



Pointer in Files

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Opening Discussion

- What should you do to create or access a binary file? What commands do you use to read and write binary files? How do you alter your position in a binary file?
- Do you have any questions about the assignment?





- Let's write a bit of code that could work with some binary files a bit.
- Instead of our grade book application we could do an inventory application. This is a type of application that could truly benefit from binary files when the amount of data gets large.





Pointers in Binary Files

- How we deal with pointers in binary files depends a bit on what the purpose of the pointer is.
- Last time we talked about the fact that pointers in files are meaningless. So if the pointer points to some “part” of that data we need to write methods to write out all the data, just like we did for deep copies in place of assignments.
- Pointers can also be used to link one structure to another showing that they are related. We'll see more of this in the near future. These need to be changed to something that has meaning in the file. Often these pointers will be replaced by ints, even in memory.



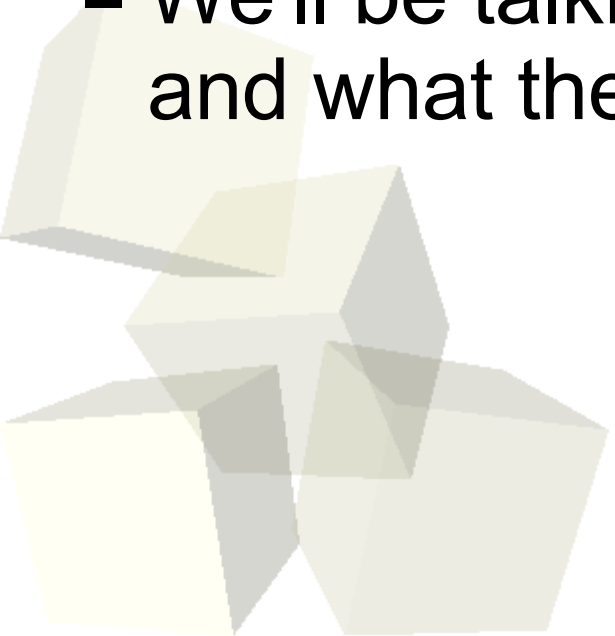
Pools or Keeping it on Disk

- Let's look at how we could add some links between structures in our inventory program.
- One way of implementing this is to keep all the items in a large array in memory and the links can be ints that index the array. This approach is also good for high performance applications because memory allocation is slow.
- The other approach is to not keep the items all in memory. Instead, you keep them on disk and access the disk any time you want to deal with an item by loading it in, changing it, then writing it out. You write helper functions for this.



Bitwise Operators

- We know that numbers are stored in a computer in binary format. There are certain operators that make sense in this format that we wouldn't normally think of for decimal.
- These operators are called bitwise operators because they operate on the bits of the numbers. They are only well defined for ints.
- We'll be talking about these lower level operators and what they can allow us to do next class.





- What will you be doing for Thanksgiving?
- The last quiz is Tuesday when you get back.
- Unless I get an e-mail from someone asking me to be there, I probably won't hold office hours tomorrow.

