

## CP11-12

The problems in this problem set cover lectures C11 and C12

1.
  - a. Define a recursive binary search algorithm.
  - b. Implement your algorithm as an Ada95 program.
  - c. What is the recurrence equation that represents the computation time of your algorithm?
  - d. What is the Big-O complexity of your algorithm? Show all the steps in the computation based on your algorithm.

Turn in a hard copy of your algorithm, recurrence equation, and Big-O analysis, and code listing, and an electronic copy of your code.

2. What is the Big-O complexity of:
  - a. Heapify function
  - b. Build\_Heap function
  - c. Heap\_Sort

Show all the steps in the computation of the Big-O complexity.

Note: the code for heap\_sort, build\_heap and heapify was shown in lecture C11 and has been distributed via email.