CSC 20 – Exam 4 Preparation

This page is a guide for getting ready for the module exam. You should read all of the readings and work through all of the practice assignments. This is too much work to do at the last minute, so start early and get help if you need it. If you have time, you are encouraged to do additional similar CodeStepByStep problems for more practice. You may work alone or in groups.

Recursion: With and without Linked Lists

Practice Problems as done in Labs and Practice its.

Big-O and Complexity Classes
Objective: Student should be able to analyze a simple iterative algorithm and methodically determine its complexity class using Big-O notation.

Read/Study: BJP 13.2 and Big-O Worksheet

Practice problems (you may see problems like this on exams)
https://www.codestepbystep.com/problem/view/java/bigoh/bigoh1
https://www.codestepbystep.com/problem/view/java/bigoh/bigoh2

Ignore problems involving TreeSet, HashSet, etc.

Sorting and Searching
Objective: Student should be able to write an O(n^2) method to sort an array and an O(log n) method to search a sorted array for the existence of a particular element.
Read/Study: BJP 13.3

Practice problems (you may see problems like this on exams):

https://www.codestepbystep.com/problem/view/java/searching/binarySearchMC1
https://www.codestepbystep.com/problem/view/java/searching/binarySearch1
https://www.codestepbystep.com/problem/view/java/sorting/selectionSort1
https://www.codestepbystep.com/problem/view/java/sorting/selectionSort2