

PRINT Name: _____ LAB Section:

Test Version: _____ One-Answer Multiple Choice 50 Questions – 15 of 15%

- ☞ Read **all** the words of these instructions and **both** sides (back and front) of all pages.
- ☞ Use your full, unabbreviated name on the mark-sense form. Do not abbreviate your name.
- ☞ Put the three-digit **Test Version** above into **NO. OF QUESTIONS** and **NO. OF STUDENTS**
- ☞ Fill in the bubbles with pencil only, no pen. Enter your NAME, Test Version, and answers.
- ☞ Manage your time. Answer questions you know, first. One Answer per question.

1. [23/110] Which line below puts only the count of the number of lines in the password file into the variable `count`?
 - a. `count=$(wc -l /etc/passwd)`
 - b. `count=$(awk -F: /etc/passwd | wc -l)`
 - c. `count=$(wc /etc/passwd | awk echo $1)`
 - d. `count=$(cat -c /etc/passwd)`
 - e. `count=$(wc -l /etc/passwd | awk '{print $1}')`
2. [29/110] 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.)


```
s=0
for i in 1 2 3 4 5 6 7 8 9
do
    s=$((s+i))
done
echo "$s"
```

 - a. 123456789
 - b. 987654321
 - c. 1 2 3 4 5 6 7 8 9
 - d. 1
 - e. 45
3. [31/110] To set up SSH key login in Linux, what is the command to copy the public key to the server?
 - a. `ssh-copy-id`
 - b. `ssh-keygen`
 - c. `ssh-add`
 - d. `ssh-agent`
 - e. `ssh`
4. [35/110] What is the correct syntax to mount an MS DOS formatted floppy disk (do not assume that there is an entry in `/etc/fstab`)?
 - a. `mount -t vfat /dev/fd0 /mnt/floppy`
 - b. `mount -t msdos /dev/floppy /mnt/floppy`
 - c. `mount -t iso9660 /dev/fd0 /mnt/floppy`
 - d. `mount /dev/floppy /mnt/fd0`
 - e. `mount -t vfat /mnt/floppy /dev/fd0`

5. [44/110] Which of the following invocations of `command.sh` is dependent on a correct current directory to work properly?
 - a. `/root/bin/command.sh`
 - b. `/bin/command.sh`
 - c. `usr/bin/command.sh`
 - d. `/usr/bin/command.sh`
 - e. `command.sh`
6. [48/110] In the `/etc/sudoers` file, what word goes in front of `ALL=(ALL) ALL` to allow the user `wjiang` to run commands as `root`?
 - a. `#wjiang`
 - b. `sudoers`
 - c. `wjiang`
 - d. `wheel`
 - e. `%wjiang`
7. [50/110] Which arguments to `mount -o bind` would create a file system loop that would cause problems for recursive commands such as `find`, `du` or `rm-rf`?
 - a. `/home/user/private /public`
 - b. `/home /home/wjiang/dir`
 - c. `/home /var/home`
 - d. `/var/home /home`
 - e. `/var1 /var`
8. [50/110] Which of the following commands could be used to disable password authentication for the user, `wjiang`?
 - a. `passwd -x wjiang`
 - b. `gpasswd wjiang`
 - c. `passwd -l wjiang`
 - d. `passwd_disable wjiang`
 - e. `passwd -d wjiang`
9. [51/110] If `archive.tar.gz` is a compressed tar archive, which command could you run to produce a listing of its contents without extracting it?
 - a. `tar -tgz archive.tar.gz`
 - b. `tar -tgz archive`
 - c. `tar -tzf archive`
 - d. `tar -xzf archive.tar.gz`
 - e. `tar -tzf archive.tar.gz`
10. [60/109] If a shell script `myscript.sh` is called this way:


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

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


```
shift 2; echo "$# $1"
```

 what is the output of that line?
 - a. 2c
 - b. 2a
 - c. 2b
 - d. 3b
 - e. 4c
11. [61/110] Which line below is most likely to be the beginning of an error message?
 - a. `echo 2<$1 "... "`
 - b. `echo 1>&2 "... "`
 - c. `echo 2>&1 "... "`
 - d. `echo 2>$1 "... "`
 - e. `echo 1<&2 "... "`
12. [61/110] Which of the following commands would you use configure the `httpd` daemon to run in runlevels 2,3,4, and 5?
 - a. `httpd --levels 2345 on`
 - b. `httpd run 2345`
 - c. `chkconfig httpd on`
 - d. `runlevel httpd on`
 - e. `service httpd on`

13. [64/110] What is the correct output of the following command? `printf "hello %s, your number is %d" wenjuan 33`
- `hello %s, your number is %d wenjuan 33`
 - `hello wenjuan, your number is 33`
 - `hello %wenjuan, your number is %33`
 - `hello, your number is`
 - Issue a syntax error information
14. [65/110] What is the correct syntax to redirect both standard output and standard error into the same output file?
- `ls -l >bar 2>&1`
 - `ls -l >bar 2>bar`
 - `ls -l >bar 2>$1`
 - `ls -l 2>$1 >bar`
 - `ls -l 2>&1 >bar`
15. [65/110] Which of the following commands would you use to resize an `ext4` file system to consume the remaining free space on its volume?
- `fsck`
 - `mkfs`
 - `fsck.ext4`
 - `resize2fs`
 - `mkfs.ext4`
16. [67/109] Which of the following could you use as options for the `tar` command to extract a gzip-compressed archive?
- `-czf`
 - `-egvf`
 - `-xzvf`
 - `-ezvf`
 - `-tgz`
17. [68/110] What command line modifies and moves (in one command line) the home directory `foo` to `bar` for the existing user `wjiang`?
- `usermod -d -m /home/bar wjiang`
 - `usermod -dm /home/bar wjiang`
 - `usermod -m -d /home/foo /home/bar`
 - `usermod -d -m /home/wjiang bar`
 - `usermod -m -d /home/bar wjiang`
18. [68/110] Which of the following is a proper way to change the `/etc/sudoers` file?
- `echo > /etc/sudoers`
 - `nano /etc/sudoers`
 - `vi /etc/sudoers`
 - `vim /etc/sudoers`
 - `visudo`
19. [71/110] If `string=centOS` then which one of the following `case` patterns will match this statement: `case "$string" in`
- `???tOS) echo yes ;;`
 - `@) echo yes ;;`
 - `?centO?) echo yes ;;`
 - `(*OS echo yes ;;`
 - `[cent] | [CENT]) echo yes ;;`

20. [72/110] Of the following directories, which would you expect to contain the most system administration commands that require `root` privileges?
- `/sbin`
 - `/usr/local/bin`
 - `/sys/admin/bin`
 - `/usr/bin`
 - `/bin`
21. [73/110] If you have a file `crontab.day` of commands in `crontab` format, you could submit that file to be your live `crontab` file by running which of the following commands?
- `crontab < crontab.day`
 - `echo crontab.day | crond`
 - `crontab -l crontab.day`
 - `crontab -e crontab.day`
 - `crontab > crontab.day`
22. [74/110] 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
- `bg %PID`
 - `fg N`
 - `fg %PID`
 - `bg %N`
 - `fg PID`
23. [74/109] What would the following command do: `at 7pm`
- read commands from stdin to be run once at 7pm
 - run the user's `crontab` jobs every day at 7pm
 - read commands from stdin to be run every day at 7pm
 - run the user's `crontab` jobs at 7pm
 - issue an error message
24. [80/110] What command would you use to list your `at` job numbers?
- `atq`
 - `at -c`
 - `at -v`
 - `at -q`
 - `at -m`
25. [82/110] 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
```
- nothing
  - `bar`
  - `dir1`
  - `foo`
  - a symlink to `foo`
26. [82/110] Which command line adjusts the CPU priority of the `tar` command?
- `tar -n`
  - `tar -10`
  - `fg`
  - `bg`
  - `nice tar`
27. [82/110] Which of the following commands would be used to add the user `wjiang` to the group `wheel`?
- `groupadd -a wheel wjiang`
  - `useradd wjiang wheel`
  - `groupmod -a wjiang wheel`
  - `gpasswd -a wjiang wheel`
  - `usrgrp wjiang wheel`

28. [83/110] Which of the following commands on a Unix/Linux system displays the processes running on the system showing the relations of the processes?  
 a. **listtop**                      b. **pstree**                      c. **psls**  
 d. **pstop**                      e. **toplist**
29. [84/110] Assuming you are not currently **root** and are a **sudoer**, which of the following commands could you use to simulate a full login as **wjiang** without knowing their password?  
 a. **su sudo wjiang**                      b. **sudo wjiang**  
 c. **sudo - wjiang**                      d. **sudo su - wjiang**  
 e. **su - wjiang**
30. [84/110] To see a list of disk partitions that the kernel has detected, you could look at the contents of which file?  
 a. **/etc/partitions**                      b. **/dev/partitions**  
 c. **/proc/partitions**                      d. **/lib/partitions**  
 e. **/dev/sda**
31. [84/110] What would be the output of the following command line:  
**echo a b c | awk '{print \$NF}'**  
 a. **3**                      b. **NF**                      c. **a b c**  
 d. no output                      e. **c**
32. [84/110] Which of the following commands could be used to bring a system into single user mode?  
 a. **telinit 0**                      b. **init 0**  
 c. **shutdown -h now**                      d. **telinit 6**  
 e. **shutdown now**
33. [84/110] Which of the following commands could be used to force the user **wjiang** to change their password the next time they log in?  
 a. **passwd -d 0 wjiang**                      b. **force -d 0 wjiang**  
 c. **passwd wjiang**                      d. **chage -d 0 wjiang**  
 e. **gpasswd wjiang**
34. [85/110] What command will show the amount of free disk space in a partition?  
 a. **ls**                      b. **df**                      c. **fdisk**                      d. **mount**                      e. **find**
35. [86/110] In an argument to **rsync** or **scp** a colon would come immediately after a  
 a. absolute pathname                      b. remote file                      c. local file  
 d. local host                      e. remote host
36. [86/110] Which of the following options for **bash** or **sh** might useful for debugging a shell script?  
 a. **-r**                      b. **-l**                      c. **-c**                      d. **-z**                      e. **-x**

37. [88/110] A **crontab** entry of **5 10 \* \* \* /bin/somecommand** would run **somecommand** when and how often?  
 a. at 12:05am every business day and Saturday  
 b. at 5:10am every business day  
 c. at 10:05am every business day  
 d. at 5:10am every day  
 e. at 10:05am every day
38. [88/110] Fill in the blanks. The **chroot** program takes a(n) \_\_\_\_\_ which will be the \_\_\_\_\_ for a shell or a command.  
 a. argument, ROOT directory                      b. directory, argument  
 c. input, option                      d. command, argument  
 e. option, input
39. [88/110] To send **SIGTERM** to a process with process ID **30727**, which of the following commands would you use?  
 a. **signal -SIGTERM 30727**                      b. **kill -SIGTERM 30727**  
 c. **send 30727 SIGTERM**                      d. **send -SIGTERM 30727**  
 e. **kill 30727 SIGTERM**
40. [89/110] If you want a directory **www** to be added automatically to the HOME directory of every newly created account, where would you put the **www** directory so that useradd would make this happen?  
 a. **/etc/profile**                      b. **/etc/sysconfig/default**  
 c. **/etc/default**                      d. **/etc/login.defs**  
 e. **/etc/skel**
41. [89/109] Which **fdisk** internal command letter displays the list of all partitions?  
 a. **p**                      b. **L**                      c. **l**                      d. **f**                      e. **q**
42. [90/110] Which of the following signals cannot be handled or ignored?  
 a. **SIGINT**                      b. **SIGSUSP**                      c. **SIGHUP**  
 d. **SIGTERM**                      e. **SIGKILL**
43. [97/110] The **cron** system can run commands at most every  
 a. hour                      b. second                      c. minute  
 d. day                      e. millisecond
44. [98/110] Which of the following commands could be used to create a group named **wheel**?  
 a. **groupadd wheel**                      b. **gpasswd -c wheel**  
 c. **gshadow -a wheel**                      d. **newgrp wheel**  
 e. **gpasswd -a wheel**
45. [100/110] A **-H** option to **rsync** would cause it to  
 a. not overwrite newer files                      b. work verbosely  
 c. overwrite newer files                      d. preserve timestamps  
 e. preserve hard links

46. [100/110] 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. **umount, mkdir**      b. **mkfs, rmdir**      c. **fsck, rm**  
 d. **mount, fsck**      e. **mount, mkfs**
47. [101/110] 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. **chkconfig httpd on**      b. **kill -SIGSTART httpd**  
 c. **go httpd**      d. **httpd service on**  
 e. **service httpd start**
48. [105/110] Which of the following commands would you use to install the **mailx** software package (and its dependencies) on your CentOS virtual machine?
- a. **pkginst mailx**      b. **install pkg mailx**  
 c. **pkg -i mailx**      d. **yum -i mailx**  
 e. **yum install mailx**
49. [106/110] Which of the following commands could be used to create a new user named **wjiang**, with full name "Wenjuan Jiang" ?
- a. **passwd -c "Wenjuan Jiang" wjiang**  
 b. **newuser -c "Wenjuan Jiang" wjiang**  
 c. **usermod -c "Wenjuan Jiang" wjiang**  
 d. **newuser wjiang -c "Wenjuan Jiang"**  
 e. **useradd -c "Wenjuan Jiang" wjiang**
50. [108/110] Fill in the blanks. To perform critical filesystem operations, you should use at least the safety of \_\_\_\_\_ mode, but even safer would be \_\_\_\_\_ .
- a. **rescue, power-off**      b. **single-user, multi-user**  
 c. **"Live CD", multi-user**      d. **single-user, "Live CD"**  
 e. **runlevel, "Live CD"**

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