

## PA7 – File System (Under grads only)

### Due Date

- See Piazza for due date and time
  - Grading the next day
- Submit program to perform in your student directory
  - Sub directory called:
    - /PA7/...
  - Fill out your **PA7 Submission Report.pdf**
    - Place it in the same directory as your solution
    - Enter the final Changelist number of your submission
    - Write up a quick discussion in the report
      - What you learned from this assignment so far

### Goals

- Learn
  - File Basics
    - fopen, fread, fclose, fseek,
    - (hopefully it's a review)
  - Load a dynamic memory in-place file for fast reload and run

### Assignments

#### ***Section 1: Under Grads only - Basic file load and restore.***

- Based on the code provided....
  - On perform under the assignment
- Write code to copy the node data to a binary file
- Write code to load data from your binary file
- Recreate the linked list from your loaded data
- Print the linked list data, (like sample)
  - obviously your pointers will be different, but not your data
  - append to existing output file

#### ***General:***

- Write all programs in cross-platform C or C++.
  - Optimize for execution speed and robustness.
- Create a programming file for each problem, for example
  - Student directory
    - /PA7/...
  - Make sure that each problem can be compiled and run through the checked in solution

- Do all your work by yourself
  - Feel free to talk with others about setup, version control, ideas
  - But do not copy your friend's code.
    - Please don't - I can tell with my difference tools
  - Feel free to share ideas
- Check in the problems multiple times, at least 3 times per problem
  - Have reasonable check-in comments
  - Seriously, I'm checking
- Make sure that your program compiles and runs
  - Warning level 4, some times that is not possible due to MS headers...
  - Your code should be squeaky clean.
- We are using Perforce
  - You should have received the document describing how to login.
    - Please look at the documentation and videos under the reference directory
  - Submit program to perforce in your student directory
    - Sub directory called: /PA7/...
      - As described above
  - All your code must compile from perforce with no modifications.
    - Otherwise it's a 0, no exceptions

### Validation

*Simple check list to make sure that everything is checked in correctly*

- Did you do all Section 1?
- Do they compile and run without any errors?
- Warning level 4 free (or as close as you can go)?
- Submitted it into /PA7 directory?
- Can you delete you local drive, regrab the /PA7 directory?
  - Is all the code there, Does it compile?
- Did you check in your text files?

### Hints

Most assignments will have hints in a section like this.

- Practice your file system stuff
- Create several example solutions with different file patterns – fopen, fread, fwrite
- Make sure your are using the binary operation and not the text mode.
  - 'wt' – write text
  - 'wb' – write binary
  - Same for read
- Look up file read / write examples from the internet or out of the book
  - I like the fopen, fwrite way of doing stuff as opposed to the streams.
  - Either way works, see what is easier for you.
- Use the FORUMs
  - This is much harder than the last assignment.
  - See me during office hours.
  - Read, explore, ask questions in class