

NGM College

Department of Computer Science (SF) 16UCS622 - LINUX

UNIT -1

1. Maximum how long can a Linux filename be?

- A. 128 bytes
- B. 255 bytes
- C. 32 bytes
- D. 64 bytes

Ans: B

2. Which combination of keys is used to exit from terminal?

- A. Ctrl + t
- B. Ctrl + z
- C. Ctrl + d
- D. Ctrl + e

Ans: C

3. Which command(s) is/are used to get help about a command in Linux?

- A. info
- B. man
- C. None of these
- D. Both a and b

Ans: A&B

4. Which command is used to get the kernel version in Linux?

- A. uname -r
- B. kernel
- C. uname -n
- D. uname -s

Ans: A

5. Which command is used to list all the files in your current directory(including hidden)?

- A. ls -l
- B. ls -t

C. ls -a

D. ls -i

Ans: C

6. Which command is/are used to remove directory in Linux?

A. rmdir

B. rm -r

C. only b

D. Both a and b

Ans: D

7. Which of the following command is used to create file in Linux?

A. touch

B. cat

C. echo

D. All of the above

Ans: D

8. In Linux everything stored as a

A. file

B. directory

C. executables

D. None of the above

Ans: A

9. Which of the following command can be used as an alternative to echo command?

A. print

B. printr

C. printf

D. none of these

Ans: C

10. Which command is used to see the list of users who are currently logged-in?

A. login

B. users

C. who

D. which

Ans: C

UNIT -2

11.Which directory in Linux contains all the config file of the system?

- A. /etc
- B. /var
- C. /lib
- D. /bin

Ans: A

12.Which of the following command is used to count number of lines in a file?

- A. wc -l
- B. wc -c
- C. wc -w
- D. None of these

Ans: A

13.Which command is used to copy entire directory?

- A. cp -r
- B. cp -i
- C. cp
- D. none of these

Ans: A

14.Which special character should be avoided during naming a file?

- A. .(dot)
- B. \$
- C. _(underscore)
- D. -(Hyphen)

Ans: D

15.Suppose I am in /etc directoy, after executing cd .(single dot), where am I now?

- A. /etc
- B. /(root)
- C. /home
- D. None of these

Ans: A

16. mv command can be used to ?

- A. Move the file to different directory.
- B. Renaming a file

- C. Both a and b.
- D. Only a.

Ans: C

17. Which command is used to print the login shell of an user?

- A. echo \$SHELL
- B. echo \$LOGIN
- C. echo \$LSHELL
- D. None of the Above

Ans: A

18. which command is used to print the current working directory?

- A. pwd
- B. echo \$PWD
- C. Both A and B
- D. Only A

Ans: C

19. Which command is used to set terminal IO characteristic?

- a) tty
- b) cttty
- c) pttty
- d) sty

Answer: d

20. Which option of ls command used to view file inode number

- a) -l
- b) -o
- c) -a
- d) -i

Answer: d

UNIT -3

21. Which directory contains all the files needed to boot the Linux system?

- A. /dev
- B. /boot
- C. /bin

Ans: B

22.What is the right command to save file and exit in Vim?

- A. :wq
- B. :a
- C. :q
- D. :q!

Ans: A

23.Which of the following is not an editor?

- A. expr
- B. vi
- C. emacs
- D. ex

Ans: A

24.In a date +format, you add the hour in 24 hours format using:

- A. %f
- B. %H
- C. %F
- D. %h

Ans: B

25.What command is used with vi editor to delete a single character?

- A. x
- B. y
- C. a
- D. None of the above

Answer: A

26.Which of the following is not a communication command?

- A. grep
- B. mail
- C. mesg
- D. write

Answer: A

27.What command is used with vi editor to replace text from cursor to right

- A. S
- B. s
- C. R
- D. r

Answer:C

28.What command is used with vi editor to move back to the beginning of a word?

- A. w
- B. e
- C. a
- D. b

Answer: D

29.What command is used with vi editor to search a pattern in the forward direction?

- A. ??
- B. //
- C. ?
- D. /

Answer: D

30.What command is used with vi editor to append text at end of line?

- A. I
- B. i
- C. a
- D. A

Answer: D

UNIT -4

31.Which of the following is not a filter command?

- A. sort
- B. wc
- C. grep
- D. cat

Answer: D

32. While executing a command, the shell

- a) Executes it in the same process (as shell)
- b) Creates a child shell to execute it
- c) Loads a special program to take care of the execution
- d) None of the mentioned

Answer: B

33. Which variable contains current shell process id

- a) \$*
- b) \$?
- c) \$\$
- d) \$!

Answer: C

34. Hidden files are

- a) Those whose 'read' bit is set to 'h'
- b) Permitted for (can be accessed) only superusers
- c) Files that begin with a '.'
- d) Files that cannot be opened by ordinary user for writing

Answer: C

35. Shell is ?

- a) Command Interpreter
- b) Interface between Kernel and Hardware
- c) Interface between user and applications
- d) Command Compiler

Answer:A

36. Which command searches the string in file opened in vi editor?

- a) / or ?
- b) f or F
- c) t or T
- d) none of the mentioned

Answer: A

37. Which command sets the number for all lines?

- a) :set li
- b) :set ln
- c) :set nu
- d) :set nl

Answer: C

38. Which of the following is true?

- a) Shell is a process and can be started by superuser only
- b) Shell is a built-in Kernel functionality
- c) Shell is a wrapper for all the commands and utilities
- d) None of the mentioned

Answer: C

39. The permission -rwxr--r-- represented in octal expression will be

- a) 777
- b) 666
- c) 744
- d) 711

Answer: C

40. Effective group id can be set using following permission

- a) 0777
- b) 2666
- c) 4744
- d) 1711

Answer: B

UNIT -5

41. The permission -rwSr--r-- represented in octal expression will be

- a) 0777
- b) 2666
- c) 4744
- d) 4644

Answer: D

42. Which command is used to assign read-write permission to the owner?

- a) chmod a+r file
- b) chmod o+r file
- c) chmod u=rw file
- d) chmod og-r file

Answer: C

43. Which of the following umask settings doesn't allow execute permission to be set by default on directory files

- a) 222
- b) 111
- c) 000
- d) 444

Answer: C

44. Write the command to display the current date in the form dd/mm/yyyy.

- a) date +%d/%m/%Y
- b) date +"%d/%m/%Y"
- c) date +%d/%m/20%y
- d) date +"%d/%m/20%y"

Answer: A

45. How to execute ls command inside a vi editor?

- a) !ls
- b) :ls
- c) :!ls
- d) we can't execute

Answer: C

46. What communication command provides communication to another user logged on by writing to the bottom of their terminal?

- a) talk
- b) write
- c) chat
- d) transmit

Answer: A

47. Which of the following command output contains userid?

- a) ls
- b) help
- c) date
- d) ls -l

Answer: D

48. pwd command displays

- a) user password
- b) password file content
- c) present working directory
- d) none of the mentioned

Answer: C

49. What is the default number of files open per user process?

- a) 0
- b) 1
- c) 2
- d) 3

Answer: D

50. Solaris is the name of a flavor of UNIX from

- a) HP
- b) IBM
- c) Digital Equipment Corp
- d) Sun Microsystems

Answer: D

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16UCS622 – Linux

K2 Level Questions

UNIT -1

1. What are the Linux Distribution (Operating System) Names?

A. Here are the some Linux operating system names:

1. Redhat Enterprise Linux
2. Fedora Linux
3. Debian Linux
4. Suse Enterprise Linux
5. Ubuntu Linux

2. What is ls command and what it does?

A. ls lists files in a directory. In Linux System admins and developers uses this command very often. In containers, ls command can help determine your container image's directory and files.

ls Example:

```
$/myapp
```

```
bash: ./myapp: Permission denied
```

```
$ ls -l myapp
```

```
-rw-r--r--. 1 root root 33 Dec 17 15:27 myapp
```

3. What is tail command in Linux?

A. tail command displays the last part of a file. Generally, users don't need every log line to troubleshoot. Instead, you want to check what your logs say about the most recent request to your application.

tail Example:

```
$ tail -n 100 /var/log/httpd/access_log
```

4. What is cat command in Linux?

A. In Linux cat command concatenates and prints files. Users might issue cat to check the contents of your dependencies file or to confirm the version of the application that you have already built locally.

cat Example:

```
$ cat requirements.txt
```

```
flask
```

```
flask_pymongo
```

5. What is grep command in Linux?

A. grep searches file patterns. If you are looking for a specific pattern in the output of another command, grep highlights the relevant lines. Use this grep command for searching log files, specific processes, and more.

grep Example:

```
$ cat tomcat.log | grep org.apache.catalina.startup.Catalina.start
```

```
12-Jan-2018    17:08:35.542 INFO [main] org.apache.catalina.startup.Catalina.start    Server  
startup in 681 ms
```

6. What is ps command in Linux?

A. ps command displays process status. Use this ps command to determine a running application or confirm an expected process.

ps Command Example:

```
$ ps -ef
```

```
$ ps -ef | grep tomcat
```

7. What is env command in Linux?

A. env command allows users to set or print the environment variables. During troubleshooting, users can find it useful for checking if the wrong environment variable prevents your application from starting

env Command Example:

```
$ env
PYTHON_PIP_VERSION=9.0.1
HOME=/root
DB_NAME=test
PATH=/usr/local/bin:/usr/local/sbin
LANG=C.UTF-8
PYTHON_VERSION=3.4.6
PWD=/
DB_URI=mongodb://database:27017/test
```

8. How do you find who is logged in?

A. Use this command to find who logged in: w

9. How do you check permissions of each directory to a file?

A. It is useful to detect permissions errors, for example when configuring a web server.

```
namei -l /path/to/file.txt
```

10. What Is Linux Shell?

Answer :

Linux shell is a user interface used for executing the commands. Shell is a program the user uses for executing the commands. In UNIX, any program can be the users shell. Shell categories in Linux are:

Bourne shell compatible, C shell compatible, nontraditional, and historical.

UNIT -2

11. What Is Shell Script?

Answer :

A shell script, as the name suggests, is a script written for the shell. Script here means a programming language used to control the application. The shell script allows different commands entered in the shell to be executed. Shell script is easy to debug, quicker as compared to writing big programs. However the execution speed is slow because it launches a new process for every shell command executed. Examples of commands are cp, cn, cd.

12. What Are Pipes?

Answer :

A pipe is a chain of processes so that output of one process (stdout) is fed an input (stdin) to another. UNIX shell has a special syntax for creation of pipelines. The commands are written in sequence separated by |. Different filters are used for Pipes like AWK, GREP.
e.g. sort file | lpr (sort the file and send it to printer)

13. What Is Bash Shell?

Answer :

Bash is a free shell for UNIX. It is the default shell for most UNIX systems. It has a combination of the C and Korn shell features. Bash shell is not portable. any Bash-specific feature will not function on a system using the Bourne shell or one of its replacements, unless bash is installed as a secondary shell and the script begins with #!/bin/bash. It supports regular and expressions. When bash script starts, it executes commands of different scripts.

14. What Is A Filesystem?

Answer :

Sum of all directories called file system.

A file system is the primary means of file storage in UNIX. File systems are made of inodes and superblocks.

15. What Utility Would You Use To Cut Off The First Column In A Text File?

Answer :

awk, kde

16. How To Remove Directory With Files?

Answer :

rm -rf directory_name

17. Name Two Methods You Could Use To Rename A File?

Answer :

Two methods that could be used:

- a. use the mv command
- b. copy the file and give it a new name and then remove the original file if no longer needed.

18. List All The Files Beginning With A?

Answer :

To list all the files beginning with A command: ls A*

19. What Is The Difference Between > And >> Operators?

Answer :

The operator > either overwrites the existing file (WITHOUT WARNING) or creates a new file. The operator >> either adds the new contents to the end of an existing file or creates a new file.

20. What Types Of Files You Know?

Answer :

Files come in eight flavors:

Normal files

Directories

Hard links

Symbolic links

Sockets

Named pipes

Character devices

Block devices

UNIT -3

21. How You Will Uncompress The File?

Answer :

Use tar command (The GNU version of the tar archiving utility):

`tar -zxvf file_name.tar.gz`

22. What Does Grep() Stand For?

Answer :

General Regular Expression Parser.

23. What Is Difference Between At And Cron?

Answer :

Cron command is used to schedule the task daily at the same time repeatedly , “at” command is used to schedule the task only once i.e. to run only one time.

24. Your Default Umask Is 002. What Does This Mean?

Answer :

The digits of your umask represent owner, group and others in that order.

The 0 gives read and write for files and the 2 gives read only for files.

25. You Want To Create A Compressed Backup Of The Users' Home Directories. What Utility Should You Use?

Answer :

You can use the z modifier with tar to compress your archive at the same time as creating it.

26. Define inode.

Each file is given a unique name by the operating system which is called as the inode.

27. How to delete information from a file in vi?

The following commands are used to delete information from vi editors.

1. x deletes a current character.

2. dd deletes the current line.

28. What is crontab and explain its functionality and explain the format of crontab?

Answer: Cron is a scheduler that executes the commands at a regular interval as per the specific date and time defined. We have multiple users in Linux, and all the users can have their crontab separately. The crontabs files are saved at a particular location that is /var/spool/cron/crontabs.

There are six fields in the format for the crontab that is as below:

<Minute><Hour><Day_of_the_Month><Month_of_the_Year><Day_of_the_Week><command/
program to execute>

29. How can we stop or terminate a running process in Linux?

Ans. Kill command is used to terminate a running process in Linux. There are two variants of killing a process-

- Kill PID - This will generate a signal SIGTERM, specifying graceful termination of the process with process id - PID
- Kill -9 PID - This will generate a signal SIGKILL specifying forceful termination of the process with process id - PID

30. What is a daemon?

Ans. Daemons are the processes that run in background either at predefined time or in the event of a trigger. As a convention, daemon names in Linux end with the letter 'd'.

UNIT -4

31. How to print the current working directory in Linux?

Ans. Pwd command is used to display the current directory (Print Working Directory)-

```
$ pwd  
/c/Users/Kuldeep
```

32. How to create a directory in Linux and give full permission to it?

Ans. Using mkdir, we can create a directory and then with chmod we can give permissions.

```
mkdir directoryName
```

```
chmod 777 directoryName
```

Alternatively, we can also use '-m' or mode option of 'mkdir' command and perform the operation in single command-

```
mkdir -m 777 directoryName
```

33. What are absolute and relative paths?

Ans. Absolute path - Absolute path is the path of a file or directory from the root directory i.e. from `/`.

Relative path - Relative path is the path of a file or directory from the present working directory.

34. How to login as a different user in Linux?

Ans. 'su' command is used to login as different user in Linux. It stands for substitute user or switch user.

#Switch to user2

```
su user2
```

Password:

#Switch to root

```
su root
```

Password:

35. What are the different file ownership in Linux?

Ans. Each file and directory in Linux can have following 3 owners-

1. User - The user or owner permission class belongs to the user who created the file.
2. Group - The group permission class belongs to the members of the file's group.
3. Other - User or other permission class refers to each user who has access to the file.

36. What is the difference between 'cp' and 'mv' command?

Ans. The 'cp' command is used to copy content of one file to another. Whereas, 'mv' command moves a file from one location to another, deleting the source file. 'mv' command is also used for renaming files. Usage-

#Copies content of file1 to file2

```
cp file1 file2
```

#Moves/renames file1 to file2

```
mv file1 file2
```

37. Explain the usage of 'head' and 'tail' commands.

Ans. Head command is used to display first few lines(default 10) of a file. Whereas, tail is used to display last few lines(default 10) of a file. Usage-

#Display first 10 lines of a file

head fileA

#Display first 5 lines of a file

head -5 fileA

#Display last 10 lines of a file

tail fileA

#Display last 5 lines of a file

tail -5 fileA

38. How to count the number of words, lines and characters in a file?

Ans. Using wc command (word count)-

#Number of characters

wc -m fileA.txt

#Number of words

wc -w fileA.txt

#Number of lines

wc -l fileA.txt

39. How to sort the contents of a file?

Ans. Sort command can be used to sort the elements of a file line wise.

#File content - kuldeep, abc, 1India, zed each in separate line

sort file

Output-

1India

abc

kuldeep

zed

40. How can we remove the duplicates in a file?

Ans. Using 'uniq' utility with 'sort' command.

#File content - bat, all, cat, cat, all, cat each in separate line

```
sort fileWithDuplicateContent | uniq
```

Output-

```
all
bat
cat
```

UNIT -5

41. What are soft links in Linux? What are its advantage over cp command?

Ans. Soft links are also known as symbolic links or symlinks. These are used to create a symbolic links or pointers to a file. In Linux, soft links are created using 'ln' command with '-s' option.

```
#Creates a soft link 'fileA' to the file 'fileA.txt'
#'-s' option to create a soft link
ln -s fileA.txt fileA
```

It has got advantage over cp command (which creates a new copy of the file) in the sense that in order to change the permission to the files, with links only the permission of the original file need to be changed. Whereas, with cp command, the permission to all the copies of the file need to be changed.

42. How to exit from vi editors?

The following commands are used to exit from vi editors.

1. :wq saves the current work and exits the VI.
2. :q! exits the VI without saving current work.

43. What are the modes used in VI editor?

There are 3 types of modes in vi Editor:

- o Regular mode or command mode
- o Insertion mode or edit mode
- o Replacement mode or Ex-mode

44. Is Linux Operating system virus free?

No, There is no operating system till date that is virus free, but Linux is known to have less number of viruses.

45. What Is The Difference Between Internal And External Commands?

Answer :

Internal commands are stored in the; same level as the operating system while external commands are stored on the hard disk among the other utility programs.

46. What Is The Difference Between Home Directory And Working Directory?

Answer :

Home directory is the directory you begin at when you log into the system. Working directory can be anywhere on the system and it is where you are currently working.

47. *How can an administrator know whether a user account is locked or not?*

Answer: To check if the user account is locked or not just run this command in the shell:

```
passwd -S <username>
```

Or search for the grep username in the location /etc/shadow file and it will show a symbol '!' prefix to the encrypted field in the password box.

To just unlock the password type this command:

```
passwd -u <username>
```

If there is a double exclamation mark then run this command two times:

```
usermod -U <username>
```

48. *Mention the run levels in Linux and steps to edit them.*

Answer: Run levels are identified by numbers in Linux. The run levels determine what are the services that are currently in operation. There are seven different run levels in Linux:

- Halt System
- Single User Mode
- User Multi-Mode excluding NFS

- Full Multi-User mode
- Unused
- Multi-User mode (Graphical user mode)
- Reboot System

To change the edit level /etc/inittlab and edit the initdefault entry.

49. Mention some of the networking commands in Linux.

Answer: If you connect a system to a network then you can easily troubleshoot the connection issues related to the system. Below are few of the networking commands used for configuration and troubleshooting.

- ifconfig
- traceroute
- dig
- telnet
- nslookup
- netstat

50. If you have saved a file in Linux. Later you wish to rename that file, what command is designed for it?

The 'mv' command is used to rename a file.

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K3 Questions

UNIT -1

1. Explain salient features of UNIX.
2. Explain the hardware requirements of unix.
3. Discuss UNIX system organization.
4. List the different types of shells.
5. Discuss about the UNIX File system.
6. List file related commands.
7. List Directory related commands.
8. Discuss Directory access permissions.
9. List the different miscellaneous commands.
10. Explain the following commands
i) touch ii) mkdir

UNIT -2

1. Explain the inode table in detail.
2. Explain boot block and super block.
3. Explain storage of files in detail.
4. Explain how to check the free space in disk.
5. Explain the following commands
i) Dfspace ii)ulimit
6. Explain the following commands
i) Du ii)ulimit
7. Explain the following commands
i) Du ii)ulimit
8. Explain the following commands
ii) cal ii)banner
9. Explain file compression in detail.
10. Explain viewing files in detail.

UNIT -3

1. Explain modes of operation in detail.
2. How to add text in vi editor.
3. How to delete text in vi editor.
4. Explain yank and paste commands in detail.
5. Explain find and replace commands in detail.
6. Explain delete and paste commands in detail.

- 7.Explain multiple file handling in detail.
8. Explain background processes in detail.
9. Explain nohup command in detail.
- 10.How to change process priority in detail.

UNIT -4

- 1.Explain Shell script in detail.
- 2.Explain command line arguments in detail.
3. Explain logical operators.
- 4.Explain if condition with example.
- 5.Explain switch case condition with example.
6. Explain expr commands in detail.
7. Explain while statement with example.
8. Explain for statement with example
9. Explain set command in detail.
10. Explain shift command in detail.

UNIT -5

- 1.Explain booting in detail.
- 2.Explain shutting down in detail.
3. Explain disk management in detail.
- 4.Explain cpio commands in detail.
- 5.Explain afio command with example.
6. Explain mount commands in detail.
7. Explain unmount commands in detail.
8. Explain find command with example
9. How to create device file in detail.
10. How to install and manage printers in detail.

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K4 Questions

UNIT I

1. Analyze the file and directory related commands.
2. Compare the types of shells available In LINUX.
3. Analyze the LINUX system organization.
4. Analyze different list commands with example.
5. Classify the permissions of directories.

UNIT II

1. Categorize the different types of blocks in UNIX.
2. Analyze the storing capacity of files.
3. Elaborate the disk related commands.
4. Analyze the File related commands.
5. Explain about file compression techniques.

UNIT III

1. Classify the vi editor with their modes of operation.
2. Analyze commands in detail.
i) yank and paste ii) find and replace
3. Discuss about the processes and their priorities in linux.
4. Explain about the following commands in detail.
a) Searching string commands
b) yank and paste commands.
5. Explain about the multiple file handling in unix.

UNIT IV

1. Classify conditional statements in detail.
2. Classify logical operators with examples.
3. Classify loop statements with example.

4. Discuss set and shift commands in detail.
5. Analyze about shell scripts in detail.

UNIT V

- 1.Explain booting and shutting down in detail.
2. Classify disk management in detail.
- 3.Explain cpio and afio commands in detail.
- 4.classify mount and unmount commands in detail.
- 5.How to install and manage printers in detail.

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K5 Questions

UNIT I

1. Compare file commands with directory commands.
2. Analyze different salient features of LINUX.
3. Compare file permissions with directory permissions.
4. Interpret different miscellaneous commands used in LINUX.
5. Compare multitasking and multiuser feature of LINUX with neat sketch.

UNIT II

1. Explain the following
 - i) Hardware Requirements for LINUX
 - ii) Salient Features of LINUX
2. Discuss the LINUX system organizations and various types of shells.
3. Discuss listing of files and directories in detail.
4. Analyze directory related commands in detail.
5. Compare file permission with directory permission.

UNIT III

1. Explain Vi editor with different types of mode in detail.
2. Compare adding text and deleting text in Vi editor.
3. Explain the following with commands in detail.
 - a) changing process priorities
 - b) Scheduling process
4. Explain about the following commands in detail.
 - a) ps command
 - b) nohup command
 - c) batch command
5. Explain about the following commands in detail.
 - a) find and replace
 - b) Crontab commands.

UNIT IV

1. Discuss the control flow statements in shell scripts programming. Give suitable example.
2. Discuss the looping statements in shell scripts programming with example.
3. Explain about the following commands in detail.
 - a) Set command
 - b) Shift command

4. Explain about the following commands in detail.
 - a) expr command
 - b) eval command
- 5..Explain multiple file handling in detail.

UNIT V

1. Discuss the major activities of system administration and file system administration.
2. Explain about the following commands with syntax.
 - a) File system consistency check
 - b) copy(achive files) inand out.
3. Explain about the following commands with syntax.
 - a) Super user status command.
 - b) Find command.
 - c) mount Command.
4. Compare cpio and afio commands in detail.
5. Compare mount and unmount commands in detail.