

CSCI 162 – Test 2 Review

General Notes for Midterm Examination:

- **No** multiple-choice **OR** fill-in-the-blank
- Short answer and coding questions
- Partial credit awarded

Generics

- Boxing vs. Unboxing
- Examples with Node<E>

Arrays vs. Linked Lists

- Complexity of operations
- Compare and Contrast (e.g. Sequence Array vs Sequence Linked List)

Abstract Data Types

- What is an abstract data type?
- Know example of one (e.g. List)
 - And how implementations can differ

Linked Lists

- Abstraction of a linked list and node
- Insertion into a linked list
 - Before a location
 - After a location
 - At beginning
 - At end
- Removal from a linked list
 - Before a location
 - After a location
 - At beginning
 - At end
- Member fields representing state (what do we need)
- Methods representing behavior
- Able to draw pictures of linked lists
- Draw before/after operations **AND** write code for operations
- Big-O notation and complexity

Doubly-Linked Lists

- Advantages and disadvantages to normal Linked Lists
- Insertion routine - difference between insertBefore/insertAfter?
- Removal routine

Stacks and Queues

- Properties of each (insertion/removal)
- Implementation of Stacks/Queues with an array or various linked lists
- Postfix evaluation