

CSCI 162 Exam 2 Study Guide – Chapters 4 through 7.

This study guide is provided for your review. Please come prepared to the exam knowing the material and able to do the types of problems described in this guide.

- 1) With chapters 4 through 7 in in the book and the associated lecture notes you have been exposed to at least 20 new, different terms you must know the definitions of. These terms will not be listed for you. Study, read, review.
- 2) Be able to describe how a Linked List ADT is constructed from a Node class, the common methods of a Node class, the typical instance variables used by an ADT that stores its data with a Linked List and the types of problems (applications) a Linked List are well suited for.
- 3) Understand and be able to discuss Generic Programming, the practice of implementing a Generic Class, how Generic Types work and how Wrapper Classes become important for Generic Programming.
- 4) Be able to articulate the concepts behind a Stack ADT, what LIFO means, what would be a good internal data structure for implementing a stack (and why), and how to use a stack for applicable problems.
- 5) Understand and be able to describe the concepts behind a Queue ADT, what FIFO means, how Queue is an interface in the Java library and not an actual class and what that means and how therefore you would declare and use a Queue, what would make a good internal data structure for implementing a queue (and why), and how to use a queue for applicable problems.
- 6) Be able to show in a step-by-step manner how to use a Stack to evaluate a provided postfix expression using the common algorithm for said (see the book and recent lab for details on the algorithm for using a stack to evaluate a postfix expression).
- 7) Be prepared to write small amounts of code and read and trace small amounts of code that utilize a stack, a queue, or both to perform some action.