What is the basic idea behind backtracking, and how does it apply to the queens problem?