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Exam Format

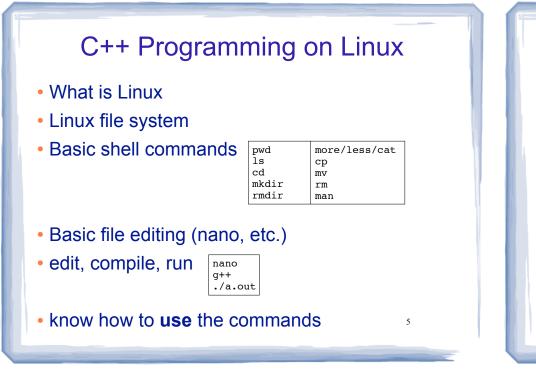
- 100 points total, 4 (or 5) pages
 - Writing functions/code (about 1 page)
 - Multiple choice/matching
 - Fill-in-the-blank/short answer
 - Demonstrating the search/sort algorithms

Content from Textbook

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- Chapter 6: 6.1-5, 7-10, and 13
- Chapter 7: 7.1-4, 6, and 8
- Chapter 11: 11.2-8
- Chapter 8: 8.1 and 8.3
- Linux material from the Linux lecture.
- see lecture pdfs for specific topics: Review part 2, Linux, Chapter 8



Chapters 6, 7, 11 Review

- Know how to program with functions, arrays and structures.
- Passing parameters by reference and by value
- Passing arrays to functions, processing arrays
- Partially filled arrays
- Arrays of structures
- Everything from PA1 and PA2

Ch.8: Searching and Sorting Arrays

- Searching
 - Linear Search
 - Binary Search
- Sorting
 - Bubble Sort
 - Selection Sort
- Efficiency
 - Growth rate functions: which are faster/slower

--see exercises at end

You will not need to know the code

--but I may ask you to implement linear search

You will need to be able to demonstrate the algorithms

- Efficiency of each searching/sorting algorithm

Example Programming Problem

Write a function that accepts an array of integers and the size of the array and prints out a table listing how many values in the array fall in each of the following ranges:

less than 50 50 to 59 60 to 69 70 to 84 85 to 99 over 100

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Binary Search

The target of your search is 101. Given the following list of integers, record the values of first, last, and middle during a binary search. Assume the following numbers are in an array.

1 7 8 14 20 42 55 67 78 101 112 122 170 179 190

Repeat the exercise with a target of 114

first	0	
last	14	
middle	7	

first 0 last 14 middle 7

How to Study

- Review the slides
 - * understand all the concepts, quiz yourself
- Use the book to help understand the slides
 - there will be no questions over material (or code) that is in the book but not on the slides
- Review programming assignments (fix yours!)
 - * get printouts of solutions in my office
- Try some exercises from the book
- Practice, practice, practice!
- Get some sleep

Sorting Example

Use the following array for both questions:

11	8	14	7	12	18	2	17
0	1	2	3	4	5	6	7

Show the contents of the array after 2 passes of the selection sort

Show the contents of the array after 1 pass of the bubble sort

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