

PRINT Name: _____

LAB Section: **One-Answer Multiple Choice 45 Questions****Weight 15%**

- ☞ Read **all** the words of these instructions and **both** sides (back and front) of all pages.
- ☞ Manage your time. Answer questions you know, first. One Answer per question.
- ☞ **PRINT** your Name and Lab on this Question Sheet. You may write or draw on this sheet.
- ☞ Use your full, unabbreviated name on the mark-sense form. Do not abbreviate your name.
- ☞ Enter your NAME, Student Number, and Answers. Fill in the bubbles with pencil, no pen.
- ☞ Leave the last question about reading all these test instructions blank. No answer. **Neniu**

191. Answer 191 is B
192. Answer 192 is B
193. Answer 193 is C
194. Answer 194 is B
195. Answer 195 is A
196. Answer 196 is B

Your Test Version is:

B B C B A B

Fill in the bubbles for the above six letters as six answers 191 through 196 on the back side of the Scantron form, in the lower-right-most answer column.

1. In `/var/lib` using `ls -l` shows a symbolic link `foo -> /bin/cat` then dereference the absolute path of `foo` with no symbolic links:
 - a. `/var/lib/bin/cat`
 - b. `/var/lib/foo/bin/cat`
 - c. `/bin/cat`
 - d. `/foo/bin/cat`
 - e. `/var/lib/bin/cat/foo`
2. Create a symbolic link under `/etc` named `bar` that has target `foo`:
 - a. `ln -s '/etc/foo' /etc/bar`
 - b. `ln -s bar/foo /etc`
 - c. `ln -s 'foo' '/etc/bar'`
 - d. `ln -s /etc/bar 'foo'`
 - e. `ln -s /etc/bar '/etc/foo'`
3. File `a` occupies one disk block. How many disk blocks are in use after this sequence of commands: `cp a b ; ln b c ; cp c d ; cp a c`
 - a. 0
 - b. 1
 - c. 2
 - d. 4
 - e. 3

4. What does this command print: `awk '{print $NF}'`
 - a. the shell variable `$NF`
 - b. field number `N` followed by field number `F`
 - c. the first field
 - d. the number of fields
 - e. the last field
5. If files occupy one disk block, how many disk blocks will the system free up if I remove these four file names:


```
111 -rw-r--r-- 1 me me 1 Jan 1 1:00 a
222 -rw-r--r-- 2 me me 1 Jan 1 1:00 b
222 -rw-r--r-- 2 me me 1 Jan 1 1:00 c
333 -rw-r--r-- 3 me me 1 Jan 1 1:00 d
```

 - a. 1
 - b. 3
 - c. 4
 - d. 0
 - e. 2
6. Given this long listing of a directory:


```
drwxr-xr-x 448 me me 296 Dec 4 9:12 dir
```

 How many subdirectories lie immediately under `dir`?
 - a. 296
 - b. 294
 - c. 448
 - d. not enough information given
 - e. 446
7. If files occupy one disk block, how many disk blocks will the system free up if I remove these four file names:


```
111 -rw-r--r-- 1 me me 1 Jan 1 1:00 a
222 -rw-r--r-- 1 me me 1 Jan 1 1:00 b
333 -rw-r--r-- 1 me me 1 Jan 1 1:00 c
444 -rw-r--r-- 2 me me 1 Jan 1 1:00 d
```

 - a. 2
 - b. 4
 - c. 3
 - d. 0
 - e. 1
8. Dereference the following symlink `xyz` into its equivalent absolute path:


```
ln -s /bin/bash /tmp/a/b/xyz
```

 - a. `/bin/a/b/xyz`
 - b. `/tmp/bash`
 - c. `/bin/b/xyz`
 - d. `/bin/bash`
 - e. `/bin/a/bash`

9. If files occupy one disk block, how many disk blocks will the system free up if I remove these four file names:

```
111 -rw-r--r-- 1 me me 1 Jan 1 1:00 a
222 -rw-r--r-- 2 me me 1 Jan 1 1:00 b
333 -rw-r--r-- 2 me me 1 Jan 1 1:00 c
444 -rw-r--r-- 1 me me 1 Jan 1 1:00 d
```

a. 1 b. 2 c. 3 d. 0 e. 4

10. File **a** contains 2 lines. File **b** contains 3 lines. How many lines are output on your screen by this command line: `cat b | touch a`

a. no output b. 1 c. 3
d. 5 e. 2

11. In `/var/lib` using `ls -l` shows a symbolic link **bar** `-> ../abc/foo` then dereference the absolute path of **bar** with no symbolic links:

a. `/var/lib/abc/foo/bar`
b. `/var/abc/foo`
c. `/var/bar/../abc/foo`
d. `/var/lib/bar/../abc/foo`
e. `/var/lib/abc/foo`

12. In an empty directory, how many words are in file **c** after this:

```
touch a .b .c ; ls >c
```

a. 1 b. 3 c. 4 d. 0 e. 2

13. In an empty directory, how many words are in file **c** after this:

```
echo a >x ; echo b >y ; mv z a >z ; ls >c
```

a. 4 b. 2 c. 1 d. 0 e. 3

14. How do you execute the program **bar** in the current directory?

a. `bar/` b. `$HOME/bar` c. `/bar`
d. `./bar` e. `../bar`

15. If `/bin/foo` is a program that outputs **mom** and `/usr/bin/foo` is a program that outputs **dad** what would be the output on your screen of this three command sequence:

```
PATH=/bin/foo:/usr/bin/foo:/usr ; cd /bin ; foo
```

a. `bash: foo: command not found`
b. `mom`
c. `dad` followed by `mom`
d. `mom` followed by `dad`
e. `dad`

16. File **a** contains 2 lines, and file **b** contains 3 lines, then how many lines are in file **c** after this command line:

```
ln a d ; ln d e ; ln e c ; sort a b >c
```

a. 3 b. 4 c. 5 d. 0 e. 2

17. Which line allows the shell to find the `assignment07check` command?

a. `PATH=whereis assignment07check`
b. `PATH=which assignment07check`
c. `PATH=$PATH:~idallen/cst8207/17w/assignment07`
d. `$PATH=PATH:~idallen/cst8207/17w/assignment07`
e. `PATH=$PATH:assignment07check`

18. If I am in directory `/tmp` and **dir** is an empty sub-directory, what is true after this command line:

```
mkdir bar ; touch foo ; mv foo bar/dir
```

a. the directory **bar** now contains a file named **foo**
b. the directory **dir** now contains a file named **foo**
c. the command fails because `bar/dir` is not a directory
d. the directory **dir** is still empty
e. the directory **dir** now contains a directory named **bar**

19. If files occupy one disk block, how many disk blocks will the system free up if I remove these four file names:

```
111 -rw-r--r-- 3 me me 1 Jan 1 1:00 a
111 -rw-r--r-- 3 me me 1 Jan 1 1:00 b
222 -rw-r--r-- 3 me me 1 Jan 1 1:00 c
222 -rw-r--r-- 3 me me 1 Jan 1 1:00 d
```

a. 1 b. 0 c. 2 d. 3 e. 4

20. What is true about this output from `ls -il foo bar`

```
15 -rwxrwxrwx 2 bin bin 3 Jul 31 12:33 foo
15 -rwxrwxrwx 2 bin bin 3 Jul 31 12:33 bar
```

a. **foo** and **bar** each have three names (six names total)
b. **foo** and **bar** are names for different files
c. this output is not possible
d. **foo** and **bar** are two of three names for the same file
e. **foo** and **bar** are names for the same file

21. If a shell GLOB pattern fails to match anything, the shell:
- gives a warning message but continues
 - returns the closest match to the pattern
 - removes the pattern and passes nothing
 - gives an error message and does not execute
 - passes the pattern unchanged to the command
22. What is the link count of directory **x** after this set of successful commands?
- ```
mkdir x ; mkdir x/a x/b x/a/b x/b/c x/b/d
```
- 3
  - 5
  - 4
  - 6
  - 2
23. Dereference the following symlink **xyz** into its equivalent absolute path:
- ```
ln -s ../../a../foo /tmp/a/b/xyz
```
- /tmp/foo
 - /tmp/b/xyz
 - /tmp/b/foo
 - /tmp/a/b/xyz
 - /tmp/a/foo
24. What is in file **c** after this command line:
- ```
echo xx >a ; ln a b ; echo yy >b ; ln a c ; rm a b
```
- no such file (nonexistent)
  - xx** followed by **yy**
  - yy**
  - nothing (empty file)
  - xx**
25. If **/bin/foo** is a program that outputs **mom** and **/usr/bin/foo** is a program that outputs **dad** what would be the output on your screen of this three command sequence:
- ```
PATH=/bin/foo:/usr/bin/foo:/usr ; cd /bin ; ./foo
```
- bash: ./foo: no such file or directory**
 - mom**
 - dad** followed by **mom**
 - mom** followed by **dad**
 - dad**
26. What is the output of this in an empty directory:
- ```
date >.abc ; touch .dog ; echo .?*
```
- .dog**
  - an error message from **echo** saying **.?\* does not exist**
  - .?\***
  - .abc .dog**
  - .. .abc .dog**

27. What is the output of this in an empty directory:
- ```
mkdir abc cba ab a ; echo [abc]
```
- a ab abc**
 - a**
 - abc**
 - an error message from **echo** saying **[abc]** does not exist
 - abc cba**
28. How do I search for the string **text** in the paginated output from the **man** or **less** commands on my screen?
- grep text**
 - /text**
 - find text**
 - @text**
 - help text**
29. File **a** contains 2 lines, and file **b** contains 3 lines, then how many lines are in file **c** after this command line:
- ```
sort a b >c ; cat a >>b ; sort c b >c a
```
- 5
  - 7
  - 8
  - 0
  - 12
30. Which pathname almost always leads to the same file named: **/etc/passwd**
- ./etc/passwd**
  - /etc/../passwd**
  - ./etc/./passwd/.**
  - ././etc/passwd**
  - /etc/./etc/./passwd**
31. In an empty directory, what is in file **foo** after this:
- ```
echo hi >foo ; ls bar >foo
```
- bar**
 - ls: cannot access bar**
 - nothing (empty file)
 - hi**
 - foo**
32. If files occupy one disk block, how many disk blocks will the system free up if I remove these four file names:
- ```
111 -rw-r--r-- 2 me me 1 Jan 1 1:00 a
111 -rw-r--r-- 2 me me 1 Jan 1 1:00 b
222 -rw-r--r-- 3 me me 1 Jan 1 1:00 c
222 -rw-r--r-- 3 me me 1 Jan 1 1:00 d
```
- 2
  - 1
  - 3
  - 4
  - 0
33. How many arguments are passed to the command by the shell:
- ```
echo It's not hard, it's just logical.
```
- 7
 - 6
 - 3
 - 5
 - 4

34. If my current directory is `/etc/vim`, which of these pathnames is equivalent to the file name `/etc/passwd`?
- a. `./passwd` b. `./etc/passwd`
 c. `/etc/vim/./passwd` d. `../passwd`
 e. `../etc/passwd`
35. File **a** contains 2 lines. File **b** contains 3 lines. How many lines are output on your screen by this: `cat b | echo a`
- a. 2 b. 3 c. 1 d. 5 e. 4
36. File **a** occupies one disk block. How many disk blocks are in use after this sequence of commands:
- ```
cp a b ; ln b c ; cp c d ; cp a c ; rm a b
```
- a. 4                      b. 1                      c. 3                      d. 2                      e. 5
37. Which command displays pathnames starting with **foo**?
- a. `cat foo+`                      b. `find foo%`                      c. `which foo@`  
 d. `echo foo*`                      e. `echo foo&`
38. How many files are touched?
- ```
touch " 1 '2 3' 4 "5 6 ' 7 "8 ' "
```
- a. 4 b. 3 c. 6 d. 2 e. 5
39. In an empty directory, how many words are in file **c** after this:
- ```
echo Don't "redirect". >a Can't do. >b ; ls >c
```
- a. 4                      b. 2                      c. 0                      d. 3                      e. 1
40. What is the output on your screen of this unquoted command line:
- ```
mkdir a ; touch b a/b a/bb ; find a -name b*
```
- a. `a/b` b. `b a/b a/bb` c. no output
 d. `b bb` e. `a/b a/bb`
41. If I am in directory `/etc` and **d** is an empty sub-directory, what is true after this command line:
- ```
touch d/foo ; mkdir d/x ; cp d/foo ./d/./x
```
- a. the directory **d** now contains only a file named **x**  
 b. there is a second copy of the file **foo** in file `/etc/x`  
 c. there is a second copy of the file **foo** in directory **d**  
 d. the directory **d** is now empty  
 e. the command fails because the name `d/foo` does not exist

42. Which command line outputs the one-line pathname `/bin/date`?
- a. `cat /bin/date`                      b. `which date`  
 c. `cd /bin ; ls date`                      d. `touch /bin/date`  
 e. `cd /bin ; echo date`
43. If files occupy one disk block, how many disk blocks will the system free up if I remove these four file names:
- ```
111 -rw-r--r-- 1 me me 1 Jan 1 1:00 a
222 -rw-r--r-- 2 me me 1 Jan 1 1:00 b
444 -rw-r--r-- 2 me me 1 Jan 1 1:00 c
444 -rw-r--r-- 2 me me 1 Jan 1 1:00 d
```
- a. 1 b. 4 c. 3 d. 2 e. 0
44. Which command line below shows only lines 5–10 of file **foo**?
- a. `head -n 6 foo | tail -n 10`
 b. `tail -n 15 foo | head -n 5`
 c. `head -n 10 foo | tail -n 5`
 d. `head -n 10 foo | tail -n 6`
 e. `tail -n 10 foo | head -n 6`
45. Did you read all the words of the test instructions on page one?
- a. **Neniu** (*No - Esperanto*) b. **Não** (*No - Portuguese*)
 c. **Nie** (*No - Polish*) d. **Ne** (*No - Lithuanian*)
 e. **Nem** (*No - Hungarian*)