

CSE 660
Spring 2005

Lab 1

Purpose: To become familiar with Unix file system calls in particular and with Unix system calls in general.

Assignment: Write program in C (or C++), that performs the following steps:

1. Creates two new files named ABC.1 and ABC.2, and copies the file /usr/class/cis660/x.x into those two files in the following way: Reads the next 10 characters from x.x, and those characters read are immediately written into ABC.1, then the next 20 characters are read from x.x and those characters are then immediately written in ABC.2. The previous steps are repeated until the end of file x.x. Note that the last read/write may not have 10 or 20 characters.
2. Appends (i.e. writes at the end of the file) file ABC.1 with characters of your name. This will enlarge the file by some number of characters;
3. Inserts into ABC.1 the following characters: ABCDEFGHabcdefgh starting from location 100. This will enlarge file size by 16;
4. Write into file ABC.2, starting after location 160, the following characters: ijklmnopIJKLMNOP. The old characters in those positions are overwritten;
5. Creates a new file named ABC.3 and copies ABC.1 into ABC.3. Copying should be done by reading 100 characters at a time from file ABC.1 and immediately writing them into file ABC.3 .
6. Appends file ABC.3 with file ABC.2 by writing it in reverse order.
7. Reads ABC.3 (80 characters at a time) and prints a set of 80 characters as it is read. Deletes files ABC.1, ABC.2 and ABC.3;

Please comment your programs clearly indicating each step above. After each system call in steps 2 and 3 print its return value.

Except for printing (where you can use any commands), you may use only Unix file systems calls listed in the lecture handout. You are not allowed to create temporary files, or to read and keep entire file or its large parts into memory.

Submissions:

- a. your source code file using command: *submit c660aa lab1 your_source_code_file*
- b. a hard copy of your source code and the output (printing) of the last execution of your program. Also, provide your compilation command.

Please check as soon as possible if you have any problem with issuing command:
submit c660aa lab0 test_file_name.

Due date: Friday, April 15, 2005.

Study: 1, (2), 10.1-10.3, 10.6, 10.7;