



Linux Professional Institute 117-101

lp1 level 1 exam 101(with rpm)

Q&A v 3.29

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1. After a minor security incident you are instructed by your lead sys-admin to verify the RPMs installed on a running system. Which command will create a complete report that you can analyze for changes that may be security-related?

- A. rpm -Va > report
- B. rpm -Qavy > report
- C. rpm -Vqt -nomd5 > report
- D. rpm -checkfiles > report
- E. rpm -Va -nofiles > report

Answer: A

2. Makefile contains which typical targets?

- A. CFLAGS, CPPFLAGS, LIBS, LDFLAGS
- B. clean, install, uninstall
- C. PATHS, DESTDIR, LIBS, LDFLAGS
- D. prefix, exec_prefix, bindir, mandir

Answer: B

3. Which RPM command will output the name of the package which installs the file /etc/exports?

- A. rpm -F /etc/exports
- B. rpm -qf /etc/exports
- C. rpm -Kl /etc/exports
- D. rpm -qp /etc/exports
- E. rpm -qi /etc/exports

Answer: B

4. You installed a beta rpm package, but are experiencing some problems with it. How can you remove this package?

- A. rpm -qe rpmname
- B. rpm -v -remove rpmname
- C. rpm -r rpmname
- D. rpm -d rpmname
- E. rpm -ev rpmname

Answer: E

5. What is a reasonable command to uninstall a Debian package from your system?

- A. `dpkg -Ra pkgname`
- B. `dpkg -R pkgname`
- C. `dpkg -r pkgname`
- D. `dpkg -ra pkgname`

Answer: C

6. Where can lilo place boot information?

- A. The boot ROM
- B. The boot RAM
- C. The `/boot` partition
- D. The MBR on a hard drive

Answer: D

7. You have not run `apt-get` on a system for some time, but it has been run on the system before. What `apt-get` command would you run to download the latest list of packages, but not the packages themselves?

- A. `apt-get build-dep`
- B. `apt-get mirror-select`
- C. `apt-get update`
- D. `apt-get upgrade`
- E. `apt-get dist-upgrade`

Answer: C

8. Which of the following programs is typically used to query installed `.deb` packages? (Please select TWO that apply).

- A. `dpkg`
- B. `apt-cache`
- C. `apt-conf`
- D. `dselect`

Answer: AD

9. What file is read by the program `ldconfig`?

- A. `/lib/ld.so`

- B. /etc/ld.so.conf
- C. /etc/ld.so.cache
- D. /etc/modules.conf

Answer: B

10. You want to examine the changelog for the installed package postfix. Which command will display the changelog?

- A. rpm -Vc postfix
- B. rpm -qpil postfix
- C. rpm -changelog postfix
- D. rpm -q -changelog postfix
- E. rpm -qa -changelog postfix

Answer: D

11. An installed package is broken. In order to go back to the previous version of the same package which RPM option should be used?

- A. -replacefiles
- B. -replacepkgs
- C. -oldpackage
- D. -nodeps

Answer: C

12. What tool can you use to print shared library dependencies?

- A. ldconfig
- B. ldd
- C. libdep
- D. libpath
- E. ldev

Answer: B

13. In order to select the network location(s) from which Debian installation package files are loaded, which file should be edited?

- A. /etc/dpkg/dpkg.cfg

- B. /etc/apt/apt.conf
- C. /etc/apt/apt.conf.d
- D. /etc/apt/sources.list
- E. /etc/dpkg/dselect.cfg

Answer: D

14. George is planning a partition scheme for a new Linux installation. Which THREE directories should he consider for separate partitions? (Select three)

- A. /etc
- B. /home
- C. /var
- D. /lib
- E. /tmp

Answer: BCE

15. Which Debian package system command will list all partially installed packages and suggest how to get them correctly installed?

- A. dpkg -C
- B. apt-get -u
- C. dpkg -Dh
- D. dpkg -l
- E. apt-get -y

Answer: A

16. What is the difference between the -remove and the -purge action with the dpkg command?

- A. -remove removes the program, -purge also removes the config files
- B. -remove only removes the program, -purge only removes the config files
- C. -remove removes a package, -purge also removes all packages dependent on it
- D. -remove removes only the package file itself, -purge removes all files related to the package

Answer: A

17. You need to know where all the configuration files are located for the installed package named postfix. Assuming it

was installed with rpm, which command will list this information for you?

- A. rpm -qc postfix
- B. rpm -Vc postfix
- C. rpm -config postfix
- D. rpm -listconfig postfix
- E. rpm -qa -config postfix

Answer: A

18. While installing an application from source code you don't see the configure script. What command can you run to compile the code?

- A. make configure
- B. install
- C. install makefile
- D. make

Answer: D

19. You want to install a new software package, but it is only available in RPM format and you are running Debian Linux. Which of the following would help you to install it on your system?

- A. alien
- B. apt-conf
- C. dselect
- D. cpio

Answer: A

20. After modifying GRUB's configuration file, what command should you run for the changes to take effect?

- A. kill -HUP `pidof grub`
- B. grub-install
- C. grub
- D. reboot

Answer: D

21. You are preparing a new set of shared libraries in /usr/local/applib and you have written and compiled some code that

uses these libraries. You have already performed an ldconfig, however the system still cannot find the shared libraries.

What is most likely the cause of this?

- A. You used the wrong compiler.
- B. You did not update your PATH variable.
- C. You compiled the code with wrong library.
- D. You forgot to put the library path in ld.so.conf.

Answer: D

22. You are about to install a new program on an RPM-based Linux system. Which of the following would the easiest way to accomplish this?

- A. Get the source code in a tarball and install from that source.
- B. Get a source RPM and use rpm to install it.
- C. Use rpm to install the program's binaries from an RPM package.
- D. Use cpio to extract the binaries from a source RPM and use rpm to install those sources.

Answer: C

23. Which command will list all the files installed from the RPM package file named, vorbis-tools-1.1.i386.rpm?

- A. rpm -qf vorbis-tools-1.1.i386.rpm
- B. rpm -F vorbis-tools-1.1.i386.rpm
- C. rpm -pf vorbis-tools-1.1.i386.rpm
- D. rpm -ql vorbis-tools-1.1.i386.rpm
- E. rpm -qlp vorbis-tools-1.1.i386.rpm

Answer: E

24. You have just upgraded your PC to a 60 gigabyte IDE drive. While partitioning the drive, you notice that only 32 gigabytes are available. Which of the following will most likely allow you to use the entire drive?

- A. Create two smaller partitions of 30 gigabytes each.
- B. Set the PC BIOS to use LBA mode.
- C. Create a partition that resides entirely below the first 1024 cylinders.
- D. Use GRUB or the latest version of LILO as a bootloader.
- E. Upgrade the PC BIOS to the latest version available.

Answer: E

25. You are running Linux 2.0.36 and you need to add a USB mouse to your system. Which of the following statements is true?

- A. You need to rebuild the kernel.
- B. You need to upgrade the kernel.
- C. You need to load the USB modules for your existing modular kernel.
- D. USB support is not available in Linux.

Answer: B

26. How many SCSI ids for peripherals can SCSI-1 support?

- A. 5
- B. 6
- C. 7
- D. 8

Answer: C

27. The lspci command can display information about devices EXCEPT the following:

- A. card bus speed (e.g. 66Mhz).
- B. card IRQ settings.
- C. card vendor identification.
- D. card AGP rate (e.g. 1x, 2x, 4x).
- E. card Ethernet MAC address.

Answer: E

28. Which of the following commands allows you to view or change serial port configuration?

- A. /sbin/serialconf
- B. /sbin/comdev
- C. /bin/setserial
- D. /bin/serialdev

Answer: C

29. In order to save and restore your sound card's configuration between sessions, the ALSA sound system uses what program?

- A. setalsa
- B. setsound
- C. soundctl
- D. alsactl
- E. alsaset

Answer: D

30. What information is displayed by the command `cat /proc/dma`?

- A. whether DMA is enabled
- B. which DMA channels are in use
- C. which DMA mode is in use
- D. general information about DMA on the machine

Answer: B

31. In `XF86Config`, which section is concerned with fonts?

- A. the Fonts section
- B. the Files section
- C. the xfsCodes section
- D. the Graphics section
- E. the modeline section

Answer: B

32. You have just set up the Gnome Display Manager as your default display manager. What file should you edit to change the default greeting for it?

- A. `/etc/X11/prefdm`
- B. `/etc/X11/XF86Config`
- C. `/etc/X11/gdm.conf`
- D. `/etc/X11/gdm/Init/Default`

Answer: D

33. You are the system administrator for a consulting firm where several people use Linux as their desktop operating system. One of your users has installed a commercial publishing program that works under X on a variety of UNIX and

Linux platforms. The user made a series of configuration changes regarding the initial window size, location and color. Now, he is having difficulty undoing these changes and is asking for your help. In which file would you think you would most likely find the configuration settings you are seeking to change?

- A. ~/.xinitrc
- B. ~/.xconfig
- C. ~/.Xdefaults
- D. ~/.XF86Config
- E. /etc/X11/XF86Config

Answer: C

34. Which of the following lines from /etc/X11/XF86Config indicates what fonts can be found on a font server?

- A. FontPath= server
- B. Fonts "unix/:7100"
- C. FontPath "unix/:7100"
- D. Fonts= server
- E. Fontserver = "servername"

Answer: C

35. After installing and configuring XFree86, you notice that when you start X, the display is not centered. What program can you run to find a better modeline setting?

- A. XF86Setup
- B. xf86config
- C. xvidtune
- D. xvideoagent

Answer: C

36. You are having problems with a particular font and you want to see if its directory is included in XF86Config. Which section contains this information?

- A. Paths
- B. Fonts
- C. Files
- D. Graphics

Answer: C

37. You have just set up the X Display Manager as your default display manager. What file should you edit to change the default background for it?

- A. /etc/X11/xdm/Xsetup
- B. /etc/X11/prefdm
- C. /etc/X11/XF86Config
- D. /etc/X11/xdm.conf

Answer: A

38. The X program _____ is often used to make minor keyboard adjustments, like proper Backspace/Delete mapping.

- A. xkbdmap
- B. kbdmap
- C. xmodmap
- D. modmap

Answer: C

39. You are using an application that you want to appear on the screen of another machine. What environment variable would you have to set or edit to achieve this?

- A. DISPLAY
- B. REMOTE
- C. REMOTE_XWINDOW
- D. SCREEN

Answer: A

40. What does the following command do?

```
cat '$TEST'
```

- A. Displays a bash syntax error message.
- B. Displays the contents of the file named \$TEST if it exists.
- C. Waits for the user to enter text and then echos the text back.
- D. Displays the contents of the file named inside the back quotes.
- E. Displays the contents of the file named by the environment variable TEST.

Answer: B

41. You have read/write permission on an ordinary file foo. You have just run `ln foo bar`. What would happen if you ran `rm foo`?

- A. foo and bar would both be removed.
- B. foo would be removed while bar would remain accessible.
- C. foo would be removed. bar would still exist but would be unusable.
- D. Both foo and bar would remain accessible.
- E. You would be asked whether bar should be removed.

Answer: B

42. What is the output when the following shell script executes?

```
cat <<foobar
```

```
Hello foobar
```

```
foobar
```

- A. The contents of the file foobar.
- B. Hello
- C. No output but a file named foobar is created.
- D. Hello foobar
- E. Hello foobar

```
foobar
```

Answer: D

43. You wish to kill a process with a PID of 123. Select the command which will allow the process to "clean up" before exiting.

- A. `kill -1 123`
- B. `kill -9 123`
- C. `kill -15 123`
- D. `kill -17 123`

Answer: C

44. Pressing the Ctrl-C combination on the keyboard while a command is executing in the foreground sends which of following signal codes?

- A. 1 (SIGHUP)
- B. 2 (SIGINT)
- C. 3 (SIGQUIT)
- D. 9 (SIGKILL)
- E. 15 (SIGTERM)

Answer: B

45. As root you have navigated to directory /B. You wish to move all of the files and directories from directory /A to directory /B. Which of the following options would be the most appropriate command line to execute this task?

- A. `cp /a/* .`
- B. `mv -f /A/* .`
- C. `mv -Rf /a/* .`
- D. `cp -f /a/* ..`
- E. `cp -rf /A/* /b/`

Answer: B

46. Which command is used to dump files in octal format?

- A. `od`
- B. `octdump`
- C. `dumpoct`
- D. `cat -o`

Answer: A

47. You want to search the file myfile for all occurrences of a string containing at least five characters, where character number 2 and 5 are "a" and character number 3 is NOT "b". Which command would you use?

- A. `grep a*^b*a myfile`
- B. `grep .a[^b].a myfile`
- C. `grep .[a].*.[a] myfile`
- D. `grep .a*^b..a myfile`

Answer: B

48. You have created a really long letter and after you are done you notice that you used the name "Bob" many times but you forgot to capitalize it in many instances. Which command would replace "bob" with "Bob" in all instances and generate a new letter for printing?

- A. sed '/bob/Bob' letter > newletter
- B. sed s/bob/Bob/ letter < newletter
- C. sed 's/bob/Bob' letter > newletter
- D. sed 's/bob/Bob/g' letter > newletter
- E. sed 's/bob, Bob/' letter > newletter

Answer: D

49. Which of the following commands will change all CR-LF pairs in an imported text file, userlist.txt, to Linux standard LF characters and store it as newlist.txt?

- A. tr '\r\n' " < userlist.txt > newlist.txt
- B. tr -c '\n\r' " < newlist.txt > userlist.txt
- C. tr -d '\r' < userlist.txt > newlist.txt
- D. tr '\r' '\n' userlist.txt newlist.txt
- E. tr -s '^M' '^J' userlist.txt newlist.txt

Answer: C

50. Which of the following commands will find the string foo in the file file1.txt, regardless of foo being in upper or lower case letters?

- A. cat file1.txt | grep -i foo
- B. cat file1.txt > grep -n foo
- C. grep -i foo | file1.txt
- D. grep -n file1.txt < foo
- E. grep -n foo file1.txt

Answer: A

51. What is the default process priority when a user executes an application?

- A. -10
- B. 10
- C. 0

D. 20

Answer: C

52. In order to append the output of ls to a file called bazz, which of the following command lines would you use?

- A. ls > bazz
- B. ls >& bazz
- C. ls &> bazz
- D. ls >> bazz

Answer: D

53. You need to create a simple hierarchy of directories: images/photos/summer/ottawa/. None of the directories on that path exist. What command will create all of the needed directories in one step?

- A. mkdir -r images/photos/summer/ottawa/
- B. mkdir -R images/photos/summer/ottawa/
- C. mkdir -p images/photos/summer/ottawa/
- D. mkdir -P images/photos/summer/ottawa/
- E. mkdir -m images/photos/summer/ottawa/

Answer: C

54. While using the vi editor, you wish to move ahead one page. You should press the control key and:

- A. A
- B. D
- C. F
- D. U

Answer: C

55. Many people like the vi text editor but the default bash command line editor recognizes emacs keystrokes. What command entered into a bash initialization file will have bash recognize vi keystrokes after login?

- A. history -p vi
- B. alias emacs=vi
- C. HISTCMD=vi
- D. set -o vi

E. unset emacs

Answer: D

56. What is the disadvantage of using the command kill -9 ?

- A. A core dump file will be created.
- B. It affects the entire process group.
- C. It makes excessive use of system resources.
- D. The action can be blocked by buggy or malicious processes.
- E. The affected process is unable to clean up before exiting.

Answer: E

57. You logged in as user tux1, but now you want to switch users to tux2 with tux2's environment. How would you do this?

- A. su tux2
- B. su -e tux2
- C. su - tux2
- D. su -m tux2
- E. su -f tux2

Answer: C

58. Which command will print line numbers before each line in a file?

- A. ln
- B. nl
- C. cat -n
- D. numline

Answer: B

59. You have two shell scripts, foo and bar. You wish to have bar execute if foo returns an exit status of 0. Select the correct command:

- A. foo; bar
- B. foo || bar
- C. foo && bar

D. `foo % bar`

Answer: C

60. In Bash, inserting `1>&2` after a command redirects

- A. standard error to standard input.
- B. standard input to standard error.
- C. standard output to standard error.
- D. standard error to standard output.
- E. standard output to standard input.

Answer: C

61. Using `vi`, you want to save changes to the file `myfile` with `:w!`, but `vi` complains it cannot write to the file. Therefore, you want to check the write permissions on the file. To do this without leaving `vi`, you type:

- A. `:!ls -l myfile`
- B. `:\ls -l myfile`
- C. `esc :ls -l myfile`
- D. `:?ls -l myfile`

Answer: A

62. You enter the command `date +%M`. What does the output show you?

- A. the current year
- B. the current month
- C. the current hour
- D. the current minute
- E. the current second

Answer: D

63. Which of the following commands will continuously display the last 30 lines of the log file, `/var/log/bigd.log` as it is updated by another process?

- A. `cut -30 -v /var/log/bigd.log`
- B. `head -30 -e /var/log/bigd.log`
- C. `tail -f -n 30 /var/log/bigd.log`

D. `tac -30 /var/log/bigd.log`

E. `cat -r -n 30 /var/log/bigd.log`

Answer: C

64. Which of the following commands will list the quota for a specific user, foobar?

A. `repquota foobar`

B. `quota foobar`

C. `lsquota foobar`

D. `printquota foobar`

Answer: B

65. Identify the proper device for the third partition, on the second hard disk, on the first IDE controller on a PC system.

A. `/dev/hdb3`

B. `/dev/hd1b3`

C. `/dev/hdc1b3`

D. `/dev/hdc1d2p3`

Answer: A

66. You are experimenting with a binary in `/tmp/foo.d` that expects its configuration file at `/etc/foo.conf`. You don't want to save it there, but use a symbolic link to `/tmp/foo.d/foo.conf` instead. Which command would accomplish that?

A. `ln -s /tmp/foo.d/foo.conf /etc/foo.conf`

B. `ln /tmp/foo.d/foo.conf /etc/foo.conf`

C. `ln -s /etc/foo.conf /tmp/foo.d/foo.conf`

D. `ln /etc/foo.conf /tmp/foo.d/foo.conf`

Answer: A

67. Which of the following commands will make it impossible to delete, rename, write to, or create a link to the file `/pub/important.dat` without superuser intervention?

A. `chmod -wx /pub/important.dat`

B. `chmod 1444 /pub/important.dat`

C. `chattr +i /pub/important.dat`

D. `chmod a+r a-wx /pub/important.dat`

E. `chattr +a +u /pub/important.dat`

Answer: C

68. You have run out of disk space on a partition. Which of the following would be an easy way to move data to a new partition without reconfiguring the path to the data in existing applications?

- A. Run `ext2fs ACL`.
- B. Use a hard link.
- C. Use a symbolic link.
- D. Use the loopback device.
- E. Create a block device offset.

Answer: C

69. When you are looking for brief information about a program in your `PATH` with its associated man pages, you would use

- A. `which`
- B. `whereis`
- C. `locate`
- D. `where`

Answer: B

70. Which of the following programs will only find files that are in your `PATH`?

- A. `locate`
- B. `slocate`
- C. `which`
- D. `find`

Answer: C

71. You have just added a CD-ROM drive (`/dev/hdd`) to your system and have added it to your `fstab`. Typically you can use which of the following commands to mount media in that drive to `/mnt/cdrom`?

- A. `mount /dev/cdrom /mnt/cdrom`
- B. `mount /dev/cdrom`
- C. `mount -t cdrom /dev/cdrom /mnt/cdrom`

D. mount /mnt/cdrom

E. automount /mnt/hdd /mnt/cdrom

Answer: D

72. Which command will print out the attributes of the file foobar?

A. ls -attr foobar

B. lsattr foobar

C. printattr foobar

D. fileattr foobar

Answer: B

73. The command mkfs -t ext3 -T largefile /dev/hdb1 creates what size of inode?

A. 4 kilobyte

B. 1 megabyte

C. 2 megabyte

D. 4 megabyte

Answer: B

74. What would the following line accomplish if run as root?

```
chown -R bert /home/bert/*
```

A. Nothing, this command is invalid.

B. It would revoke bert's ownership from his home directory to root.

C. It would change user ownership of all files in /home/bert to bert.

D. It would set the group ownership of the directory /home/bert to bert.

E. It would set ownership of all files and subdirectories in /home/bert to bert.

Answer: E

75. The file /home/george/file2 is a symbolic link to the file /usr/local/bin/file1. What happens when you rm /usr/local/bin/file1?

A. Both /usr/local/bin/file1 and /home/george/file2 are removed.

B. /usr/local/bin/file1 is removed. /home/george/file2 becomes a broken symbolic link.

C. /usr/local/bin/file1 is removed. The shell asks if you want to remove /home/george/file2.

D. Nothing. The rm command will fail.

E. /usr/local/bin/file1 is removed. /home/george/file2 is moved to the lost+found directory.

Answer: B

76. How can you turn off the group quota in /pub?

A. quotaoff /pub

B. quotaoff -gv /pub

C. quotadown /pub

D. rm /pub/quota.group

Answer: B

77. Which command will create an ext3 filesystem on /dev/hda2?

A. /sbin/mke2fs -d /dev/hda2

B. /sbin/mke2fs -j /dev/hda2

C. /sbin/mke2fs -m 3 /dev/hda2

D. /sbin/mke2fs -c ext3 /dev/hda2

Answer: B

78. Which of the following commands makes /bin/foo executable by everyone but writable only by its owner?

A. chmod 557 /bin/foo

B. chmod o+rw,x,a+rx /bin/foo

C. chown 557 /bin/foo

D. chmod 755 /bin/foo

Answer: D

79. Which option must be listed in /etc/fstab to activate user quotas automatically?

A. quota

B. user

C. quotaon

D. usrquota

Answer: D

80. What does the Filesystem Hierarchy Standard enable? (Select TWO answers)

- A. software to predict the location of installed files and directories
- B. software to predict the ownership and access rights to files and directories
- C. users to predict the location of installed files and directories
- D. users to predict how the filesystem should be formatted according to need

Answer: AC

81. To allow a regular user account to mount and unmount a filesystem (for instance, a cdrom or floppy), which option will need to be added to the corresponding line in /etc/fstab?

- A. nouidchk
- B. alluser
- C. user
- D. auto

Answer: C

82. You are looking for an executable file foo. Select the command that would search for foo within directories set in the shell variable, PATH.

- A. locate
- B. which
- C. find
- D. query
- E. whereis

Answer: B

83. You have read/write permission on an ordinary file foo. You have just run `rm foo bar`. What would happen if you ran `rm foo`?

- A. foo and bar would both be removed.
- B. foo would be removed while bar would remain accessible.
- C. foo would be removed. bar would still exist but would be unusable.
- D. Both foo and bar would remain accessible.
- E. You would be asked whether bar should be removed.

Answer: B

84. In order to append the output of ls to a file called bazz, which of the following command lines would you use?

- A. ls > bazz
- B. ls >& bazz
- C. ls &> bazz
- D. ls >> bazz

Answer: D

85. Which command is used to dump files in octal format?

- A. od
- B. octdump
- C. dumpoct
- D. cat -o

Answer: A

86. Which command line option would you use to restrict the GNU find command to searching a particular number of subdirectories?

- A. -max-dirs
- B. -dirmax
- C. -maxdepth
- D. -s
- E. -n

Answer: C

87. Given the following output:

```
prompt> myapp
```

```
[1]+  Stopped          myapp
```

```
prompt>
```

Which of the following commands will resume executing the stopped process while allowing the user to continue to type commands at the command prompt?

- A. bg myapp
- B. continue myapp

- C. `exec myapp`
- D. `fg myapp`
- E. `myapp &`

Answer: A

88. You want the command `foo` to take its input from the file `foobar` and send its output to the program `bar`. Which of the following command lines will do this?

- A. `foo < foobar | bar`
- B. `foo < foobar > bar`
- C. `foo | foobar > bar`
- D. `foo | bar < foobar`
- E. `foo > bar < foobar`

Answer: A

89. Which of the following commands is equivalent to `kill 1234`?

- A. `kill -1 1234` or `kill -s SIGHUP 1234`
- B. `kill -2 1234` or `kill -s SIGINT 1234`
- C. `kill -3 1234` or `kill -s SIGQUIT 1234`
- D. `kill -9 1234` or `kill -s SIGKILL 1234`
- E. `kill -15 1234` or `kill -s SIGTERM 1234`

Answer: E

90. Using `vi`, you want to save changes to the file `myfile` with `:w!`, but `vi` complains it cannot write to the file. Therefore, you want to check the write permissions on the file. To do this without leaving `vi`, you type:

- A. `:!ls -l myfile`
- B. `:\ls -l myfile`
- C. `esc :ls -l myfile`
- D. `?:ls -l myfile`

Answer: A

91. To prevent a command run as root from sending both standard out (`stdout`) and standard error (`stderr`) to any terminal or other file or device, which of the following strings should be appended to the command?

- A. >/dev/null
- B. >/dev/null 1>&2
- C. >/dev/null 2>&1
- D. 1>&2 >/dev/null
- E. 2>&1 >/dev/null

Answer: C

92. You logged in as user tux1, but now you want to switch users to tux2 with tux2's environment. How would you do this?

- A. su tux2
- B. su -e tux2
- C. su - tux2
- D. su -m tux2
- E. su -f tux2

Answer: C

93. You enter the command date +%M. What does the output show you?

- A. the current year
- B. the current month
- C. the current hour
- D. the current minute
- E. the current second

Answer: D

94. Which command will print to standard out only the lines that do not begin with # (pound symbol) in the file foobar?

- A. /bin/grep ^# foobar
- B. /bin/grep -v ^# foobar
- C. /bin/grep #\$ foobar
- D. /bin/grep -v #\$ foobar

Answer: B

95. How can you replace all tabs in a file named FILE1 with spaces?

- A. file -tabs-to-spaces FILE1
- B. extend FILE1
- C. wc -t2s FILE1
- D. expand FILE1

Answer: D

96. You need to create a simple hierarchy of directories: images/photos/summer/ottawa/. None of the directories on that path exist. What command will create all of the needed directories in one step?

- A. mkdir -r images/photos/summer/ottawa/
- B. mkdir -R images/photos/summer/ottawa/
- C. mkdir -p images/photos/summer/ottawa/
- D. mkdir -P images/photos/summer/ottawa/
- E. mkdir -m images/photos/summer/ottawa/

Answer: C

97. Which command will print line numbers before each line in a file?

- A. ln
- B. nl
- C. cat -n
- D. numline

Answer: B

98. You wish to kill a process with a PID of 123. Select the command which will allow the process to "clean up" before exiting.

- A. kill -1 123
- B. kill -9 123
- C. kill -15 123
- D. kill -17 123

Answer: C

99. Which of the following sed commands will replace all instances of the string foo with the string foobar changing the file file1.txt in place?

- A. sed 's/foo/foobar/g' file1.txt
- B. sed 's/foo/foobar/g' file1.txt > file1.txt
- C. sed 's/foo/foobar/g' file1.txt | file1.txt
- D. sed -i 's/foo/foobar/g' file1.txt
- E. sed -i 's/foo/foobar/g' file1.txt > file1.txt

Answer: D

100. Which shell built-in command can be used to create a shortcut or pseudonym for a longer command? Assume a modern bourne-like shell, such as bash.

- A. shortcut
- B. ln
- C. sudo
- D. link
- E. alias

Answer: E

101. You want to search the file myfile for all occurrences of a string containing at least five characters, where character number 2 and 5 are "a" and character number 3 is NOT "b". Which command would you use?

- A. grep a*^b*a myfile
- B. grep .a[^b].a myfile
- C. grep .[a].*.[a] myfile
- D. grep .a*^b..a myfile

Answer: B

102. What command will print a list of usernames (first column) and their corresponding user id (uid, third column) from /etc/passwd?

- A. cut -d: -f1,3 /etc/passwd"
- B. chop -c 1,3 /etc/passwd"
- C. tac 1-3 /etc/passwd"
- D. fmt -u /etc/passwd"

Answer: A

103. You have two shell scripts, foo and bar. You wish to have bar execute if foo returns an exit status of 0. Select the correct command:

- A. foo; bar
- B. foo || bar
- C. foo && bar
- D. foo % bar

Answer: C

104. What is the default process priority when a process is started using the nice command?

- A. -10
- B. 10
- C. 20
- D. 0

Answer: B

105. Which of the following commands will send output from the program myapp to both standard output (stdout) and the file file1.log?

- A. cat < myapp | cat > file1.log
- B. myapp 0>&1 | cat > file1.log
- C. myapp | cat > file1.log
- D. myapp | tee > file1.log
- E. tee myapp file1.log

Answer: D

106. In the vi editor, which of the following commands will delete the current line at the cursor and the 16 lines following it (17 lines total)?

- A. 17d
- B. 17dd
- C. 17x
- D. d17d
- E. 16d

Answer:

107. Which command will print out the attributes of the file foobar?

- A. ls -attr foobar
- B. lsattr foobar
- C. printattr foobar
- D. fileattr foobar

Answer: B

108. Which utility would you use to change how often a filesystem check was performed over an EXT2 filesystem (without losing any data stored on that filesystem)?

- A. mod2fs
- B. fsck
- C. tune2fs
- D. mke2fs
- E. fixe2fs

Answer: C

109. Which of the following commands will list the quota for a specific user, foobar?

- A. repquota foobar
- B. quota foobar
- C. lsquota foobar
- D. printquota foobar

Answer: B

110. You are experimenting with a binary in /tmp/foo.d that expects its configuration file at /etc/foo.conf. You don't want to save it there, but use a symbolic link to /tmp/foo.d/foo.conf instead. Which command would accomplish that?

- A. ln -s /tmp/foo.d/foo.conf /etc/foo.conf
- B. ln /tmp/foo.d/foo.conf /etc/foo.conf
- C. ln -s /etc/foo.conf /tmp/foo.d/foo.conf
- D. ln /etc/foo.conf /tmp/foo.d/foo.conf

Answer: A

111. You changed umask to prevent access to your files by others. Now you realize that another user has read a document

that you wrote 2 weeks ago. Which of the following statements is correct?

- A. You forgot a umask option.
- B. You had to delete all older files.
- C. You forgot to use chmod.
- D. You have to reboot.

Answer: C

112. After creating a new file, you notice that the permissions of the new file are -rw-rw-rw-. From this, you know that the value of the umask is what?

- A. 023
- B. 000
- C. 112
- D. 111
- E. 223

Answer: B

113. To allow a regular user account to mount and unmount a filesystem (for instance, a cdrom or floppy), which option will need to be added to the corresponding line in /etc/fstab?

- A. nouidchk
- B. alluser
- C. user
- D. auto

Answer: C

114. Which chown command will change the ownership to foo and the group to bar on a file named biglist?

- A. chown foo/bar biglist
- B. chown -u foo -g bar biglist
- C. chown foo:bar biglist
- D. chown -user foo -group bar biglist

Answer: C

115. Identify the proper device for the third partition, on the second hard disk, on the first IDE controller on a PC system.

- A. /dev/hdb3
- B. /dev/hd1b3
- C. /dev/hdc1b3
- D. /dev/hdc1d2p3

Answer: A

116. You want the default permissions for your files to be -rw-r-. How must you set umask?

- A. 037
- B. 640
- C. 038
- D. 027

Answer: D

117. On boot you see an error message indicating that line 18 of /etc/fstab is bad. Looking at it shows:

```
/dev/fd0 /mnt/floppy auto auto,user 0 0
```

Why is there an error?

- A. auto is not allowed in the third field for removeable media.
- B. auto in the fourth field cannot be used for removeable media.
- C. The fifth field must be 1 for removeable media.
- D. The sixth field must be 1 for removeable media

Answer: B

118. When you are looking for brief information about a program in your PATH with its associated man pages, you would use

- A. which
- B. whereis
- C. locate
- D. where

Answer: B

119. What does the command mount -a do?

- A. It mounts the floppy disk for all users.
- B. It shows all mounted file systems.
- C. It opens /etc/fstab to edit.
- D. It mounts all file systems listed in /etc/fstab.

Answer: D

120. What does the Filesystem Hierarchy Standard enable? (Select TWO answers)

- A. software to predict the location of installed files and directories
- B. software to predict the ownership and access rights to files and directories
- C. users to predict the location of installed files and directories
- D. users to predict how the filesystem should be formatted according to need

Answer: AC

121. Which command will create an ext3 filesystem on /dev/hda2?

- A. /sbin/mke2fs -d /dev/hda2
- B. /sbin/mke2fs -j /dev/hda2
- C. /sbin/mke2fs -m 3 /dev/hda2
- D. /sbin/mke2fs -c ext3 /dev/hda2

Answer: B

122. Which of the following commands is run last during boot on a system with quotas enabled?

- A. fsck
- B. mount
- C. quotacheck
- D. quotaon

Answer: D

123. How many inodes are assigned to a file when it is created?

- A. 1
- B. 2
- C. 4

D. 8

Answer: A

124. Which of the following commands will print the inode usage on each mounted filesystem?

A. du -i

B. df -i

C. lsfs -i

D. printf -i

Answer: B

125. You are trying to make a hard link to an ordinary file but ln returns an error. Which of the following could cause this?

A. The source file is hidden.

B. The source file is readonly.

C. The source file is a shell script.

D. You do not own the source file.

E. The source and the target are on different filesystems.

Answer: E

126. You are using quota on your system. How can you see disk quota details?

A. repquota

B. quota -l

C. quota

D. quotacheck

E. quota -list

Answer: A

127. Which of the following Linux filesystems pre-allocates a fixed number of inodes at filesystems make/creation time, and does NOT generate them as needed?

A. ext3

B. jfs

C. reiserfs

D. xfs

Answer: A

128. You have a USB storage device that you cannot get working. You have enabled all appropriate USB options in the latest 2.2 kernel but still cannot get your device working. What is most likely the source of the problem?

- A. You have not configured your usb.usermap properly.
- B. You are using the wrong kernel for this type of device.
- C. The USB device is not USB 2.0 compliant.
- D. There is a USB resource conflict.

Answer: B

129. You need to install a fax server. Which type of fax/modem should you install to insure Linux compatibility?

- A. External Serial Fax/modem
- B. External USB Fax/modem
- C. Internal ISA Fax/modem
- D. Internal PCI Fax/modem

Answer: A

130. The lspci command can display information about devices EXCEPT the following:

- A. card bus speed (e.g. 66Mhz).
- B. card IRQ settings.
- C. card vendor identification.
- D. card AGP rate (e.g. 1x, 2x, 4x).
- E. card Ethernet MAC address.

Answer: E

131. What is the typical name for the first serial port, (COM1)?

- A. /dev/com0
- B. /dev/com1
- C. /dev/ttyS0
- D. /dev/ttyS1
- E. none of the above

Answer: C

132. You ran out of space and added a eighth disk to your SCSI-I system. When you try to start, the system no longer boots. What is most likely the cause of this problem?

- A. SCSI-I supports only 8 devices including the adaptor.
- B. SCSI-I supports only 6 disks per adaptor.
- C. There is a SCSI-ID conflict that causes that problem.
- D. You forgot to set the SCSI-ID #8 for the new disk.

Answer: A

133. What information is displayed by the command `cat /proc/dma`?

- A. whether DMA is enabled
- B. which DMA channels are in use
- C. which DMA mode is in use
- D. general information about DMA on the machine

Answer: B

134. If Linux detects an ACPI BIOS on bootup, what does it automatically deactivate?

- A. PnP
- B. PCI
- C. ATA
- D. APM

Answer: D

135. In the BIOS, what setting should you disable so that your devices have the best chance of being recognized on boot-up?

- A. AGP Fast Write
- B. PnP OS
- C. ACPI Support
- D. Power Management/APM

Answer: B

136. In GRUB's configuration file you find the line

```
root    (hd1,4)
```

What is corresponding device name on a Linux system?

- A. /dev/hda4
- B. /dev/hda5
- C. /dev/hdb4
- D. /dev/hdb5

Answer: D

137. You have to test a new kernel version. Which of the following is the best way to add a new linux kernel in your system?

- A. rpm -fvh kernel_package
- B. rpm -Uvh kernel_package
- C. rpm -u kernel_package
- D. rpm -u kernel_package && make
- E. rpm -conflicts kernel_package

Answer: B

138. User Joseph has successfully extracted and compiled a program from source code. Installing the binaries produces errors. What is the most likely reason?

- A. The source code was compiled for a different CPU.
- B. The permissions set in the /usr/bin directory are wrong.
- C. The binaries require root privileges to be installed.
- D. The wrong prefix was used during configuration of the source code.

Answer: C

139. How can you update a package only if an earlier version is currently installed on the system?

- A. rpm -update rpmname
- B. rpm -U rpmname
- C. rpm -F rpmname

D. rpm -force rpmname

E. rpm -u rpmname

Answer: C

140. While installing an application from source code you don't see the configure script. What command can you run to compile the code?

A. make configure

B. install

C. install makefile

D. make

Answer: D

141. What command will uninstall a package but leave its configuration files in case a package is re-installed?

A. none, no command will do this

B. dpkg -s pkgname

C. dpkg -L pkgname

D. dpkg -P pkgname

E. dpkg -r pkgname

Answer: E

142. You want to install a new software package, but it is only available in RPM format and you are running Debian Linux. Which of the following would help you to install it on your system?

A. alien

B. apt-conf

C. dselect

D. cpio

Answer: A

143. You installed a beta rpm package, but are experiencing some problems with it. How can you remove this package?

A. rpm -qe rpmname

B. rpm -v -remove rpmname

C. rpm -r rpmname

D. rpm -d rpmname

E. rpm -ev rpmname

Answer: E

144. You want to preview where the package file, apache.xml.i386.rpm, will install its files before installing it. What command do you issue?

A. rpm -qp apache.xml.i386.rpm

B. rpm -qv apache.xml.i386.rpm

C. rpm -ql apache.xml.i386.rpm

D. rpm -qpl apache.xml.i386.rpm

Answer: D

145. What tool can you use to print shared library dependencies?

A. ldconfig

B. ldd

C. libdep

D. libpath

E. ldev

Answer: B

146. How do you get a list of files that have been installed from a dpkg package?

A. dpkg -l pkgname

B. dpkg -C pkgname

C. dpkg -s pkgname

D. dpkg -S pkgname

E. dpkg -L pkgname

Answer: E

147. You are preparing a new set of shared libraries in /usr/local/applib and you have written and compiled some code that uses these libraries. You have already performed an ldconfig, however the system still cannot find the shared libraries. What is most likely the cause of this?

A. You used the wrong compiler.

- B. You did not update your PATH variable.
- C. You compiled the code with wrong library.
- D. You forgot to put the library path in ld.so.conf.

Answer: D

148. You have an updated RPM called screensaver-1.1.i386.rpm. You have version 1.0 installed. Using RPM, how do you view the changelog of this file to see if you should install the update?

- A. rpm -qp -changelog screensaver-1.1.i386.rpm
- B. rpm -changelog screensaver-1.1.i386.rpm
- C. rpm -qc screensaver-1.1.i386.rpm
- D. rpm -showchangelog screensaver-1.1.i386.rpm

Answer: A

149. To what environment variable will you assign or append a value if you need to tell the dynamic linker to look in a build directory for some of a program's shared libraries?

- A. LD_LOAD_PATH
- B. LD_LIB_PATH
- C. LD_LIBRARY_PATH
- D. LD_SHARE_PATH
- E. LD_RUN_PATH

Answer: C

150. You see following output while trying to install an updated package:

```
[root@example pub]# rpm -i gthumb-2.2.0.i386.rpm
package gthumb-1.0.1.i386.rpm is already installed
```

Which command will allow you to install the updated version?

- A. rpm -i gthumb-2.2.0.i386.rpm
- B. rpm -ivh gthumb-2.2.0.i386.rpm
- C. rpm -U gthumb-2.2.0.i386.rpm
- D. rpm -qu gthumb-2.2.0.i386.rpm
- E. rpm -qiv gthumb-2.2.0.i386.rpm

Answer: C

151. After a minor security incident you are instructed by your lead sys-admin to verify the RPMs installed on a running system. Which command will create a complete report that you can analyze for changes that may be security-related?

- A. rpm -Va > report
- B. rpm -Qavy > report
- C. rpm -Vqt -nomd5 > report
- D. rpm -checkfiles > report
- E. rpm -Va -nofiles > report

Answer: A

152. What is a reasonable command to uninstall a Debian package from your system?

- A. dpkg -Ra pkgname
- B. dpkg -R pkgname
- C. dpkg -r pkgname
- D. dpkg -ra pkgname

Answer: C

153. You have not run apt-get on a system for some time, but it has been run on the system before. What apt-get command would you run to download the latest list of packages, but not the packages themselves?

- A. apt-get build-dep
- B. apt-get mirror-select
- C. apt-get update
- D. apt-get upgrade
- E. apt-get dist-upgrade

Answer: C

154. What RPM command would show you detailed information for a package called openssh-3.6.i386.rpm?

- A. rpm -showinformation openssh-3.6.i386.rpm
- B. rpm -showdetails -package openssh-3.6.i386.rpm"
- C. rpm -query -info -package openssh-3.6.i386.rpm""
- D. rpm -verify openssh-3.6.i386.rpm

Answer: C

155. Which TWO of the following commands allows you to manage .deb packages?

- A. dpkg
- B. deb
- C. dselect
- D. debselect

Answer: AC

156. How can you list files owned by a specific .deb package?

- A. dpkg -L package
- B. dpkg -dump package
- C. dselect -dump package
- D. dselect -L package

Answer: A

157. You are the system administrator for a consulting firm where several people use Linux as their desktop operating system. One of your users has installed a commercial publishing program that works under X on a variety of UNIX and Linux platforms. The user made a series of configuration changes regarding the initial window size, location and color. Now, he is having difficulty undoing these changes and is asking for your help. In which file would you think you would most likely find the configuration settings you are seeking to change?

- A. ~/.xinitrc
- B. ~/.xconfig
- C. ~/.Xdefaults
- D. ~/.XF86Config
- E. /etc/X11/XF86Config

Answer: C

158. In XF86Config, which section is concerned with fonts?

- A. the Fonts section
- B. the Files section
- C. the xfsCodes section
- D. the Graphics section
- E. the modeline section

Answer: B

159. You have just set up the X Display Manager as your default display manager. What file should you edit to change the default background for it?

- A. /etc/X11/xdm/Xsetup
- B. /etc/X11/prefdm
- C. /etc/X11/XF86Config
- D. /etc/X11/xdm.conf

Answer: A

160. You are having problems with a particular font and you want to see if its directory is included in XF86Config. Which section contains this information?

- A. Paths
- B. Fonts
- C. Files
- D. Graphics

Answer: C

161. You are using an application that you want to appear on the screen of another machine. What environment variable would you have to set or edit to achieve this?

- A. DISPLAY
- B. REMOTE
- C. REMOTE_XWINDOW
- D. SCREEN

Answer: A

162. Which of the following lines from /etc/X11/XF86Config indicates what fonts can be found on a font server?

- A. FontPath= server
- B. Fonts "unix/:7100"
- C. FontPath "unix/:7100"
- D. Fonts= server
- E. Fontserver = "servername"

Answer: C

163. Which of the following commands will print the current video settings to stdout in XF86Config "Modeline" format?

- A. xinfo -mode
- B. xset -info
- C. xf86config -list
- D. xvidtune -show

Answer: D

164. You just started X for the first time and noticed that the display does not use the entire screen. What program can you use to fix this?

- A. xvidtune
- B. xf86config
- C. XF86Setup
- D. tweakscreen

Answer: A

165. Which of the following is the default XFree86 configuration file?

- A. /usr/X11R6/etc/XF86Config
- B. /var/X11/XF86Config
- C. /etc/X11/XF86Config
- D. /usr/etc/X11/XF86Config

Answer: C

166. Your senior administrator asked you to change the default background of his machine, which uses XDM. Which file would you edit to achieve this?

- A. /etc/X11/xdm/Xsetup
- B. /etc/X11/xdm.conf
- C. /etc/X11/xdm/Defaults
- D. /etc/X11/defaults.conf

Answer: A

167. You are formatting a single hard disk for a Linux install. What is the maximum number of primary partitions you can create?

Answer: 4

168. You are compiling some software from source. After running `./configure` with the appropriate arguments and no errors, what is the next command to run?

Answer: MAKE

169. Many installed Debian package files are wasting space on a computer. What command will remove all of the installation package files? (Enter the entire command)

Answer: APT-GETCLEAN

170. The _____ partition is used for virtual memory.

Answer: SWAP

171. The _____ command displays ISA plug-and-play devices resource information.

Answer: PNPDUMP

172. You suspect that a new ethernet card might be conflicting with another device. Which file should you check within the `/proc` tree to learn which IRQs are being used by which kernel drivers?

Answer: INTERRUPTS

173. Which file the `/proc` filesystem lists parameters passed from the bootloader to the kernel?

Answer: CMDLINE

174. Your Linux server has been booting to a console. You need to make it boot to X. You've already installed the X files. What file do you edit to change your runlevel to 5?

Answer: /ETC/INITTAB

175. What command returns the first few lines of a given file?

Answer: HEAD

176. What program would you use to increase or decrease the priority of a command before it is executed?

Answer: NICE

177. What command is used to display a file in octal format?

Answer: OD

178. When configuring a removable media drive, like a CDROM or a floppy drive, which mount option in /etc/fstab tells the system not to attempt to mount the drive a boot time?

Answer: NOAUTO

179. When setting up the root (superuser) account, what umask setting should be used to deny read, write and execute permissions for all other users?

Answer: 77

180. You have written a custom tool on your local system. Following the File Hierarchy Standard (FHS), where should you install the binaries to be available to all users on your system?

Answer: /USR/LOCAL/BIN

181. Which command (without options) would you use to display how much space is available on all partitions?

Answer: DF

182. Which command would you use to check an ext2 or ext3 filesystem before mounting? (Please enter only the command without path, arguments or options).

Answer: E2FSCK

183. What program would you use to increase or decrease the priority of a command before it is executed?

Answer: NICE

184. What command returns the first few lines of a given file?

Answer: HEAD

185. You wish to execute two commands, one after the other. However, you only want the second command to execute if

the first is successful. Which character(s) do you put between the commands on the command line to accomplish this?

Answer: &

186. Which program finds only files that are in your PATH?

Answer: WHICH

187. Which command (without options) would you use to display how much space is available on all partitions?

Answer: DF

188. You have written a custom tool on your local system. Following the File Hierarchy Standard (FHS), where should you install the binaries to be available to all users on your system?

Answer: /USR/LOCAL/BIN

189. You suspect that a new ethernet card might be conflicting with another device. Which file should you check within the /proc tree to learn which IRQs are being used by which kernel drivers?

Answer: INTERRUPTS

190. The _____ command allows you to view or change serial port configuration.

Answer: SETSERIAL

191. The _____ partition is used for virtual memory.

Answer: SWAP

192. You are formatting a single hard disk for a Linux install. What is the maximum number of primary partitions you can create?

Answer: 4

193. To prevent users from being able to fill up the / partition, the _____ directory should be on a separate partition if possible because it is world writeable.

Answer: /TMP

194. Which utility can be used to convert a .rpm package to .deb package format? (Without arguments)

Answer: ALIEN

195. You are compiling some software from source. After running ./configure with the appropriate arguments and no errors, what is the next command to run?

Answer: MAKE

196. You are building a server that will be the file server for all users on your 100 user network. The server may have many hardware and operating system upgrades. Which directory should have its own mount point and/or hard drive?

Answer: /HOME