CSP203: Software Tools & Technologies Lab

Lab-4: Practice Problems (Linux Commands and shell scripting)

Date: 20-August-2024

Instructions:

1. You must solve the below problems only on the Linux terminal to make yourself familiar with linux commands and start getting good practice.
2. Complete the lab hour and submit it through canvas.
3. Prepare all your solution files in a zip file and name it as <ROLLNO.zip> and submit on canvas.

Problems:

1. Write a c program named **fib.c** that takes a command line argument n, which computes the fibonacci number of n, i.e, fib(n). [Do not use recursion, write an iterative version]
2. Write a linux command using grep command to list all the C keywords (such as char, int, unsigned, main, void, switch, etc) that you are using in your program.
3. Write a linux command that prints the number of times the character '{' appears in the first 15 lines of your fib.c program.
4. Write a single line command using pipes to find the 3 largest files beginning with "a" in the /usr/bin directory.
5. Write a linux command that concatenates the contents of all **txt** files in current directory and saves the output to "merge.txt"
6. Write a linux command that displays the contents of line 15-20 of a file.
7. Write a linux command that shows all the processes whose name contains the string "pr" [Hint: Use manual for ps command]
8. Convert the fib.c written Question-1 to using a shell script name it as fib.sh
9. Write a shell script that takes an argument as any C file (example file.c) and produces the number of times (frequency) the following C keyword appears in your program. [**Hint:** You can use grep and wc commands inside the shell script]

   int, char, float, double, unsigned, for, if, else, while, switch

   Your program should print a set of lines, where each line is a keyword and the frequency of the keyword.