

CSP203: Software Tools & Technologies Lab

Lab-3: Practice Problems (Linux Commands)

Date: 16-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 linux command that list all the files in the current directory, except the files ending with *.pdf or *.txt
2. Use VIM editor to write a simple c program that takes 2 integer matrices M and N each of size dimensions $n \times n$ and produces a resultant matrix P of size $n \times n$. Your program should initialize M and N to some values and prints P.
Now, write two linux commands that replace integer matrices to float type and replace %d to %f in your program. Ensure that your program should not give compilation errors after the replacement. *[Hint: you can use sed command]*
3. Write a linux command to display the date in mm-dd-yy format.
4. Write a linux command that shows the disk usage of all the *.txt and *.pdf files in the current directory.
5. An ip address has the following format
Number.Number.Number.Number where Number takes any value from 0 to 255. Write a linux command that extracts all the ip addresses present in a file file.txt
6. You can save the output of a command using > operator. For example ls > output.txt saves the output of ls command to output.txt file. Now write 2 linux commands to print the 15-25 lines of a file.
7. Use grep command to find the keyword "int" in the 5-10 lines of the program you wrote in Question-2.
8. Assume that you have a file CSP203.txt, which contains several lines in the below format
RollNo, Grade
RollNo has 8 digits, where each digit can be [0-9]
Grade: Can be any of A, B, C, D, E, F
 - a. Write a linux command that prints the grade of a student whose roll number is given.
 - b. Understand sort command and sort the CSP203.txt roll number wise. Make sure their corresponding marks are sorted accordingly.
 - c. Use uniq command to remove the adjacent duplicate lines in CSP203.txt
 - d. Write two linux commands using sort and uniq to remove all the duplicates lines that appear anywhere in the file.
 - e. Write linux command (s) to compute the number of students obtained A grade.
9. Use the zip command to prepare your solution in a .zip file. Use the unzip command and check if the contents are valid. Finally, submit your solution.