COMP 2560 Winter 2024

Assignment 1

Due date: Feb. 4, 11:59pm

All source code should be properly commented to show your code satisfies the requirement of each question.

1. Write a program that uses ***lseek*** function **once** to get the size of an open file of your choice, and then print the size of the file on the screen. Confirm the size reported by your program is the same as what the ls command reports.

2. Write a C program called "writer.c". It uses system I/O calls to create a file called "list1.txt" which has the following text-based content:

   1011 GM Buick 2014
   1024 Ford Lincoln 2025

   There are three blanks between the first and the second columns. There is one tab between the second and third, and between the third and fourth columns.

   You can only call function "write" once. After file "list1.txt" is created, type the following commands to check the content of the file. Make sure you understand how characters are internally saved.
   >>>>> more list1.txt
   >>>>> od –c list1.txt //google yourself to find out what the od command is for
   >>>>> xxd list1.txt //google yourself to find out what the xxd command is for

   Confirm the content of "list1.txt" is correct and explain what you see in the outputs from the od command and the xxd command.

3. Write a C program using system I/O calls to determine how many lines there are in a text file.

4. Redo question 4 above but this time uses standard I/O calls.

5. Write a C program using system I/O calls to

   a) open an existing text file passed to your program as a command line argument, then

   b) display the content of the file,

   c) ask the user what information he/she wants to append (you can use "scanf(…)")

   d) receive the info from the user via keyboard

   e) append the info received in d) to the end of the file

   f) display the updated content of the file.

See the Assignment Submission Specification document for naming files in your submissions for this semester.

6. Redo question 5 above but this time uses standard I/O calls.
7. In our textbook, on page 68-69, it shows an example using system I/O calls to create a "hole" in a file (also demonstrated in class). Do the exact same but use standard I/O calls.

Please make sure all your code works properly on CS Linux server.

For all questions, you need to submit your source code. Record one video with audio showing your source code, you compile and run each program, and explain how each of the underlined items in each question's description is realized in your code.

For the convenience of marking your video submission, please add chapters to your video so that markers can easily jump to the start of each question in your video. If you do not know how to add chapters to your video, please watch this short video to learn how.
https://www.youtube.com/watch?v=d5uSWaCPLj4
If you are using Microsoft Streams, this link shows how to add chapters.
https://support.microsoft.com/en-us/office/using-manual-chapters-with-videos-on-stream-on-sharepoint-8bbf61eb-c00b-42b5-a514-cce2e45eb6ea

Please properly name all your files so that markers could easily identify which file is for which question.

Please note the late assignment submission policy stated in the course outline.

Submit course code for each question and any accompanying files (if applicable) needed for that question. Submit the link to the video.

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