Babu Banarasi Das University

School of Computer Applications

Question Bank

Bachelor of Computer Applications (DS & AI)

III Semester

BCADSN13203: Linux and Shell Programming

1. Explain the silent features of LINUX?
2. What is the basic difference between DOS, Windows and LINUX?
3. Discuss the various versions of LINUX?
4. How LINUX is different from UNIX?
5. What are the different methods to get Help in LINUX?
6. Differentiate between kernel and shell.
7. What is represented by the shell Meta characters $#, $@, $?,$*
8. Give a shell pipeline that will print the number of files in the current directory. You must use the ***ls*** and ***wc*** commands.
9. List the various types of blocks in Linux file system.
10. Which directory stores the binary executable files for system administration?
11. What is the default value of umask?
12. What is the difference between a system call and a library function?
13. How to compile and run a c file named **"myfile.c"** on Linux?
14. **What does a sticky bit for a directory and a executable file signify?**
15. What are times associated with files? Discuss their importance.
16. Explain the significance of ***tee*** command.
17. What does the block size signify?
18. How to perform following operations using Linux commands?
    a. Copy a file **file1.txt** present in current directory to a directory **Dir1** present in parent directory
    b. List all files in current directory whose name's second character is a digit.
    c. Merge the contents of files **f1**, **f2** and **f3** into file **f4**
    d. To display the date as 30-11-24
    e. To count lines and words of a file named **bca**
19. What is the difference between the commands:
    a) wc –l < file1 and wc –l file1
    b) cat < f1 > f2 and cat > f2 < f1
20. What do the terms UID, PID and PPID signify? How can you obtain these values for a particular currently running process?
21. What do you mean by Hierarchical File Structure? Does Linux follow the same? Justify your answer. Also explain the characteristics of Linux File Structure along with the various types of Linux system directories.
22. Explain the various types of blocks of LINUX File System in detail? Also explain the policy of indirection followed by Linux to store larger files.
23. What is the effect of following commands:
    a) ls –l | tee f1 | wc –l > f2
    b) tr '|\' ':-'< file1 > file2
    c) cut –d '\' –f 1-3,5- myfile
24. What is the effect of following commands:
    d) ls –l | tee f1 | wc –l > f2
    e) tr '|\' ':-'< file1 > file2
    f) cut –d '\' –f 1-3,5- myfile
25. What are filters? explain their significance.

26. What is the effect of following commands:
    g) ls –l | tee f1 | wc –l > f2
    h) tr '|\' ':-'< file1 > file2
    i) cut –d '\' –f 1-3,5- myfile
27. What are filters? explain their significance.
28. what do you mean by input output redirection? What is its importance? How is it achieved in Linux?
29. Explain diff, cmp and uniq commands to compare files in Linux using suitable examples.
30. Which ***vi*** commands are used to perform following operations: Block copy, Block move, Block delete
31. What are the various modes of execution to work with Vi-editor? Discuss each mode with the suitable commands.
32. Discuss the usage of set command along with its various options in detail. Also explain the significance of **.profile** file to customize the vi environment.
33. What is the difference between the following ***vi*** commands?:w, :q!, :wq, ZZ
34. What is the effect of following commands in vi editor-
    a. vi + 100 f1
    b. :set nu
    c. :r file1
    d. :r !command
    e. :5d
35. Discuss the usage of set command along with its various options in detail. Also explain the significance of **.profile** file to customize the vi environment.
36. What will be the output of following commands:
    i. ls –l | tee f1 | wc –l > f2
    ii. tr '|' ':'< file1 > file2
    iii. cut –d '|' –f 2-4 myfile
    iv. date; ls > file1
    v. chmod ug+rw a=x ff.out
37. How the fifteenth character of a line can be located?
38. Which ***vi*** command is used to combine two consecutive lines into one?
39. What is the difference between ***yank*** and ***paste***?
40. In the middle of a file being typed we want to import the output of who command. How can it be done?
41. How can we quickly move to the fifth word of a line and replace its three characters with ***BCA.***
42. How will we move to the 50th line and then copy that line and the remaining lines to a separate file?
43. Which ***vi*** command is used to perform the following deletions?
    a) Character at the cursor
    b) One word from the current cursor position
    c) Next 4 lines
    d) Line to the left of cursor
    e) Line to the right of cursor
44. Which ***vi*** command is used to perform the following cursor movement operations?
    a) 3 words to the right
    b) 4 words to the left
    c) Top of the screen
    d) Bottom of screen
    e) Beginning of current line\
    f) End of file
    g) Goto 100th line in the file
45. What is the significance of ***a.out*** file?
46. What are shell variables? Differentiate between system defined and user defined shell variables.
47. What are positional parameters? Explain their significance in shell programming by giving suitable examples. Also explain the shift command usage.
48. Write a shell script that inputs a number by the user and prints factorial of inputted number.
49. What is the output of following program segments:-
    i)
    ```
    y=x z=y
    echo $$z
    eval echo \$$z
    ```
    ii) set **MCA MCADS BCA BCACS BCADS**
    ```
    echo $$
    echo $#
    echo $@
    ```

50. Write a shell script that prints out ***date*** information in the order: time, day of week, day number, month, year
51. Write a shell script that takes 3 arguments at command line. The 1st argument is the name of a destination file, and the other two arguments are names of files to be placed in the destination file.
52. Write a shell script which gets executed the moment the user logs in. It should display the message of greeting (depending upon the time) along with his log name i.e. "Good Morning XYZ."
53. Write a shell script to find the factorial value of any number entered through the keyboard.
54. What do the following LINUX system variables signify?
    HOME PS1 PS2 PATH TERM MAILCHECK
55. What will be the output of following statements?
    set who am i
    echo $*
    set "who am I"
    echo $*
    set 'who am I'
    echo $*
56. Explain the Block Structure of LINUX File System? How LINUX follows the policy of indirection to store the larger files?
57. Explain the structure of LINUX system along with block diagram?
58. Draw the architecture of LINUX system and describe each layer?
59. How are devices represented in LINUX?
60. What is 'inode'? Explain its significance.
61. Explain different types of shells available in LINUX? Also discuss the advantages and disadvantages of each.
62. What are links and symbolic links in LINUX file system? Explain their significance. How are they handled?
63. What Happens when you execute a command?
64. What are the various features of security offered by LINUX? Explain in Detail.
65. What do you mean by input output redirection? What is its importance? How is it achieved in LINUX?
66. What is the importance of file permissions in LINUX? Describe any two commands responsible for changing the file permissions. Also describe the absolute mode and symbolic mode while assigning the file permissions.
67. What are the process states in LINUX?
68. What are various IDs associated with a process?
69. What is a Daemon? What is an advantage of executing a process in background?
70. What is the usage of 'ps' command? Discuss all its variations in detail.
71. What do you mean by nice value? Explain its significance.
72. What is the significance of pipes? Can it be used independently? give examples of its usage in conjunction with filters and input output redirection.
73. How arrays are handled in LINUX. Give examples.
74. How can the multiple file editing *in* ***vi*** be achieved?
75. What are the various categories of shell metacharacters? Explain them in detail.