

Summer 2020 COP 3502 Exam #1 Review

Test Date: Monday, June 8

Test Time: 4:00 pm - 5:55 pm

Outline of Material Covered on the exam

0. COP 3223 Review - Arrays, Strings, Structs (in all sections)

- a. Manipulation of array elements (1D, 2D)
- b. Manipulation of struct components (. vs. ->)
- c. Use of strings (strcmp, strlen, strcpy)

1. Dynamic Memory Allocation (25% roughly)

- a. malloc
 - i. for 1D arrays
 - ii. for 1D array of pointers to structs
 - iii. for 2D arrays
- b. calloc
- c. realloc
- d. free

2. Linked Lists (25% roughly)

- a. iterating through an existing list
- b. inserting (front, in order, back)
- c. deletion
- d. solving various problems (length, sum, reverse, etc.)

3. Queues (25% roughly)

- a. Queues - Array Implementation
- b. Queues - Linked List Implementation
- c. Use of a Queue in a Breadth First Search

4. Stacks (25% roughly)

- a. Stacks - Array Implementation
- b. Stacks - Linked List Implementation
- c. Evaluating Postfix Expressions with an operand stack
- d. Converting Infix Expressions to Postfix with an operator stack

Exam Administration Information/Guidelines

The exam will be administered in the COURSE (section 2) Webcourses as four separate assignments within the category "Exam 1". The assignment names and times will be as follows:

E1-DMA	Start: 4:00	End: 4:25
E1-LL	Start: 4:25	End: 4:55
E1-Queue	Start: 4:55	End: 5:25
E1-Stack	Start: 5:25	End: 5:55

This bleeds over by 5 minutes past our class time, but this is in line with what I do with in class exams, where I try to maximize the time students have to work on the exam.

For each section of the exam, please submit either a .txt, .doc or .docx file. The pace of the exam will be such that it's unlikely you'll be able to compile, run and test too much and will be similar to an in person exam where you only write answers on paper.

In a normal exam setting, you would only be allowed two sheets of notes. For this exam, I will let you view course notes and examples, but *you CAN NOT COPY DIRECTLY from these sources.*

To enforce this idea, we will grade the exam questions as follows:

- 1) About 25% will be given to any response that is turned in but where you only write "I don't know". If you don't turn in a file, no credit will be awarded.
- 2) If a response is a direct copy from course materials or doesn't make any progress towards a solution whatsoever, a 0 will be awarded. This means, I am testing if you know what you know, and

giving you credit for admitting that you don't know something, over making up a guess.

3) Questions will attempt to emphasize concepts and the grading criteria will be designed to prevent giving credit for using unauthorized resources you wouldn't normally have. This means that much of the credit awarded will be for explanations and the cohesiveness of solutions.

4) **I AM VERY SERIOUS ABOUT ENFORCING THE TIME LIMIT.** If a portion of your exam is rejected due to the time limit, then you will score a 0 for that portion. This means you ought to submit something 2-3 minutes before the due time, even if it's incomplete. I will have a small margin of error built in, but I don't want to be public about it, because if I am, some of you will push your luck and get burned, and I don't want that.