

1. [34/85] Which arguments to **mount -o bind** could cause problematic behavior in recursive commands such as **rm -rf**
 - a. /home /var/home
 - b. /var1 /var
 - c. /home /home/kelleyt/dir
 - d. /home/user/private /public
 - e. /var/home /home
2. [37/84] Which of the following invocations of **command.sh** would you least likely see inside a shell script that doesn't use **cd**?
 - a. **command.sh**
 - b. **/root/bin/command.sh**
 - c. **/bin/command.sh**
 - d. **usr/bin/command.sh**
 - e. **/usr/bin/command.sh**
3. [41/86] Which line below is most likely to be the beginning of an error message?
 - a. **echo 1<&2 "... "**
 - b. **echo 2>&1 "... "**
 - c. **echo 1>&2 "... "**
 - d. **echo 2>\$1 "... "**
 - e. **echo 2<\$1 "... "**
4. [41/86] Which of the following **mount** options is *not* one of the set of **defaults**?
 - a. **auto**
 - b. **usrquota**
 - c. **suid**
 - d. **dev**
 - e. **rw**
5. [45/86] What is the output (if any) of this **bash** shell program fragment? (There are blanks between all the letters in the word list section of the **for** loop.)

```
str=""
for x in l i n u x r o c k s ; do
    str="$str$x"
done
echo "$str"
```

 - a. **s k c o r x u n i l**
 - b. **xxxxxxxxxx**
 - c. **linuxrocks**
 - d. **linux**
 - e. **l**
6. [47/86] If a shell script **mymiscrpt.sh** is called this way:

```
./mymiscrpt.sh a b c d
```

and the first line inside the script below the script header is

```
shift; echo "$#$1"
```

what is the output of that line?
 - a. **2a**
 - b. **3b**
 - c. **4c**
 - d. **3a**
 - e. **2b**
7. [47/86] Which of the following commands could be used to disable password authentication for the user, **kelleyt**?
 - a. **passwd -x kelleyt**
 - b. **gpasswd kelleyt**
 - c. **passwd -l kelleyt**
 - d. **passwd -d kelleyt**
 - e. **passwd_disable kelleyt**

8. [50/86] Of the following directories, which would you expect to contain the most system administration commands that require **root** privileges?
 - a. **/usr/bin**
 - b. **/sys/admin/bin**
 - c. **/usr/local/bin**
 - d. **/sbin**
 - e. **/bin**
9. [52/86] If **archive.tgz** is a compressed tar archive, which command could you run to produce a listing of its contents without extracting it?
 - a. **tar tzf archive.tgz**
 - b. **tar xzf archive.tgz**
 - c. **tar tzf archive**
 - d. **tar tgz archive.tgz**
 - e. **tar tgz archive**
10. [52/86] If you have a file **crontab.mine** of commands in **crontab** format, you could submit that file to be your live **crontab** file by running which of the following commands?
 - a. **echo crontab.mine | crond**
 - b. **crontab < crontab.mine**
 - c. **crontab -e crontab.mine**
 - d. **crontab -l crontab.mine**
 - e. **crontab -r crontab.mine**
11. [54/86] What command line modifies and moves (in one command line) the home directory **foo** to **bar** for the existing user **kelleyt**?
 - a. **usermod -d -m /home/kelleyt bar**
 - b. **usermod -m -d /home/bar kelleyt**
 - c. **usermod -d -m /home/bar kelleyt**
 - d. **usermod -dm /home/bar kelleyt**
 - e. **usermod -m -d /home/foo /home/bar**
12. [54/86] Which of the following commands would you use configure the **httpd** daemon to run in runlevels 2,3,4, and 5?
 - a. **service httpd on**
 - b. **httpd run 2345**
 - c. **runlevel httpd on**
 - d. **chkconfig httpd on**
 - e. **httpd --levels 2345 on**
13. [56/86] Which of the following options for **bash** or **sh** might useful for debugging a shell script?
 - a. **-z**
 - b. **-c**
 - c. **-x**
 - d. **-l**
 - e. **-r**
14. [57/86] What is the correct syntax to redirect both standard output and standard error into the same output file?
 - a. **ls -l >bar 2>bar**
 - b. **ls -l 2>&1 >bar**
 - c. **ls -l 2>\$1 >bar**
 - d. **ls -l >bar 2>&1**
 - e. **ls -l >bar 2>\$1**
15. [57/86] Which of the following could you use as options for the **tar** command to extract a gzip-compressed archive?
 - a. **-tgz**
 - b. **egvf**
 - c. **xzvf**
 - d. **-czf**
 - e. **ezvf**

- 16. [58/86] Assuming you are not currently **root** and are a **sudoer**, which of the following commands could you use to simulate a full login as **tkelley** without knowing their password?
 - a. **su - tkelley**
 - b. **sudo tkelley**
 - c. **sudo su - tkelley**
 - d. **su sudo tkelley**
 - e. **sudo - tkelley**
- 17. [59/86] To resume a stopped process in the background using Job Control, where *N* is the job number of the process and *PID* is its process ID, you would type
 - a. **bg %PID**
 - b. **bg %N**
 - c. **fg PID**
 - d. **fg %PID**
 - e. **fg N**
- 18. [59/86] Which of the following commands would you use to resize an **ext4** file system to consume the remaining free space on its volume?
 - a. **mkfs**
 - b. **mkfs.ext4**
 - c. **fsck**
 - d. **resize2fs**
 - e. **fsck.ext4**
- 19. [60/86] Fill in the blanks. The **chroot** program takes a(n) _____ which will be the _____ for a shell or a command.
 - a. command, argument
 - b. directory, argument
 - c. option, input
 - d. argument, ROOT directory
 - e. input, option
- 20. [60/86] In the **/etc/suoders** file, what word goes in front of **ALL=(ALL)** **ALL** to allow the user **admin** to run commands as **root**?
 - a. **admin**
 - b. **wheel**
 - c. **sudoers**
 - d. **%admin**
 - e. **#admin**
- 21. [61/86] Which of the following commands would be used to add the user **kelleyt** to the group **wheel**?
 - a. **groupadd -a wheel kelleyt**
 - b. **groupmod -a kelleyt wheel**
 - c. **usrgrp kelleyt wheel**
 - d. **gpasswd -a kelleyt wheel**
 - e. **useradd kelleyt wheel**
- 22. [62/86] A **crontab** entry of **6 5 * * * /bin/somecommand** would run **somecommand** when and how often?
 - a. at 6:05am every day
 - b. at 5:06am every day
 - c. at 6:05am every business day
 - d. at 5:06am every business day
 - e. at 12:05am every business day and Saturday
- 23. [62/86] If **bar** is a directory that contains only the file **foo** and **/dir1** is an empty directory, what is in **/dir1** after running the following command?


```
rsync -avH bar/. /dir1
```

 - a. **dir1**
 - b. **bar**
 - c. **nothing**
 - d. a symlink to foo
 - e. **foo**

- 24. [62/86] What command would you use to list your **at** job numbers?
 - a. **at -v**
 - b. **at -q**
 - c. **at -m**
 - d. **atq**
 - e. **at -c**
- 25. [62/86] Which of the following would best describe the ordering of levels in Logical Volume Management (LVM), from bottom to top?
 - a. volume group, logical volume, physical volume, file system
 - b. physical volume, logical volume, file system, volume group
 - c. physical volume, volume group, logical volume, file system
 - d. volume group, physical volume, file system, logical volume
 - e. logical volume, physical volume, file system, volume group
- 26. [63/86] If **string=linu** then which one of the following **case** patterns will match this statement: **case "\$string" in**
 - a. **[linu] | [LINU]) echo yes ;;**
 - b. **l?n?) echo yes ;;**
 - c. **(*inu echo yes ;;**
 - d. **@) echo yes ;;**
 - e. **?linu?) echo yes ;;**
- 27. [63/86] Which **fdisk** internal command letter displays the list of all partitions?
 - a. **l**
 - b. **L**
 - c. **q**
 - d. **p**
 - e. **f**
- 28. [66/86] What would be the output of the following command line:


```
echo a b c | awk '{print $NF}'
```

 - a. **3**
 - b. **a b c**
 - c. **NF**
 - d. no output
 - e. **c**
- 29. [66/86] Which of the following commands could be used to force the user **kelleyt** to change their password the next time they log in?
 - a. **passwd kelleyt**
 - b. **chage -d 0 kelleyt**
 - c. **force -d 0 kelleyt**
 - d. **passwd -d 0 kelleyt**
 - e. **gpasswd kelleyt**
- 30. [67/86] What command will show the amount of free disk space in a partition?
 - a. **mount**
 - b. **fdisk**
 - c. **df**
 - d. **ls**
 - e. **find**
- 31. [67/86] Which line below puts the count of the number of lines in the password file into the variable **count**?
 - a. **count=\$(wc /etc/passwd | awk echo \$1)**
 - b. **count=\$(cat -c /etc/passwd)**
 - c. **count=\$(wc -l /etc/passwd | awk "print \$1")**
 - d. **count=\$(wc -l </etc/passwd)**
 - e. **count=\$(awk -F: /etc/passwd | wc -l)**
- 32. [68/86] In an argument to **rsync** or **scp** a colon would come immediately after a
 - a. absolute pathname
 - b. local file
 - c. remote host
 - d. remote file
 - e. local host

33. [68/86] To see a list of disk partitions that the kernel has detected, you could look at the contents of which file?
a. /lib/partitions *b. /etc/partitions*
c. /proc/partitions *d. /dev/sda*
e. /dev/partitions
34. [69/86] Which of the following commands could be used to bring a system into single user mode?
a. telinit 0 *b. telinit 6*
c. init 0 *d. shutdown now*
e. shutdown -h now
35. [69/86] Which of the following commands on a Unix/Linux system displays the processes running on the system?
a. pstree *b. pstop* *c. listtop*
d. psls *e. toplist*
36. [71/86] Which command on a Unix/Linux system would you use to run a **tar** command at a less urgent scheduling priority to let other processes with a more urgent scheduling priority run first?
a. tar -n *b. fg* *c. nice*
d. tar -10 *e. bg*
37. [72/86] What would the following command do: **at 7pm**
a. run the user's crontab jobs at 7pm
b. run the user's crontab jobs every day at 7pm
c. issue an error message
d. read commands from stdin to be run every day at 7pm
e. read commands from stdin to be run once at 7pm
38. [73/86] The **cron** system can run commands at most every
a. hour *b. second* *c. day*
d. minute *e. millisecond*
39. [73/86] To send a **SIGKILL** signal to a process with process ID *PID*, which of the following commands would you use?
a. kill PID SIGKILL *b. send PID SIGKILL*
c. send -SIGKILL PID *d. signal -SIGKILL PID*
e. kill -SIGKILL PID
40. [73/86] Which of the following is a proper way to change the **/etc/sudoers** file?
a. nano /etc/sudoers *b. vi /etc/sudoers*
c. vim /etc/sudoers *d. visudo*
e. echo > /etc/sudoers
41. [74/86] A **-H** option to **rsync** would cause it to
a. work verbosely *b. not overwrite newer files*
c. overwrite newer files *d. preserve timestamps*
e. preserve hard links

42. [74/86] When you create a user and their home directory with **useradd** by default the home directory will contain copies of files from which directory?
a. /etc/skel *b. /etc/login.defs*
c. /etc/default *d. /etc/sysconfig/default*
e. /etc/profile
43. [76/86] Which of the following commands could be used to create a group named **wheel**?
a. gpasswd -a wheel *b. gshadow -a wheel*
c. groupadd wheel *d. gpasswd -c wheel*
e. newgrp wheel
44. [77/86] Which of these statements is true?
a. you can only remove a file name if the file is writable by you
b. you can only remove a file name if the file is owned by you
c. you may be able to rename a file even if you do not own the file
d. you can change the permissions of any file to which you can write
e. you can only make links to files owned by you
45. [78/86] Which of the following commands would you use to start the **httpd** daemon, if you had just installed it and if it were not already running?
a. httpd service on *b. kill -SIGSTART httpd*
c. chkconfig httpd on *d. go httpd*
e. service httpd start
46. [79/86] Fill in the blanks. If you try to _____ a filesystem, and the command fails, you might use the _____ command to look for the cause.
a. mount, fsck *b. umount, mkdir* *c. fsck, rm*
d. mount, mkfs *e. mkfs, rmdir*
47. [79/86] Which of the following commands would you use to install the **mailx** software package (and its dependencies) on your CentOS virtual machine?
a. pkg -i mailx *b. yum install mailx*
c. yum -i mailx *d. pkginst mailx*
e. install pkg mailx
48. [80/86] Which of the following signals cannot be handled or ignored?
a. SIGKILL *b. SIGINT* *c. SIGHUP*
d. SIGSUSP *e. SIGTERM*
49. [81/86] Fill in the blanks. To perform critical filesystem operations, you should use at least the safety of _____ mode, but even safer would be _____ mode.
a. "Live CD", multi-user *b. single-user, "Live CD"*
c. single-user, multi-user *d. rescue, power-off*
e. runlevel, "Live CD"

50. [81/86] Which of the following commands could be used to create a new user named **kelleyt**, with full name "Todd Kelley" ?
- a. `useradd -c "Todd Kelley" kelleyt`
 - b. `passwd -c "Todd Kelley" kelleyt`
 - c. `newuser -c "Todd Kelley" kelleyt`
 - d. `newuser kelleyt -c "Todd Kelley"`
 - e. `usermod -c "Todd Kelley" kelleyt`

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