

CS251 Data Structures – Fall 2009
Exam 2 – Review

1. Linked Lists

- (a) Abstract Data Types
- (b) Linked list operations and header nodes
- (c) Linked list variants
 - i. double linked lists
 - ii. circular linked lists
 - iii. sorted lists

2. Templates

- (a) Template functions
- (b) Template classes

3. Inheritance and Polymorphism

- (a) syntax
- (b) function overriding

4. Algorithm Analysis

- (a) Big Oh notation - definition, meaning
- (b) Non-recursive code analysis
- (c) Recursive code analysis
 - i. Divide and Conquer
 - ii. Linear homogeneous and non-homogeneous
 - iii. Full history and telescoping techniques

5. Recursion

- (a) Divide and Conquer
 - i. fast multiply
 - ii. mergesort and quicksort
- (b) Backtracking and Branch-and-Bound
 - i. n-queens
 - ii. string problem

6. Projects and Labs