

PRINT Name: \_\_\_\_\_ LAB Section:

Test Version: 458

One-Answer Multiple Choice 227 Questions – 10 of 10%

- ☞ 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 both **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.
  - ☞ The answer to the questions below about reading/doing all these test instructions is: **Jes**
- 

1. **Did you read all the words of the test instructions on page one?**
  - a. **Sim** (Yes - Portuguese)
  - b. **Jes** (Yes - Esperanto)
  - c. **Igen** (Yes - Hungarian)
  - d. **Tak** (Yes - Polish)
  - e. **Taip** (Yes - Lithuanian)
2. **My three-digit Lab Section number is:**
  - a. My lab room number, e.g. **T303, T230, P305, T321**
  - b. The Test Version number printed in the top left corner.
  - c. My lecture room number, e.g. **T119**
  - d. My lecture section number, e.g. **010** or **020**.
  - e. The timetable section number of my weekly 2-hour lab period.
3. The purpose of the **PS1** shell variable is:
  - a. to list your suspended jobs
  - b. to find patterns inside a text file
  - c. to protect your HOME directory from access
  - d. to set the shell prompt
  - e. to allow access to the ROOT directory
4. In which section of the manual do you find super-user and admin commands?
  - a. 3
  - b. 2
  - c. 1
  - d. 8
  - e. 4
5. What is the absolute pathname of the Unix/Linux password (account) file?
  - a. **/etc/passwd**
  - b. **/usr/passwd**
  - c. **/bin/passwd**
  - d. **/lib/passwd**
  - e. **/var/passwd**
6. In an empty directory, what is the output on your screen after this command line: **ls out 2>/dev/null**
  - a. **out**
  - b. **ls: /dev/null: No such file or directory**
  - c. no output
  - d. **ls: out 2>/dev/null: No such file or directory**
  - e. **ls: out: No such file or directory**

7. If file `/a` contains 20 lines, and file `/b` contains 30 lines, then how many lines are in file `/c` after this command line:  
`sort /a /b >/c ; cat /a >>/b ; sort /c /b /a >/c`
- 0
  - 50
  - 120
  - 80
  - 70
8. The command that creates a directory and all parent directories is:
- `mkdir -r a/b/c`
  - `rm -r a/b/c`
  - `rmdir -r a/b/c`
  - `touch a/b/c`
  - `mkdir -p a/b/c`
9. If `/bin/bash` is a file name, which pathname always leads to the same file?
- `/bin/bin/../bash`
  - `../bin./bash`
  - `./../bin/bash`
  - `/bin/bash/.`
  - `/bin/../bash`
10. What happens when you try to change to the parent directory of ROOT, e.g. `cd / ; cd ..`
- you go to the parent directory containing your **C:** drive
  - the shell current directory is still ROOT; no change
  - the shell asks you to retype this invalid directory
  - the shell issues a warning, but changes to the parent
  - the shell issues an error message and does not change
11. Which pathname almost always leads to the same file named: `/etc/shadow`
- `./../etc./shadow`
  - `/etc/shadow/./.`
  - `/etc/../../../../shadow`
  - `/etc/shadow/../../../../`
  - `././etc/shadow`
12. If file `twenty` contains twenty lines, and file `thirty` contains thirty lines, then how many lines are output on your screen by this command line: `tail thirty | cat twenty`
- 20
  - 50
  - 0
  - 21
  - 30
13. If file `/a` contains 40 lines, and file `/b` contains 60 lines, then how many lines are output on your screen by this command line: `sort /a /b | cat /a | cat /b`
- 200
  - 160
  - 100
  - 60
  - 40

14. What is the output of this command line in an empty directory: `cat *`
- a. no output on screen
  - b. an error message from `cat` saying `*` does not exist
  - c. `*`
  - d. `.`
  - e. `.` `..`
15. What is the output on your screen after this command line: `echo hi >ls ; cat ls > wc`
- a. no output on screen
  - b. `ls`
  - c. `hi`
  - d. `1 1 2`
  - e. `1 1 3`
16. How many arguments does the shell pass to this `echo` command: `echo one two three >four five`
- a. 2
  - b. 6
  - c. 4
  - d. 5
  - e. 3
17. If I am in my HOME directory named `/home/me` and `x` is an empty sub-directory, what is true after this command line: `touch ./x/fil ; mv x/./fil x/../../me/./y`
- a. the command fails because the path `x/../../me` does not exist
  - b. the directory `x` is still empty
  - c. the command fails because the path `x/./fil` does not exist
  - d. the directory `x` now contains only a file named `y`
  - e. there is a second copy of the file `fil` in the file named `y`
18. What is the output on your screen of this command line: `echo bat >pig ; echo one | tail pig`
- a. `one` followed by `bat`
  - b. an error message
  - c. `bat`
  - d. `one`
  - e. `bat` followed by `one`
19. Which pathname almost always leads to the same file named: `/etc/passwd`
- a. `./etc/passwd`
  - b. `/etc/passwd/.`
  - c. `./etc/./passwd`
  - d. `/etc/./passwd`
  - e. `/etc/etc/./passwd`
20. If I am in my HOME directory named `/home/me` and `sub` is an empty sub-directory, what is true after this command line: `touch ./fil ; mv sub/./fil ../me/cat`
- a. the command fails because the path `../me/cat` does not exist
  - b. the directory `sub/..` now has a file named `cat` in it
  - c. the directory `sub` now contains only a file named `cat`
  - d. there is a second copy of the file `fil` in the file named `cat`
  - e. the command fails because the path `sub/./fil` does not exist

21. What is the output of this successful command sequence?  
`cd /home/dir ; mkdir one ; mkdir two ; pwd`
- a. `/home/dir/two`
  - b. `/home/dir/one/two`
  - c. `/two`
  - d. `/home/dir`
  - e. `/home/dir/one`
22. Which *CTRL* key will erase a full line of typing in a terminal window?
- a. `^R`
  - b. `^D`
  - c. `^I`
  - d. `^C`
  - e. `^U`
23. If `/etc/passwd` is a file name, which pathname always leads to the same file?
- a. `../etc/./passwd`
  - b. `/etc/passwd/../../`
  - c. `/etc/passwd/.`
  - d. `./etc/passwd`
  - e. `/etc/../../passwd`
24. Which of these characters is *not* a shell GLOB meta-character?
- a. `]`
  - b. `?`
  - c. `*`
  - d. `#`
  - e. `[`
25. What is the output on your screen of this command line:  
`echo pig >one ; echo cow | head -2 one`
- a. an error message
  - b. `pig` followed by `cow`
  - c. `cow`
  - d. `pig`
  - e. `cow` followed by `pig`
26. What is the output of this command line in an empty directory: `touch .12 .345 .6789 ; echo .??*`
- a. no output
  - b. `. . .12 .345 .6789`
  - c. an error message from `echo` saying `.??*` does not exist
  - d. `.??*`
  - e. `.12 .345 .6789`
27. If my current directory is `/home`, which of these pathnames is equivalent to the pathname `/home/a/b/c`?
- a. `./home/a/b/c`
  - b. `../home/b/c`
  - c. `../a/b/c`
  - d. `./a/b/c`
  - e. `/a/b/c`

28. If my current directory is `/etc`, which of these pathnames is equivalent to the file name `/etc/passwd`?
- `./passwd`
  - `./etc/passwd`
  - `../etc/passwd/.`
  - `../passwd`
  - `/passwd`
29. Which of these command line will make file `foo` contain all of the content of file `a` followed by all of the content of file `b`?
- `echo a b >foo`
  - `cat a >foo ; cat b >>foo`
  - `cp a >foo ; cp b >>foo`
  - `mv a b >foo`
  - `cp a b >foo`
30. If I am in directory `/home/me` and `mt` is an empty sub-directory, what is true after this command line:  
`touch foo ; mv ./mt/./foo ../me/bar`
- the command fails because the path `./mt/./foo` does not exist
  - the directory `mt` now contains only a file named `bar`
  - there is a second copy of the file `foo` in the file named `bar`
  - the parent directory of `mt` now contains a file named `bar`
  - the command fails because the path `../me/bar` does not exist
31. In an empty directory, what is the output on your screen of this command line:  
`echo hi >foo >bar ; cat foo`
- `hi`
  - `cat: foo: No such file or directory`
  - `hi >foo >bar`
  - no output
  - `hi >foo`
32. In an empty directory, what is the output on your screen after this command line:  
`touch a b .1 .2 ; echo .??*`
- an error message from `echo` saying `.??*` does not exist
  - `.??*`
  - `. .. .1 .2`
  - `. .. a b .1 .2`
  - `a b`
33. What would you type to find the string `tony` in the file `/etc/passwd`?
- `grep /etc/passwd tony`
  - `find /etc/passwd -user tony -print`
  - `find /etc/passwd -name tony -print`
  - `cat tony /etc/passwd`
  - `grep tony /etc/passwd`
34. Which of these statements is true?
- The `file` command creates a new, empty file in the current directory
  - To indicate End-of-File (no more input) to a program, type `[CTRL]-[D]`.
  - Command `apropos` is an exact synonym for command `man`.
  - To interrupt a Unix process from the keyboard, type `[CTRL]-[D]`.
  - To erase an entire line of typing, type `[ALT]-[DELETE]`.

35. If file **a** contains 2 lines, and file **b** contains 3 lines, then how many lines are in file **c** after this command line:  
`cat a a >c ; head b >>a ; cat c b >c a`
- a. 10
  - b. 7
  - c. 12
  - d. 8
  - e. 0
36. The output of the **find** command is:
- a. account names matching a pattern
  - b. finds patterns in a file corresponding to lines
  - c. finds lines in a file matching a pattern
  - d. a recursive list of users logged in to the system
  - e. a recursive list of pathnames
37. If a shell token with a GLOB pattern contains two slashes, how many slashes can be in each matched pathname?
- a. one, two, or more
  - b. zero, one, or two
  - c. one or two
  - d. two or more
  - e. exactly two
38. If file **foo** contains 9 lines, each of which is the one-digit line number of the line in the file (1 through 9), what is the output on your screen of this command: `cat foo foo | sort | tail -4 | head -1`
- a. 6
  - b. 8
  - c. no output
  - d. 4
  - e. 1
39. In the output of the command `ls -a`, the one-character name `.` signifies what?
- a. The current directory.
  - b. The parent directory.
  - c. The ROOT directory.
  - d. A name with an unprintable character.
  - e. A current file.
40. In an empty directory, what is the output on your screen after this command line:  
`ls 2>/dev/null nosuchfile`
- a. `nosuchfile`
  - b. `ls: /dev/null: No such file or directory`
  - c. `ls: nosuchfile: No such file or directory`
  - d. `ls: 2>/dev/null nosuchfile: No such file or directory`
  - e. no output
41. What does *quoting* mean on a shell command line?
- a. using more than one pathname argument to a command, e.g. `rm a b c`
  - b. using a leading tilde ("~") on a pathname to mean your HOME directory
  - c. setting the PS1 variable to be your shell prompt
  - d. turning off the special meaning of shell meta-characters
  - e. typing a "control" character using the [CTRL] key

42. What is the possible output on your screen of this command line:  
`echo wc >date ; sort date >date ; cat date`
- a. `Fri Mar 16 12:00:00 EST 2012`
  - b. `1 6 28 date`
  - c. `1 6 29 date`
  - d. no output on screen
  - e. `wc`
43. In a directory containing one file named `dog`, what is the output on your screen after this command line:  
`2>/dev/null ls nosuchfile`
- a. no output
  - b. `dog`
  - c. `ls: nosuchfile: No such file or directory`
  - d. `nosuchfile`
  - e. `bash: 2>/dev/null: command not found`
44. The option to `ls` that shows which names are directories is:
- a. `-l`
  - b. `-a`
  - c. `-d`
  - d. `-1`
  - e. `-i`
45. If `/etc/passwd` is a file name, which pathname always leads to the same file?
- a. `/etc/passwd/../../`
  - b. `/etc/passwd/./.`
  - c. `/etc/../.././passwd`
  - d. `../etc/passwd`
  - e. `/../etc/./passwd`
46. In an empty directory, how many arguments are passed to the `cat` command in this command line:  
`touch a1 a2 ba ca ; cat a*`
- a. 1
  - b. 3
  - c. 4
  - d. 2
  - e. none
47. How many lines are in file `out` after this command line: `date >wc >cat >out`
- a. `1 6 29`
  - b. `0 0 0`
  - c. 2
  - d. 1
  - e. 0
48. In a directory containing one file named `dog`, what is the output on your screen after this command line:  
`1>/dev/null ls *`
- a. `*`
  - b. `bash: 1>/dev/null: command not found`
  - c. `dog`
  - d. `ls: *: No such file or directory`
  - e. no output

49. How many lines are in the file **bar** after this command line:  
`echo hi >x ; echo ho >>x ; cat x >bar`
- a. 4
  - b. 6
  - c. 1
  - d. 0
  - e. 2
50. What is the output of this command line in an empty directory: `touch .1 .2 .3 4 5 6 ; echo .*`
- a. `.*`
  - b. an error message from **echo** saying `.*` does not exist
  - c. `. .. .1 .2 .3`
  - d. `4 5 6`
  - e. `.1 .2 .3 4 5 6`
51. In an empty directory, how many arguments are passed to the **rm** command in this command line:  
`date >a1 ; touch a2 ba ca >all ; rm a*`
- a. 3
  - b. 1
  - c. none
  - d. 2
  - e. 4
52. If I am in directory `/home/me` and **mt** is an empty sub-directory, what is true after this command line:  
`touch ./mt/foo ; mv mt/./foo mt/../../me/./y`
- a. the directory **mt** now contains only a file named **y**
  - b. the directory **mt** is still empty
  - c. the command fails because the path `mt/../../me` does not exist
  - d. there is a second copy of the file **foo** in the file named **y**
  - e. the command fails because the path `mt/./foo` does not exist
53. Which of these statements is true?
- a. To erase an entire line of typing, type [CTRL]-[D].
  - b. To indicate End-of-File (no more input), type [CTRL]-[C].
  - c. Unix commands must be entered in lower-case letters.
  - d. To delete a word from the shell command line, type [CTRL]-[D]
  - e. Unix commands can be entered in upper-case or lower-case letters; they are equivalent.
54. What is the output of this command line in an empty directory: `touch .a .b .c ; echo .*`
- a. no output
  - b. an error message from **echo** saying `.*` does not exist
  - c. `. .. .a .b .c`
  - d. `.a .b .c`
  - e. `.*`
55. Which command line below does *not* show any lines from inside the file **out**?
- a. `sort out`
  - b. `head out`
  - c. `more out`
  - d. `wc out`
  - e. `tail out`



56. Which command line shows the file in `/bin` with the largest checksum?
- a. `cat /bin | sum | sort -nr | head -1`
  - b. `ls /bin/* | sum | sort -nr | head -1`
  - c. `cat /bin/* | sum | sort -nr | head -1`
  - d. `sum /bin | sort -nr | head -1`
  - e. `sum /bin/* | sort -nr | head -1`
57. In an empty directory, what is the output on your screen after this command line:  
`date >.foo >.bar ; ls *`
- a. `. .. .foo .bar`
  - b. `.foo .bar`
  - c. no output
  - d. `*`
  - e. an error message from `ls` saying `*` does not exist
58. How many lines are in the file `out` after this command line:  
`echo hi >x ; echo ho >>x ; cat x x x >out`
- a. 2
  - b. 6
  - c. 0
  - d. 1
  - e. 3
59. The shell expands a leading tilde (`~`) in a pathname (e.g. `~/foo`) to be:
- a. your HOME directory
  - b. the parent directory
  - c. the directory `/root`
  - d. the ROOT directory
  - e. the current directory
60. The basic purpose of a shell is:
- a. to search for strings inside text files
  - b. to find and run commands
  - c. to program system administration backup procedures
  - d. to format hard drives
  - e. to expand pathnames
61. If `foo` is a sub-directory that contains only the file `bar`, what happens after this command:  
`cp foo/bar ../foo/./me`
- a. there is a second copy of the file `bar` in directory `foo`
  - b. there is a second copy of the file `bar` in the file named `me`
  - c. the directory `foo` is now empty
  - d. the directory `foo` now contains only a file named `me`
  - e. the command fails because the name `foo/bar` does not exist
62. What would you see if you typed this command: `cat /foo`
- a. The contents of the file `foo` located in the parent directory
  - b. The contents of the file `foo` located in your HOME directory
  - c. The contents of the file `foo` located in the ROOT directory
  - d. The contents of your directory named `foo`
  - e. The contents of your subdirectory named `foo`

63. If the current directory contains 10 visible files and 15 visible sub-directories, what is the output on your screen of this command: `ls -d */.`
- a. `*/.`
  - b. an error message because `*/.` does not exist
  - c. 25 pathnames
  - d. no output
  - e. 15 directory names
64. Which command line displays all the names in the current directory that are exactly three digits long (and no others)?
- a. `echo ???`
  - b. `echo [3][3][3]`
  - c. `echo [0-9][0-9][0-9]`
  - d. `echo [1-3][1-3][1-3]`
  - e. `echo [?][?][?]`
65. If file `foo` contains 99 lines, each of which is the two-digit line number of the line in the file (01 through 99), what is the output on your screen of this command: `sort foo foo | tail -4 | head -1`
- a. 01 01
  - b. 96 96
  - c. 98
  - d. 96
  - e. 04 04
66. In which section of the manual do you find standard commands?
- a. 8
  - b. 4
  - c. 3
  - d. 1
  - e. 2
67. Which of these pathnames is *not* an absolute pathname (after all shell expansions)?
- a. `/foo`
  - b. `/../foo`
  - c. `foo`
  - d. `~/foo`
  - e. `$HOME/foo`
68. Which of the following commands will leave `file1` non-empty?
- a. `wc file1 > file1`
  - b. `cat file1 > file1`
  - c. `head file1 > file1`
  - d. `tail file1 > file1`
  - e. `sort file1 > file1`
69. If directory `dir` contains only these four three-character file names: `.on`, `.tw`, `.th`, `.f.`, then what is the output on your screen of this command line: `echo dir/*`
- a. `dir/.on dir/.tw dir/.th`
  - b. no output
  - c. `dir/. dir/.. dir/.on dir/.tw dir/.th dir/.f.`
  - d. `dir/.f.`
  - e. `dir/*`

70. Given an existing file of yours named **cat**, what is the output on your screen of this command line:  
`echo xx >cat ; head cat >cat ; wc cat`
- a. 0 0 0 cat
  - b. 2 2 4 cat
  - c. no output
  - d. 1 1 3 cat
  - e. 1 1 2 cat
71. If file **a** contains 2 lines, and file **b** contains 3 lines, then how many lines are output on your screen by this command line: `cat a | cat b`
- a. 5
  - b. 0
  - c. 2
  - d. no output
  - e. 3
72. In an empty directory, what is the output on your screen after this command line: `touch a ; ls >wc -l`
- a. 3
  - b. no output
  - c. 1
  - d. 0
  - e. 2
73. How do I search for the string **foo** in the text display output from the **man** command?
- a. `search foo`
  - b. `@foo`
  - c. `find foo`
  - d. `/foo`
  - e. select "Search" in the menu
74. If file **/a** contains 3 lines, and file **/b** contains 5 lines, then how many lines are output on your screen by this command line: `cat /a | sort /b`
- a. 0
  - b. 5
  - c. 3
  - d. 8
  - e. 2
75. If my current directory is **/home**, and my HOME directory is **/home/me**, which command copies the password file into my HOME directory under the name **foo**?
- a. `cp ../home/me/../../etc/passwd ./me/./foo`
  - b. `cp ./me/../../etc/passwd ../home/me/foo`
  - c. `cp me/../../etc/passwd me/foo`
  - d. `cp ../etc/passwd ../me/foo`
  - e. `cp ../../etc/passwd /me/foo`
76. In an empty directory, what is the output on your screen after this command line:  
`touch 1 2 .a .b ; echo .*`
- a. 1 2
  - b. an error message from **echo** saying `.*` does not exist
  - c. `. . .a .b`
  - d. `.a .b`
  - e. `.*`

77. In an empty directory, how many words are in file **out** after this command line: **touch a ; ls >out**
- 1
  - 4
  - 3
  - 2
  - 0
78. To make the **bash** shell complete commands or file names, you type the first part of the command or file name and then press this key:
- [TAB]
  - [ALT]
  - [CTRL]-[D]
  - [ALT]-[F1]
  - [CTRL]-[C]
79. If my current directory is **/bin**, which of these pathnames is equivalent to the file name **/bin/ls**?
- ls/.**
  - ./bin/ls**
  - /root/bin/ls**
  - ../..bin/ls**
  - ../bin/ls/.**
80. What is the output of this command line in an empty directory: **touch .a .b .c ; echo [.]\***
- . . . .a .b .c**
  - [.]\***
  - .a .b .c**
  - no output
  - an error message from **echo** saying **[.]\*** does not exist
81. To prevent disconnections when using the Windows version of **PuTTY**, you should make this configuration change:
- use your ACSIS password as your password
  - set the seconds between keepalives to 55
  - log in using your Blackboard userid
  - use your student number as your password
  - your password will not echo on your screen as you type
82. What is true about this command line: **date >ls ; ls -ls ls >wc**
- The shell finds and executes three different commands.
  - The file **wc** has one line in it.
  - The **ls** command receives the output of **date** on standard input.
  - The **wc** command counts the output of the **ls** command.
  - The **ls** command is executed more than once.
83. If directory **cow** contains only these four three-character file names: **.AA, .A1, .BB, .B.**, then what is the output on your screen of this command line: **echo cow/\***
- cow/.AA cow/.A1 cow/.BB**
  - no output
  - cow/\***
  - cow/.AA cow/.A1 cow/.BB cow/.B.**
  - cow/.B.**

84. If I am in my HOME directory named `/home/myhome` and `sub` is an empty sub-directory, what is true after this command line: `touch ./fil ; mv sub/./fil ../myhome/cat`
- the directory `sub` now contains only a file named `cat`
  - the directory `sub/..` now has a file named `cat` in it
  - the command fails because the path `../myhome/cat` does not exist
  - there is a second copy of the file `fil` in the file named `cat`
  - the command fails because the path `sub/./fil` does not exist
85. If my current directory is `/home`, and my HOME directory is `/home/me`, which command copies the password file into my HOME directory under the name `foo`?
- `cp ../etc/passwd ./me/foo`
  - `cp ./me/./etc/passwd ../home/me/foo`
  - `cp ../etc/passwd ../me/foo`
  - `cp ../home/me/./etc/passwd ./me/./foo`
  - `cp .././etc/passwd /me/foo`
86. What is the output on your screen of this command line: `echo pig >one ; echo bat | tail one`
- `bat` followed by `pig`
  - an error message
  - `pig`
  - `pig` followed by `bat`
  - `bat`
87. In an empty directory, what is the output on your screen after this command line: `ls nosuchfile 2>out`
- `2 not found`
  - `nosuchfile not found`
  - `nosuchfile`
  - `nosuchfile 2 not found`
  - no output
88. In an empty directory, what is the output on your screen after this command line:  
`echo hi >a ; ls >wc -l`
- 1
  - a
  - no output
  - 2
  - 0
89. If `foo` is a sub-directory that contains only the file `bar`, what happens after this command:  
`mv foo/bar foo/moo`
- an empty file named `moo` is created
  - the command fails because `bar` is not a directory
  - there is a second copy of the file `bar` in the file named `moo`
  - there is only the file named `moo` in the directory now
  - the command fails because the name `moo` does not exist
90. In a manual page **SYNOPSIS** section, ellipsis (three dots) (`...`) mean:
- something that is repeated
  - a hidden directory
  - the parent directory
  - something that is optional
  - no special meaning

91. Which Unix command line deletes a directory and everything inside it?
- a. `rmdir -all dir`
  - b. `deltree -all dir`
  - c. `rmdir -r dir`
  - d. `rm -r dir`
  - e. `rm -all dir`
92. In an empty directory, how many arguments are passed to the `wc` command in this command line:  
`touch xx yy >zz 123 .a b. ; wc ??`
- a. 4
  - b. 1
  - c. 2
  - d. 5
  - e. 0
93. In a directory containing one file named `mt`, what is the output on your screen after this command line:  
`ls 2>/dev/null nosuchfile`
- a. `nosuchfile`
  - b. `ls: nosuchfile: No such file or directory`
  - c. `mt`
  - d. no output
  - e. `bash: 2>/dev/null: command not found`
94. If `pig` is a sub-directory that contains only the file `dog`, what happens after this command:  
`mv pig/dog pig/././cat`
- a. the command fails because the name `cat` does not exist
  - b. there is a second copy of the file `dog` in the file named `cat`
  - c. the directory `pig` now contains only a file named `cat`
  - d. the command fails because the name `pig/././cat` does not exist
  - e. the directory `pig` is now empty
95. If file `x` contains ten lines, and file `y` contains twenty lines, then how many lines are in file `cat` after this command line:  
`sort x y >z ; tail -5 x >x ; sort x y z >cat`
- a. 50
  - b. 60
  - c. 55
  - d. 0
  - e. 40
96. Given the pathname `a/b/c`, the *basename* of this pathname is:
- a. `b/c`
  - b. `c`
  - c. `a/b`
  - d. `a`
  - e. `b`
97. Which pathname almost always leads to the same file named: `/etc/passwd`?
- a. `/etc/passwd/.`
  - b. `./etc/passwd`
  - c. `../etc/passwd`
  - d. `/etc/./etc/./passwd`
  - e. `/etc/./etc/./passwd`

98. Which command line lists all possible utilities available for compiling programs?
- a. `grep compile /etc/`
  - b. `find compile`
  - c. `locate compile`
  - d. `apropos compile`
  - e. `man compile`
99. What is the output of this command line in an empty directory:
- ```
touch a .a bc .bc def ; echo [ab]*
```
- a. no output
  - b. `a .a bc .bc`
  - c. `[ab]*`
  - d. `a bc`
  - e. an error message from `echo` saying `[ab]*` does not exist
100. If file `ten` contains ten lines, and file `twenty` contains twenty lines, then how many lines are output on your screen by this command line: `cat twenty | sort ten`
- a. 60
  - b. 0
  - c. 10
  - d. 20
  - e. 30
101. What is the output of this command line in an empty directory: `touch 1 2 3 .a .b .c ; echo .??*`
- a. an error message from `echo` saying `.??*` does not exist
  - b. `. .. 1 2 3 .a .b .c`
  - c. `.a .b .c`
  - d. `.??*`
  - e. `. .. .a .b .c`
102. If file `/a` contains 30 lines, and file `/b` contains 50 lines, then how many lines are output on your screen by this command line: `cat /a | sort /b`
- a. 20
  - b. 50
  - c. 30
  - d. 80
  - e. 0
103. How many lines are in file `out` after this command line: `echo hi >dog >out >cat`
- a. 2
  - b. 4
  - c. 0
  - d. 3
  - e. 1
104. If file `foo` contains 9 lines, each of which is the one-digit line number of the line in the file (1 through 9), what is the output on your screen of this command: `cat foo foo | sort -r | head -4 | tail -1`
- a. 8
  - b. 6
  - c. 7
  - d. 5
  - e. 9

105. If you type the command `sleep 60`, which *CTRL* key will **interrupt** it and take you back to the command prompt?
- `^D`
  - `^U`
  - `^R`
  - `^I`
  - `^C`
106. In a manual page **SYNOPSIS** section, square brackets (`[ ]`) mean:
- no special meaning
  - something that is repeated
  - something that is optional
  - a GLOB pattern matching a list
  - an arithmetic expression
107. What is the output of this command line in an empty directory: `echo *`
- `.`
  - no output on screen
  - `. ..`
  - `*`
  - an error message from `echo` saying `*` does not exist
108. If I am in my HOME directory named `/home/ian` and `mt` is an empty sub-directory, what is true after this command line: `touch ../ian/cat ; cp ../mt/./cat ../mt/./dog`
- the directory `mt` is still empty
  - the file named `cat` is now renamed to `dog`
  - the directory `mt` now has a file named `dog` in it
  - the directory `mt` now contains two files
  - the command fails because the path `../mt/./cat` does not exist
109. Which command below is the best way to find a line containing a question mark (?) in the file `/etc/passwd`?
- `grep /etc/passwd '?'`
  - `grep '?' /etc/passwd`
  - `search '?' /etc/passwd`
  - `grep './?' /etc/passwd`
  - `find '?' /etc/passwd`
110. If I am in directory `/home/me` and `mt` is an empty sub-directory, what is true after this command line:  
`touch ../foo bar ; rm mt/./foo ../me/bar`
- the directory `mt` now contains a file named `foo`
  - the command fails because the path `mt/./foo` does not exist
  - the directory `mt` is still empty
  - the directory `me` now contains a file named `bar`
  - the command fails because the path `../me/bar` does not exist
111. In an empty directory, how many arguments are passed to the `cat` command in this command line:  
`date >a1 ; touch a2 ba ca ; cat a*`
- none
  - 4
  - 3
  - 1
  - 2



112. Which command pipeline outputs the count of the number of manual page titles that contain the keyword "sort"?
- a. `man sort ; wc`
  - b. `man -k sort | wc`
  - c. `wc -k sort`
  - d. `man sort | wc`
  - e. `wc man sort`
113. Which command line displays all the non-hidden names in the current directory that contain the case-insensitive word **me** (and no others)?
- a. `echo *[MmEe]*`
  - b. `echo *[Mm][Ee]*`
  - c. `echo *(M,m,E,e)*`
  - d. `echo *[me]*`
  - e. `echo ?[MmEe]?`
114. What is your HOME directory?
- a. This is where "root" goes when "root" logs in to the system
  - b. The directory into which you are placed when you first log in
  - c. The top directory of the Unix/Linux/BSD/OSX file system tree
  - d. The directory that your shell is in now
  - e. The directory named **/home**
115. If **pig** is a sub-directory that contains only the file **dog**, what happens after this command:
- ```
mv pig/dog pig/././cat
```
- a. there is a second copy of the file named **dog** in the file named **cat**
  - b. the command fails because the name **cat** does not exist
  - c. the directory **pig** is now empty
  - d. the directory **pig** now contains only a file named **cat**
  - e. the command fails because the name **pig/././cat** does not exist
116. In an empty directory, what happens after this command line: `mkdir a b c ; mv a b c`
- a. the directories **a**, **b**, and **c** are moved to the current directory
  - b. the directories **a**, **b**, and **c** are moved to the directory **c**
  - c. the directories **a** and **b** are appended to the directory **c**
  - d. an error message: **mv: target 'c' is not a directory**
  - e. the directories **a** and **b** are moved into the directory **c**
117. The option to **ls** that shows hidden names is:
- a. `-l`
  - b. `-a`
  - c. `-h`
  - d. `-i`
  - e. `-1`
118. If **/etc/passwd** is a file name, which pathname always leads to the same file?
- a. `/etc/./passwd`
  - b. `./etc/passwd`
  - c. `/etc/etc/./passwd`
  - d. `./etc/./passwd`
  - e. `/etc/passwd/.`

119. What is the *current directory*?
- The directory named **/current**
  - The directory named **..** (dot dot)
  - The directory that your shell (or any Unix process) is in now
  - This is where "root" goes when "root" logs in to the system
  - The directory into which you are placed when you first log in
120. If file **foo** contains 99 lines, each of which is the two-digit line number of the line in the file (**01** through **99**), what is the output on your screen of this command: **sort -r foo foo | tail -4 | head -1**
- 96 96**
  - 04 04**
  - 96**
  - 02**
  - 98**
121. How can you ask the **bash** (Linux) shell to complete commands or file names for you?
- Type the first part of the command or file name and press the **[CTRL]-[C]** key.
  - Type the first part of the command or file name and press the **[ALT]-[F1]** key.
  - Type the first part of the command or file name and press the **[TAB]** key.
  - Type the first part of the command or file name and press the **[ALT]** key.
  - Type the first part of the command or file name and press the **[CTRL]-[D]** key.
122. If my current directory is **/home**, which of these pathnames is equivalent to the pathname **/home/a/b/c**?
- ./home/a/b/c**
  - /a/b/c**
  - ../a/b/c**
  - ../home/a/b/c**
  - ../home/b/c**
123. If I am in directory **/home/me** and **mt** is an empty sub-directory, what is true after this command line:  
**touch foo ; mkdir bar ; mv foo mt/bar**
- the directory **mt** is still empty
  - the directory **mt** now contains a file named **foo**
  - the directory **mt** now contains a file named **bar**
  - the command fails because **mt/bar** is not a directory
  - the directory **bar** now contains a file named **foo**
124. How many words are in the file **x** after this command line:  
**echo 1 2 >x ; echo 3 >x ; echo 4 >>x**
- 4**
  - 3**
  - 0**
  - 2**
  - 1**
125. If file **twenty** contains twenty lines, and file **thirty** contains thirty lines then how many lines are output on your screen by this command line: **tail twenty | cat thirty**
- 50**
  - 20**
  - 40**
  - 30**
  - 0**

126. If my current working directory is `/home`, and my HOME directory is `/home/me`, which command copies the password file into my HOME directory under the name `foo`?
- `cp ../../etc/passwd /me/foo`
  - `cp ../etc/passwd ./me/foo`
  - `cp ../etc/passwd ../me/foo`
  - `cp ../home/me/../../etc/passwd ./me/./foo`
  - `cp ../me/../../etc/passwd ../home/me/foo`
127. In a directory that contains only the file `foo`, what happens after this command: `cp foo bar`
- an empty file named `bar` is created
  - the command fails because `bar` is not a directory
  - there is a copy of the file named `foo` in the file named `bar`
  - there is only the file named `bar` in the directory now
  - the command fails because the name `bar` does not exist
128. What is the result of this exact command line: `ls /foo bar`
- the contents of the files `/foo` and `bar` will be displayed
  - the names of the pathnames `/foo` and `bar` will be displayed
  - file `/foo` will be copied to `bar`
  - all the files under directory `/foo` with the name `bar` will be displayed
  - the two text strings `/foo` and `bar` will be displayed
129. What is the output of this command line in an empty directory: `touch .a .b .c ; echo .??*`
- an error message from `echo` saying `.??*` does not exist
  - no output
  - `.??*`
  - `. . .a .b .c`
  - `.a .b .c`
130. How many arguments and options are there to the command: `wc -wc wc`
- Two arguments, one of which is a single option and the other is a pathname.
  - Two command name arguments and two bundled options.
  - Two options, no arguments.
  - Two command line arguments, one of which contains two bundled options.
  - Two arguments, no options.
131. In the output of `ls -a`, the two-character name `..` signifies what?
- The ROOT directory.
  - A file or directory with double links.
  - The current directory.
  - The parent directory.
  - It begins every name that is hidden.
132. What is the output on your screen after this command line:  
`mkdir dir ; touch dir/.aa dir/.bb ; echo dir/*`
- `dir/.aa dir/.bb`
  - `dir/`
  - `dir/*`
  - `dir/ dir/.. dir/.aa dir/.bb`
  - no output

133. What is the output on your screen of this command line: `echo hi >hi ; head hi >hi ; wc hi`
- a. 2 2 4 hi
  - b. 0 0 0 hi
  - c. 1 1 2 hi
  - d. 1 1 3 hi
  - e. no output
134. What is the Unix user name for the Super-User account?
- a. root
  - b. alterego
  - c. superuser
  - d. master
  - e. administrator
135. Which command line does *not* show any lines from inside the file `bat`?
- a. `ls bat`
  - b. `tail bat`
  - c. `head bat`
  - d. `sort bat`
  - e. `less bat`
136. What command shows all the lines in file `cow` that contain the string `pig`?
- a. `grep cow pig`
  - b. `grep pig >cow`
  - c. `grep pig <cow`
  - d. `cat cow > grep pig`
  - e. `grep cat cow pig`
137. In an empty directory, how many lines are in file `foo` after this command line:  
`ls nosuchfile . .. 2>foo`
- a. 3
  - b. 2
  - c. 4
  - d. 0
  - e. 1
138. If `ian` is a sub-directory that contains only the file `foo`, what happens after this command:  
`mv ./ian/./foo ./ian/./bar`
- a. the directory `ian` is now empty
  - b. the directory `ian` now contains only a file named `bar`
  - c. the command fails because the name `./ian/./foo` does not exist
  - d. there is a second copy of the file `foo` in the file named `bar`
  - e. the command fails because the name `./ian/./bar` does not exist
139. Give the minimum number of directories in this pathname: `/a/b/c/d`
- a. 2
  - b. 5
  - c. 1
  - d. 4
  - e. 3

140. If file **foo** contains 9 lines, each of which is the one-digit line number of the line in the file (1 through 9), what is the output on your screen of this command: `sort foo foo | tail -5 | head -1`
- a. 1 1
  - b. 7
  - c. 1
  - d. 9
  - e. 5 5
141. What can you do to get back (redo) the last command you typed?
- a. Use the "UpArrow" key.
  - b. Type [CTRL]-[BACKSPACE]
  - c. Type [CTRL]-[ALT]-[UP]
  - d. Use the "PageUp" key.
  - e. Type [ALT]-[F2]
142. If my current working directory is **/home**, and my HOME directory is **/home/foo**, which command copies file **/bin/ls** into my HOME directory under the name **xx**?
- a. `cp ../foo/../bin/ls ../home/foo/xx`
  - b. `cp ../foo/../../../../bin/ls ../foo/./xx`
  - c. `cp ../home/./foo/../bin/ls foo/xx`
  - d. `cp ../../bin/./ls /foo/xx`
  - e. `cp ../../bin/ls ../foo/xx`
143. In an empty directory, how many words are in file **out** after this command line:  
`touch 1 2 3 2 1 ; ls >out`
- a. 5
  - b. 3
  - c. 6
  - d. 0
  - e. 4
144. If **/bin/bash** is a file name, which pathname always leads to the same file?
- a. `/bin/bash/.`
  - b. `/bin/bin/./bash`
  - c. `/bin/./bash`
  - d. `./bin/bash`
  - e. `./bin/./bash`
145. Which of these commands always returns you to your account HOME directory?
- a. `cd home`
  - b. `cd /home/..`
  - c. `cd`
  - d. `cd /home`
  - e. `cd ..`
146. If you type the command **cat**, which **CTRL** key will send an **EOF** and take you back to the command prompt?
- a. ^R
  - b. ^U
  - c. ^C
  - d. ^E
  - e. ^D

147. In an empty directory, what is the output on your screen after this command line:  
`ls 1>/dev/null nosuchfile`
- a. `ls: 1>/dev/null nosuchfile: No such file or directory`
  - b. `nosuchfile`
  - c. `ls: nosuchfile: No such file or directory`
  - d. no output
  - e. `ls: /dev/null: No such file or directory`
148. The output of the `tree` command is:
- a. the tree of files under the ROOT directory
  - b. the tree of files under your HOME directory
  - c. a recursive list of users logged in to the system
  - d. an indented, recursive list of directories and their contents
  - e. the tree of users logged in to the system
149. How many lines are in the file `bar` after this command line:  
`echo hi >x ; echo ho >>x ; cat x x >bar`
- a. 4
  - b. 2
  - c. 6
  - d. 0
  - e. 1
150. In an empty directory, what happens after this command line: `touch a b c ; mv a b c`
- a. the files `a`, `b`, and `c` are moved to the current directory
  - b. the files `a` and `b` are appended to the file `c`
  - c. the files `a` and `b` are moved into the directory `c`
  - d. an error message: `mv: target 'c' is not a directory`
  - e. the files `a`, `b`, and `c` are moved to the directory `c`
151. What command can you use to delete an empty directory?
- a. `deldir`
  - b. `delete`
  - c. `rmdir`
  - d. `mvdir`
  - e. `erase`
152. If file `foo` contains 9 lines, each of which is the one-digit line number of the line in the file (1 through 9), what is the output on your screen of this command: `sort foo foo | tail -4 | head -1`
- a. 4 4
  - b. 6
  - c. 8
  - d. 6 6
  - e. 1 1
153. What is the result of this exact command line: `cat /foo bar`
- a. file `/foo` will be copied to `bar`
  - b. the names of the pathnames `/foo` and `bar` will be displayed
  - c. the contents of the files `/foo` and `bar` will be displayed
  - d. all the files under directory `/foo` with the name `bar` will be displayed
  - e. the two text strings `/foo` and `bar` will be displayed

154. If **foo** is a sub-directory that contains only the file **bar**, what happens after this command:  
`mv foo/me foo/bar`
- the command fails because the name **me** does not exist
  - the command fails because **bar** is not a directory
  - there is a second copy of the file **bar** in the file named **me**
  - an empty file named **me** is created
  - there is only the file named **me** in the directory now
155. If **foo** is a sub-directory that contains only the file **bar**, what happens after this command:  
`mv foo/./bar foo/././me`
- the directory **foo** is now empty
  - the command fails because the name **me** does not exist
  - the directory **foo** now contains only a file named **me**
  - the command fails because the name **foo/./bar** does not exist
  - there is a second copy of the file **bar** in the file named **me**
156. If 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`
- 8
  - 5
  - 12
  - 7
  - 0
157. How many words are in file **out** after this command line: `echo one >two >three >out`
- 3
  - 1
  - 0
  - 4
  - 2
158. What is the output of this command line in an empty directory:  
`touch 1 .1 23 .23 456 ; echo [12]*`
- an error message from **echo** saying **[ab]\*** does not exist
  - `1 .1 23 .23`
  - `1 .1 23 .23 456`
  - `1 23`
  - `[12]*`
159. In an empty directory, how many words are in file **out** after this command line: `echo hi >a ; ls >out`
- 4
  - 1
  - 2
  - 3
  - 0
160. In an empty directory, what is the output on your screen after this command line:  
`echo hi >a ; ls nosuchfile 2>/dev/null`
- `ls: nosuchfile: No such file or directory`
  - `nosuchfile`
  - no output
  - `ls: 2>/dev/null: No such file or directory`
  - `a`

161. If **cow** is a sub-directory that contains only the file **dog**, what happens after this command:  
`mv cow/dog cow/././cat`
- there is a second copy of the file **dog** in the file named **cat**
  - the command fails because the name **cat** does not exist
  - the directory **cow** is now empty
  - the command fails because the name **cow/././cat** does not exist
  - the directory **cow** now contains only a file named **cat**
162. Which command line lists all possible utilities available for compiling programs?
- `man -k compile`
  - `find compile`
  - `grep 'compile' /etc/`
  - `locate compile`
  - `man compile`
163. What is the output of this command line in an empty directory:  
`touch 1 2 3 .a .ab .abc ; echo [.]*`
- an error message from **echo** saying `[.]*` does not exist
  - no output
  - `.a .ab .abc`
  - `[.]*`
  - `. .. .a .ab .abc`
164. In the output of the command `ls -a`, a dot (period) that *begins* a name signifies what?
- A name with an unprintable character.
  - The parent directory.
  - A name that is hidden.
  - A current file.
  - The current directory.
165. If file **nine** contains 9 lines, each of which is the one-digit line number of the line in the file (1 through 9), what is the output on your screen of this command: `sort nine nine | tail -3 | head -1`
- 8
  - 2 2
  - 1
  - 8 8
  - 9
166. If file **foo** contains 9 lines, each of which is the one-digit line number of the line in the file (1 through 9), what is the output on your screen of this command: `sort foo foo | tail -2 | head -1`
- 2 2
  - 8
  - 1
  - 9
  - 8 8
167. What is the output on your screen after these command lines:  
`echo 1 >x ; cp x y ; echo 2 >>y`  
`sort x >y ; cat y`
- 2
  - 1 followed by 2
  - no output
  - 2 followed by 1
  - 1



168. Which command line tells you the recursive count of all pathnames under the current directory and all subdirectories?
- `ls | wc`
  - `find | wc`
  - `wc "$PWD"`
  - `wc *`
  - `wc .`
169. If my current directory is `/lib`, which of these pathnames is equivalent to the file name `/lib/foo`?
- `./foo`
  - `/foo`
  - `../lib/foo/.`
  - `../foo`
  - `./lib/foo`
170. If a shell GLOB pattern fails to match anything, what happens by default? The shell:
- passes the pattern unchanged to the command
  - gives a warning message but continues
  - gives an error message and does not execute
  - returns the closest match to the pattern
  - removes the pattern and passes nothing
171. In an empty directory, how many arguments are passed to the `rm` command in this command line:
- ```
touch a a1 a2 ba ca ; rm a*
```
- 3
  - 2
  - 4
  - none
  - 1
172. If my current directory is `/etc`, which of these pathnames is equivalent to the file name `/etc/passwd`?
- `passwd`
  - `./etc/passwd`
  - `/passwd`
  - `../passwd`
  - `../etc/passwd/.`
173. If `/etc/shadow` is a file name, which pathname always leads to the same file?
- `/etc/shadow/./.`
  - `../etc/shadow`
  - `/etc/shadow/../../.`
  - `../../etc/./shadow`
  - `/etc/../../shadow`
174. What is in file `foo` after this command line: `echo 1 2 >foo 3`
- 3
  - 1 2
  - nothing (empty file)
  - 1 2 3
  - `echo 1 2`
175. What is the result of this exact command line: `echo /foo bar`
- the contents of the files `/foo` and `bar` will be displayed
  - file `/foo` will be copied to `bar`
  - all the files under directory `/foo` with the name `bar` will be displayed
  - the two text strings `/foo` and `bar` will be displayed
  - the names of the pathnames `/foo` and `bar` will be displayed

176. If my current directory is `/usr`, which of these pathnames is equivalent to the pathname `/usr/x/y/z`?
- `../usr/y/z`
  - `x/./y/z`
  - `./usr/x/y/z`
  - `/x/y/z`
  - `../x/y/z`
177. If directory `dir` contains these three four-character file names: `.123`, `.124`, `.???`, then what is the output on your screen of this command line: `echo dir/????`?
- `echo: dir/????: No such file or directory`
  - `dir/????`
  - `dir/.123 dir/.124 dir/.???`
  - no output
  - `dir/.123 dir/.124`
178. To change your own account password, use this exact command line:
- `$ passwd cst8207`
  - `$ passwd cst8207.idallen.ca`
  - `$ passwd options LOGIN`
  - `$ passwd root`
  - `$ passwd`
179. In an empty directory, how many words are in file `cow` after this command line:
- ```
touch dog dog cat ; ls >cow
```
- 2
  - 4
  - 1
  - 0
  - 3
180. If directory `dir` contains these four three-character file names: `.aa`, `.ab`, `.a?`, `.a*`, then what is the output on your screen of this command line: `echo dir/???`
- `dir/???`
  - `dir/.aa dir/.ab dir/.a? dir/.a*`
  - `dir/.a?`
  - `dir/.aa dir/.ab`
  - no output
181. Which of the following statements is true about this command line: `<dir/c cat dir/d`
- The command `cat` sees only one argument.
  - The command `cat` sees two arguments.
  - The command `dir/c` sees only one argument
  - The command `dir/c` sees two arguments.
  - The command is always invalid.
182. In an empty directory, how many arguments are passed to the `cat` command in this command line:
- ```
touch a1 a2 ac ba .a ; cat a*
```
- none
  - 4
  - 1
  - 3
  - 2

183. If `/bin/bash` is a file name, which pathname always leads to the same file?
- a. `../../../../bin/bash`
  - b. `./bin/bash`
  - c. `/bin/bash/.`
  - d. `/bin/../bash`
  - e. `/bin/bash/..`
184. What command displays the sizes of files in the current directory?
- a. `ls -l`
  - b. `ps -s`
  - c. `cat -s`
  - d. `ps -l`
  - e. `ls -p`
185. If I am in directory `/home/me` and `mt` is an empty sub-directory, what is true after this command line:  
`touch ./foo ; mv mt/./foo mt/./bar`
- a. the directory `./me` now contains a file named `bar`
  - b. the command fails because the path `mt/./foo` does not exist
  - c. there is a second copy of the file `foo` in the file named `bar`
  - d. the directory `mt` now contains only a file named `bar`
  - e. the command fails because the path `mt/./bar` does not exist
186. Which of these command line will make `bar` contain all of the content of `f1` followed by all of the content of `f2`?
- a. `cp f1 f2 >bar`
  - b. `echo f1 f2 >bar`
  - c. `cat f1 f2 >bar`
  - d. `mv f1 f2 >bar`
  - e. `wc f1 f2 >bar`
187. If I am in my HOME directory named `/home/myhome` and `dir` is an empty sub-directory, what is true after this command line: `touch new ; mv ./dir/./new ../myhome/old`
- a. the directory `dir` now contains only a file named `old`
  - b. the command fails because the path `./dir/./new` does not exist
  - c. the command fails because the path `../myhome/old` does not exist
  - d. there is a second copy of the file `new` in the file named `old`
  - e. the parent directory of `dir` now has a file named `old` in it
188. In an empty directory, what is the output on your screen after this command line:  
`echo hi >a ; sort * 1>/dev/null`
- a. no output
  - b. `hi`
  - c. `sort: 1>/dev/null: No such file or directory`
  - d. `sort: *: No such file or directory`
  - e. `a`
189. Which command below is the best way to find a line containing an asterisk (\*) in the file named `foo`?
- a. `grep foo "*"`
  - b. `grep * foo`
  - c. `grep foo [*]`
  - d. `grep ./* foo`
  - e. `grep '*' foo`

190. If my current directory is `/etc`, which of these pathnames is equivalent to the file name `/etc/passwd`?
- a. `passwd/.`
  - b. `./etc/passwd`
  - c. `/root/etc/passwd`
  - d. `../../../../etc/./passwd`
  - e. `../etc/passwd/.`
191. If file `foo` contains 9 lines, each of which is the one-digit line number of the line in the file (1 through 9), what is the output on your screen of this command: `cat foo foo | cat | tail -4 | head -1`
- a. 6
  - b. 5
  - c. 8
  - d. 9
  - e. 7
192. What is the output on your screen after this command line: `echo hi >a ; ls a > wc`
- a. 1 1 2
  - b. 2
  - c. 1 1 3
  - d. no output
  - e. 3
193. If file `/a` contains 3 lines, and file `/b` contains 5 lines, then how many lines are in file `/c` after this command line:  
`cat /a /b >/c ; sort /c >/c ; sort /c /a /b >/c`
- a. 0
  - b. 3
  - c. 8
  - d. 16
  - e. 5
194. If I am in directory `/home/me` and `mt` is an empty sub-directory, what is true after this command line:  
`touch ./foo ; mv ./mt/./foo ../me/bar`
- a. the command fails because path `./mt/./foo` does not exist
  - b. the directory `mt/..` now contains a file named `bar`
  - c. there is a second copy of the file `foo` in the file named `bar`
  - d. the command fails because path `../me/bar` does not exist
  - e. the directory `mt` now contains only a file named `bar`
195. To leave a shell and let the terminal window close, type:
- a. `[CTRL-C]`
  - b. `exit`
  - c. `bye`
  - d. `quit`
  - e. `q`
196. If my current working directory is `/home`, and my HOME directory is `/home/me`, which command copies the password file into my HOME directory under the name `foo`?
- a. `cp ../../etc/passwd /me/foo`
  - b. `cp ../home/me/../../etc/passwd ../me/./foo`
  - c. `cp me/../../../../etc/passwd me/foo`
  - d. `cp ./me/../../etc/passwd ../home/me/foo`
  - e. `cp ../etc/passwd ../me/foo`

197. What do you do to erase an entire line of typing in the shell?
- type [CTRL-U]
  - type [CTRL-D]
  - type [CTRL-C]
  - type [CTRL-W]
  - select the line with the mouse and use the **DEL** key
198. In an empty directory, how many words are in file **pig** after this command line:
- ```
touch pig pig ; ls > pig
```
- 2
  - 3
  - 0
  - 1
  - 4
199. If file **/a** contains 7 lines, and file **/b** contains 5 lines, then how many lines are in file **/c** after this command line:
- ```
cat /a /b > /c ; sort /c > /c ; sort /c /a /b > /c
```
- 12
  - 0
  - 7
  - 24
  - 5
200. How do you search for the word **nongraphic** in the man page for **ls**?
- type **man -k nongraphic** at the shell
  - type **man ls** at the shell, then **/nongraphic**
  - type **man ls** at the shell, then **^F** (CTRL-F), then **nongraphic**
  - type **man nongraphic | grep ls** at the shell
  - type **man ls -nongraphic** at the shell
201. If file **a** contains 20 lines, and file **b** contains 30 lines, then how many lines are in file **out** after this command line:
- ```
cat a b > c ; head c > c ; sort a b c > out
```
- 30
  - 0
  - 60
  - 100
  - 50
202. Which command line displays the contents of the Unix **passwd** file one page at a time?
- cat less | /etc/passwd**
  - less /etc/passwd**
  - cat /etc/passwd less**
  - /etc/passwd cat less**
  - /etc/passwd | less**
203. In a directory that contains only the file **foo**, what happens after this command: **mv foo bar**
- there is a copy of the file named **foo** in the file named **bar**
  - the command fails because the name **bar** does not exist
  - the command fails because **bar** is not a directory
  - an empty file named **bar** is created
  - there is only the file named **bar** in the directory now

204. If my current working directory is `/var`, which command copies the password file into directory `/var/ian` under the name `bar`?
- `cp ../ian/../../etc/passwd ../var/ian/bar`
  - `cp /ian/../../etc/passwd ian/bar`
  - `cp ../../etc/passwd ../ian/bar`
  - `cp ../../etc/./passwd /ian/bar`
  - `cp ../var/./ian/../../etc/passwd ./ian/./bar`
205. If my current directory is `/lib`, which of these pathnames is equivalent to the pathname `/lib/x/y`?
- `./lib/x/y`
  - `/x/y`
  - `../lib/x/y`
  - `../lib/y`
  - `../x/y`
206. If I am in my HOME directory named `/home/me` and `dir` is an empty sub-directory, what is true after this command line: `touch new ; mv ./dir/./new ../me/old`
- the parent directory of `dir` now has a file named `old` in it
  - there is a second copy of the file named `new` in the file named `old`
  - the directory `dir` now contains only a file named `old`
  - the command fails because the path `../me/old` does not exist
  - the command fails because the path `./dir/./new` does not exist
207. If file `x` contains ten lines, and file `y` contains twenty lines, then how many lines are in file `cat` after this command line: `sort x y >z ; tail -5 y >y ; sort x y z >cat`
- 45
  - 50
  - 40
  - 60
  - 0
208. If I am in directory `/home/me` and `mt` is an empty sub-directory, what is true after this command line: `touch foo ; mkdir bar ; mv foo bar/mt`
- the command fails because `bar/mt` is not a directory
  - the directory `mt` now contains a file named `foo`
  - the directory `mt` is still empty
  - the directory `bar` now contains a file named `foo`
  - the directory `mt` now contains a directory named `bar`
209. If `foo` is a sub-directory that contains only the file `bar`, what happens after this command: `mv ./foo/bar foo/./me`
- the command fails because the name `me` does not exist
  - there is a second copy of the file `bar` in the file named `me`
  - the directory `foo` now contains only a file named `me`
  - the directory `foo` is now empty
  - the command fails because the name `./foo/bar` does not exist
210. If my current directory is `/etc`, which of these pathnames is equivalent to the pathname `/etc/x/y`?
- `../etc/y`
  - `../x/y`
  - `../etc/x/y`
  - `/x/y`
  - `./etc/x/y`

211. What is the correct syntax to redirect both standard output and standard error into the same output file?
- a. `date 2>&1 >out`
  - b. `date >out 2>&1`
  - c. `date 1>out 2>1`
  - d. `date 2>1 >out`
  - e. `date 1>out 2>out`
212. How many lines are in the file `out` after this command line: `date >f ; ls f >>f ; cat f f >out`
- a. 6
  - b. 2
  - c. 4
  - d. 0
  - e. 1
213. Which command line displays all the non-hidden names in the current directory that contain the letter `a` (and no others)?
- a. `echo [a]`
  - b. `echo ?a?`
  - c. `echo *a`
  - d. `echo *a*`
  - e. `echo a*`
214. What is the output on your screen of this command line: `echo wc >wc ; wc wc >wc ; cat wc`
- a. 1 1 2 wc
  - b. 0 0 0 wc
  - c. wc
  - d. no output
  - e. 1 1 3 wc
215. What command can you use to delete a directory that isn't empty?
- a. `deldir -r dir`
  - b. `rmdir -r dir`
  - c. `rm -r dir`
  - d. `del -r dir`
  - e. `deltree -r dir`
216. The shell meta-character used to separate multiple separate commands on the same line of typing is:
- a. `@`
  - b. `+`
  - c. `:`
  - d. `,`
  - e. `;`
217. Which command line below outputs only lines 11-15 of the Unix password file?
- a. `tail -10 /etc/passwd | head -15 /etc/passwd`
  - b. `tail -15 /etc/passwd | head -10`
  - c. `head -15 /etc/passwd | tail -5 /etc/passwd`
  - d. `head -15 /etc/passwd | tail -5`
  - e. `head -10 /etc/passwd | tail -15 /etc/passwd`

218. What is the output of this command line in an empty directory:  
`touch x .a .ab .cde .fghi ; echo .??*`
- a. `.ab .cde .fghi`
  - b. `. .. .a .ab .cde .fghi`
  - c. `.cde .fghi`
  - d. an error message from `echo` saying `.??*` does not exist
  - e. `.??*`
219. If file `a` contains 2 lines, and file `b` contains 3 lines, then how many lines are output on your screen by this command line: `cat b | sort a`
- a. 2
  - b. 2 followed by 3
  - c. 3
  - d. 5
  - e. 3 followed by 2
220. What is in the file `bar` after this command line: `echo hi >x ; echo ho >x ; mv x y >bar`
- a. `ho`
  - b. nothing (empty file)
  - c. no such file (nonexistent)
  - d. `hi` followed by `ho`
  - e. `hi`
221. In an empty directory, how many words are in file `foo` after this command line:  
`date >.bar >.out ; ls >foo`
- a. 3
  - b. 0
  - c. 1
  - d. 4
  - e. 2
222. Which of the command lines below can generate a non-empty file?
- a. `grep 'foo' foo >foo`
  - b. `ls foo >foo`
  - c. `tail foo >foo`
  - d. `cat foo >foo`
  - e. `sort foo >foo`
223. In an empty directory, how many lines are in file `out` after this command line:  
`ls . .. nosuchfile 2>out`
- a. 2
  - b. 0
  - c. 1
  - d. 3
  - e. 4
224. In an empty directory, how many arguments are passed to the `wc` command in this command line:  
`date >o1 ; touch a1 b2 out >o1 ; wc o*`
- a. 5
  - b. 4
  - c. 3
  - d. 2
  - e. 1



225. If file **/a** contains 30 lines, and file **/b** contains 50 lines, then how many lines are in file **/c** after this command line:

```
cat /a /b >/c ; sort /c >/c ; sort /c /a /b >/c
```

- a. 80
- b. 0
- c. 50
- d. 30
- e. 160

226. Which pathname almost always leads to the same file named: **/bin/ls**

- a. **./bin/ls**
- b. **/bin/../ls**
- c. **/bin/../bin/../ls**
- d. **./bin/./ls**
- e. **./bin/./ls/.**

227. **Did you read all the words of the test instructions on page one?**

- a. **Sim** (*Yes - Portuguese*)
- b. **Igen** (*Yes - Hungarian*)
- c. **Taip** (*Yes - Lithuanian*)
- d. **Jes** (*Yes - Esperanto*)
- e. **Tak** (*Yes - Polish*)