Unix/Linux Shell Programming Lab (IT-892)

DEPARTMENT OF INFORMATION TECHNOLOGY

B. Tech 8th Semester

NATIONAL INSTITUTE OF TECHNOLOYG, RAIPUR |

Study the following

1. What is Unix/Linux? What are the main advantages and disadvantages of Unix/Linux.
2. Perform the installation of any Linux distribution e.g. Ubuntu (preferable) and write down its installation steps with various memory allocation options.
3. Differentiate the following terms:
   a. Unix v/s Linux
   b. Shell v/s Kernel
4. Study the basic file structure of Unix/Linux.
5. Study the various basic commands of shells.
6. What is a shell script? Write the various types of shell scripts also write the basic compilation steps of any shell script.
7. Study the vi editor.

Programming assignment

1. How to write shell script that will add two numbers, which are supplied as command line argument, and if this two numbers are not given show error and its usage.
2. Write Script to find out biggest number from given three numbers. Numbers are supplies as command line argument. Print error if sufficient arguments are not supplied.
3. Write script to print triangles of '*' symbol using while loop.
4. Write Script, using case statement to perform basic math operation.
5. Write Script to see current date, time, username, and current directory.
6. Write script to print given number in reverse order, for eg. If no is 123 it must print as 321.
7. Write script to print given numbers sum of all digit, For eg. If no is 123 it's sum of all digit will be 1+2+3 = 6.
8. How to perform real number (number with decimal point) calculation in Linux.
9. How to calculate 5.12 + 2.5 real number calculation at $ prompt in Shell?
10. How to perform real number calculation in shell script and store result to third variable , lets say a=5.66, b=8.67, c=a+b?
11. Write script to determine whether given file exist or not, file name is supplied as command line argument, also check for sufficient number of command line argument.
12. Write script to print contains of file from given line number to next given number of lines. For e.g. If we called this script as Q12 and run as $ Q12 5 5 myf , Here print contains of 'myf' file from line number 5 to next 5 line of that file.
13. Write script to implement getopts statement, your script should understand following command line argument called this script Q13,

Q13 -c -d -m -e

Where options work as

-c clear the screen

-d show list of files in current working directory

-m start mc (midnight commander shell), if installed

-e {editor} start this {editor} if installed.

14. **Write script called sayHello, put this script into your startup file called .bash_profile, the script should run as soon as you logon to system, and it print any one of the following message in infobox using dialog utility, if installed in your system, If dialog utility is not installed then use echo statement to print message : -**

Good Morning

Good Afternoon

Good Evening, according to system time.

15. **How to write script, that will print, Message "Hello World" , in Bold and Blink effect, and in different colors like red, brown etc. using echo command.**

16. **Write script to implement background process that will continually print current time in upper right corner of the screen , while user can do his/her normal job at $ prompt**

17. **Write shell script to implement menus using dialog utility. Menu-items and action according to select menu-item is as follows**

Menu-Item	Purpose	Action for Menu-Item
Date/time	To see current date time	Date and time must be shown using infobox of dialog utility
Calendar	To see current calendar	Calendar must be shown using infobox of dialog utility
Delete	To delete selected file	First ask user name of directory where all files are present, if no name of directory given assumes current directory, then show all files only of that directory, Files must be shown on screen using menus of dialog utility, let the user select the file, then ask the confirmation to user whether he/she wants to delete selected file, if answer is yes then delete the file, report errors if any while deleting file to user.
Exit	To Exit this shell script	Exit/Stops the menu driven program i.e. this script

Note: Create function for all action for e.g. to show date/time on screen create function show_datetime().

18. **Write shell script to show various system configuration like**

1) **Currently logged user and his logname**

2) **Your current shell**

3) **Your home directory**
4) **Your operating system type**
5) **Your current path setting**
6) **Your current working directory**
7) **Show Currently logged number of users**
8) **About your OS and version ,release number , kernel version**
9) **Show all available shells**
10) **Show mouse settings**
11) **Show computer CPU information like processor type, speed etc.**
12) **Show memory information**
13) **Show hard disk information like size of hard-disk, cache memory, model etc.**
14) **File system (Mounted)**

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