

Punjab University College of Information Technology
University of the Punjab
BCSF15 (Term Fall 2017)

CMP-325 Operating Systems

Student ID: _____

Quiz 04

Time: 90 mins

Marks: 50

Quiz will be cancelled if any student is found looking at his/her neighbor's paper or using any unfair mean

1. What are different type of timestamps in Linux? Also write ls command attribute to view each timestamp. [2]
2. [3]
 - a. Command to count number of lines in man page of ls that contain the word "ls".
 - b. Shows only those files which have been created in Oct and sort them by field-2 numerically? Display all the users in the linux machine?
3. [4]
 - a. Perform integer sort on 2nd column of file.txt and delimited(separated) by commas?
 - b. A command to display count of records in /etc/passwd that doesn't contain the word "var".
 - c. Command to find all files in ~ that are modified 10 minutes ago.
 - d. Command to find all the files in PWD whose type is regular file and give their count.
4. What is a tar-ball and why is it used? Write commands to create, view and extract tar files. [2]
5. What are two shell modes? Differentiate between them. [2]
6. Write and explain available BASH shell control characters. [3]
7. [3]
 - a. How to make a shell variable read-only? Give example.
 - b. How to prevent a command from saved in shell history?
 - c. What will be the values of n1, n2 and n3 after execution of command "read n1 n2 n3" and user inputs "Hello world from BASH user".
8. Discuss briefly different ways of inter-process communication available. [2]
9. What is an IPC pipe? Explain with the help of diagram. [2]
10. What is the limit on number of pipes used in a command?
cmd1 | cmd2 | cmd3 | ... | cmdN Explain your answer. [2]
11. What is the difference between pipes and fifos. Give example of both. [2]
12. Explain named pipes with the help of a diagram. [3]
13. [3]
 - a. Discuss PPFDT briefly.
 - b. Command to check max number of files that a process can open.
 - c. What is the use of /dev/null file
14. Explain difference between these: [2]
 - a. cp f1 f2 ; cp <f1 >f2
 - b. cp f1 f2; cat <f1 >f2
15. Explain output of these commands, if input file exists and also if it doesn't: [5]
 - a. cat <f1 >op 2>err
 - b. cat f1 1>op_err 2>op_err
 - c. cat f1 2>&1 1>op_err
 - d. 2>&1 >f2 cat <f1
 - e. tee <f3 f1 f2 f4 2>err
16. What is a signal and when it is sent? [2]
17. What is a signal disposition? Write different signal disposition available. [2]
18. [2]
 - a. Write name of uncatchable signal?
 - b. Command to view available signals and their numbers.
19. Use of trap command. [2]
20. [2]
 - a. Write keyboard shortcuts to send different signals.
 - b. Command to send SIGTERM to a process with PID 3245.