PRINT Name: _____ **LAB Section:** | | | |

One-Answer Multiple Choice **229 Questions** **Weight 10%**

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

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191. Answer **`191`** is ( ) ( ) **C** ( ) ( )
192. Answer **`192`** is **A** ( ) ( ) ( ) ( )
193. Answer **`193`** is ( ) ( ) **C** ( ) ( )
194. Answer **`194`** is ( ) ( ) ( ) **D** ( )
195. Answer **`195`** is **A** ( ) ( ) ( ) ( )
196. Answer **`196`** is ( ) **B** ( ) ( ) ( )

Your **Test Version** is:

`C A C D 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.

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1. **Did you read all the words of the test instructions on page one?**
   a. **`Tak`** *(Yes - Polish)* *b.* **`Sim`** *(Yes - Portuguese)*
   c. **`Taip`** *(Yes - Lithuanian)* *d.* **`Igen`** *(Yes - Hungarian)*
   e. **`Jes`** *(Yes - Esperanto)*
2. **My three-digit Lab Section number is:**
   a. The Test Version number printed in the top left corner.
   b. My lecture room number, e.g. **`T119`**, **`C346`**
   c. My lecture section number, e.g. **`010`** or **`020`**.
   d. My lab room number: **`B384`**, **`A219`**, **`B132`**, **`B185`**, **`P213`**
   e. The timetable section number of my weekly 2-hour lab period.
3. If **`ian`** is a sub-directory that contains only the file **`foo`**, what happens after this command: **`mv ./ian/./foo ./ian/../bar`**
   a. the command fails because the name **`./ian/./foo`** does not exist
   b. the command fails because the name **`./ian/../bar`** does not exist
   c. the directory **`ian`** is now empty
   d. there is a second copy of the file **`foo`** in the file named **`bar`**
   e. the directory **`ian`** now contains only a file named **`bar`**
4. In the output of the command **`ls -a`**, a dot (period) that *begins* a name signifies what?
   a. A name with an unprintable character.
   b. A name that is hidden.
   c. The parent directory.
   d. The current directory.
   e. A current file.

5. In an empty directory, how many words are in file **`out`** after this command line:
   `touch 1 2 3 2 1 ; ls >out`
   a. **`3`** *b.* **`0`** *c.* **`4`** *d.* **`6`** *e.* **`5`**
6. 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 the path **`../me/bar`** does not exist
   b. the directory **`mt`** now contains only a file named **`bar`**
   c. there is a second copy of the file **`foo`** in the file named **`bar`**
   d. the command fails because the path **`./mt/../foo`** does not exist
   e. the parent directory of **`mt`** now contains a file named **`bar`**
7. The basic purpose of a shell is:
   a. to format hard drives
   b. to find and run commands
   c. to search for strings inside text files
   d. to expand pathnames
   e. to program system administration backup procedures
8. If a shell token with a GLOB pattern contains two slashes, how many slashes can be in each matched pathname?
   a. zero, one, or two *b.* one, two, or more *c.* two or more
   d. one or two *e.* exactly two
9. In an empty directory, what is the output on your screen after this command line:
   `ls 1>/dev/null nosuchfile`
   a. **`nosuchfile`**
   b. **`ls: /dev/null: No such file or directory`**
   c. **`ls: 1>/dev/null nosuchfile: No such file or directory`**
   d. no output
   e. **`ls: nosuchfile: No such file or directory`**
10. 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 **`dog`** in the file named **`cat`**
    b. the directory **`pig`** now contains only a file named **`cat`**
    c. the command fails because the name **`pig/./../cat`** does not exist
    d. the directory **`pig`** is now empty
    e. the command fails because the name **`cat`** does not exist
11. 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. **`3`** *b.* **`5`** *c.* **`8`** *d.* **`16`** *e.* **`0`**

12. What does *quoting* mean on a shell command line?
    a. setting the PS1 variable to be your shell prompt
    b. using a leading tilde ("**~**") on a pathname to mean your HOME directory
    c. typing a "control" character using the **[CTRL]** key
    d. using more than one pathname argument to a command, e.g. **rm a b c**
    e. turning off the special meaning of shell meta-characters

13. How many lines are in the file **out** after this command line:
```
echo hi >x ; echo ho >>x ; cat x x x >out
```
    a. **3** *b.* **1** *c.* **2** *d.* **6** *e.* **0**

14. 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. **.***
    d. **. .. .a .b .c**
    e. **.a .b .c**

15. 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

16. If my current directory is **/home**, which of these pathnames is equivalent to the pathname **/home/a/b/c**?
    a. **/a/b/c** *b.* **../a/b/c**
    c. **../home/b/c** *d.* **./home/a/b/c**
    e. **../home/a/b/c**

17. What is the output on your screen of this command line:
```
echo pig >one ; echo cow | head -n 2 one
```
    a. **cow** *b.* an error message
    c. **pig** *d.* **cow** followed by **pig**
    e. **pig** followed by **cow**

18. What is the output on your screen after this command line:
```
echo hi >a ; ls a > wc
```
    a. **3** *b.* **1 1 2** *c.* **1 1 3**
    d. **2** *e.* no output

19. 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. **0** *e.* **1**

20. If you type the command **sleep 60**, which *CTRL* key will **interrupt** it and take you back to the command prompt?
    a. **^D** *b.* **^I** *c.* **^R** *d.* **^C** *e.* **^U**

21. How many arguments does the shell pass to this **echo** command:
```
echo one two three >four five
```
    a. **4** *b.* **2** *c.* **3** *d.* **5** *e.* **6**

22. 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 me/../../etc/passwd me/foo**
    b. **cp ../home/me/../etc/passwd ./me/./foo**
    c. **cp ../../etc/passwd /me/foo**
    d. **cp ./me/../etc/passwd ../home/me/foo**
    e. **cp ../etc/passwd ../me/foo**

23. If **foo** is a sub-directory that contains only the file **bar**, what happens after this command: **mv foo/bar foo/moo**
    a. there is only the file named **moo** in the directory now
    b. there is a second copy of the file **bar** in the file named **moo**
    c. an empty file named **moo** is created
    d. the command fails because the name **moo** does not exist
    e. the command fails because **bar** is not a directory

24. In the output of **ls -a**, the two-character name **..** signifies what?
    a. The ROOT directory.
    b. The current directory.
    c. It begins every name that is hidden.
    d. The parent directory.
    e. A file or directory with double links.

25. 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. **20** *b.* **30** *c.* **60** *d.* **0** *e.* **10**

26. How many words are in the file **x** after this command line:
```
echo 1 2 >x ; echo 3 >x ; echo 4 >>x
```
    a. **2** *b.* **1** *c.* **0** *d.* **4** *e.* **3**

27. How many arguments and options are there to the command: **wc -wc wc**
    a. Two options, no arguments.
    b. Two arguments, one of which is a single option and the other is a pathname.
    c. Two arguments, no options.
    d. Two command line arguments, one of which contains two bundled options.
    e. Two command name arguments and two bundled options.

28. 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. **3** *b.* no output *c.* **0**
d. **2** *e.* **5**

29. 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
```
a. **30** *b.* **50** *c.* **20** *d.* **0** *e.* **40**

30. What do you do to erase an entire line of typing in the shell?
a. type **[CTRL-D]**
b. select the line with the mouse and use the **DEL** key
c. type **[CTRL-C]**
d. type **[CTRL-U]**
e. type **[CTRL-W]**

31. 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
```
a. **160** *b.* **100** *c.* **200** *d.* **60** *e.* **40**

32. If my current directory is **/home**, which of these pathnames is equivalent to the pathname **/home/a/b/c**?
a. **../a/b/c** *b.* **/a/b/c** *c.* **../home/b/c**
d. **./a/b/c** *e.* **./home/a/b/c**

33. Which of these pathnames is *not* an absolute pathname (after all shell expansions)?
a. **~/foo** *b.* **$HOME/foo** *c.* **foo**
d. **/../foo** *e.* **/foo**

34. 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 ./foo/./xx**
b. **cp ../home/./foo/../bin/ls foo/xx**
c. **cp ././foo/../bin/ls ../home/foo/xx**
d. **cp ../../bin/./ls /foo/xx**
e. **cp ./../bin/ls ../foo/xx**

35. The output of the **tree** command is:
a. an indented, recursive list of directories and their contents
b. the tree of users logged in to the system
c. the tree of files under the ROOT directory
d. the tree of files under your HOME directory
e. a recursive list of users logged in to the system

36. The command that creates a directory and all parent directories is:
a. **rm -r a/b/c** *b.* **mkdir -p a/b/c**
c. **rmdir -r a/b/c** *d.* **touch a/b/c**
e. **mkdir -r a/b/c**

37. Which command line below outputs only lines 11-15 of the Unix password file?
a. **head -n 15 /etc/passwd | tail -n 5**
b. **tail -n 10 /etc/passwd | head -n 15 /etc/passwd**
c. **head -n 10 /etc/passwd | tail -n 15 /etc/passwd**
d. **head -n 15 /etc/passwd | tail -n 5 /etc/passwd**
e. **tail -n 15 /etc/passwd | head -n 10**

38. Which command line shows the file in **/bin** with the largest checksum?
a. **ls /bin/* | sum | sort -nr | head -n 1**
b. **cat /bin | sum | sort -nr | head -n 1**
c. **sum /bin/* | sort -nr | head -n 1**
d. **cat /bin/* | sum | sort -nr | head -n 1**
e. **sum /bin | sort -nr | head -n 1**

39. What is the output of this command line in an empty directory:
```
touch .a .b .c ; echo [.]*
```
a. an error message from **echo** saying **[.]*** does not exist
b. no output
c. **[.]***
d. **. .. .a .b .c**
e. **.a .b .c**

40. 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** followed by **3** *b.* **5** *c.* **3**
d. **2** *e.* **3** followed by **2**

41. Which pathname almost always leads to the same file named: **/bin/ls**
a. **./bin/ls** *b.* **/bin/./bin/../ls**
c. **/./bin/./ls/.** *d.* **/bin/../ls**
e. **/./bin/./ls**

42. 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 -n 4 | head -n 1
```
a. **02** *b.* **96 96** *c.* **96**
d. **04 04** *e.* **98**

43. In an empty directory, how many lines are in file **out** after this command line:
```
ls . .. nosuchfile 2>out
```
a. **1** *b.* **2** *c.* **4** *d.* **0** *e.* **3**

44. 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.* **2** *c.* **4** *d.* **1** *e.* none

45. 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 ./me/../etc/passwd ../home/me/foo**
    b. **cp ../../etc/passwd /me/foo**
    c. **cp ../home/me/../etc/passwd ./me/./foo**
    d. **cp ../etc/passwd ./me/foo**
    e. **cp ../etc/passwd ../me/foo**

46. 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 -n 3 | head -n 1
    a. **1** *b.* **8 8** *c.* **8** *d.* **2 2** *e.* **9**

47. In an empty directory, how many words are in file **pig** after this command line:
    touch pig pig ; ls >pig
    a. **1** *b.* **0** *c.* **4** *d.* **2** *e.* **3**

48. 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 -n 4 | head -n 1
    a. **5** *b.* **6** *c.* **7** *d.* **9** *e.* **8**

49. 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 command fails because the path **../myhome/old** does not exist
    b. the directory **dir** now contains only a file named **old**
    c. the command fails because the path **./dir/../new** does not exist
    d. the parent directory of **dir** now has a file named **old** in it
    e. there is a second copy of the file **new** in the file named **old**

50. 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:
    a. **[TAB]** *b.* **[ALT]-[F1]** *c.* **[ALT]**
    d. **[CTRL]-[D]** *e.* **[CTRL]-[C]**

51. Which command below is the best way to find a line containing an asterisk (*****) in the file named **foo**?
    a. **fgrep foo "*"** *b.* **fgrep foo [*]**
    c. **fgrep ./* foo** *d.* **fgrep '*' foo**
    e. **fgrep * foo**

52. If my current directory is **/etc**, which of these pathnames is equivalent to the file name **/etc/passwd**?
    a. **/passwd** *b.* **../passwd**
    c. **../etc/passwd/.** *d.* **./etc/passwd**
    e. **./passwd**

53. Which of the following statements is true about this command line:
    <dir/c cat dir/d
    a. The command **cat** sees two arguments.
    b. The command is always invalid.
    c. The command **dir/c** sees only one argument
    d. The command **dir/c** sees two arguments.
    e. The command **cat** sees only one argument.

54. 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. there is a second copy of the file **foo** in the file named **bar**
    b. the directory **mt** now contains only a file named **bar**
    c. the command fails because path **./mt/../foo** does not exist
    d. the command fails because path **../me/bar** does not exist
    e. the directory **mt/..** now contains a file named **bar**

55. 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 directory **x** is still empty
    b. the command fails because the path **x/./fil** does not exist
    c. there is a second copy of the file **fil** in the file named **y**
    d. the directory **x** now contains only a file named **y**
    e. the command fails because the path **x/../../me** does not exist

56. 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 ./me/../etc/passwd ../home/me/foo**
    b. **cp ../etc/passwd ./me/foo**
    c. **cp ../home/me/../etc/passwd ./me/./foo**
    d. **cp ../../etc/passwd /me/foo**
    e. **cp ../etc/passwd ../me/foo**

57. The output of the **find** command is:
    a. a recursive list of users logged in to the system
    b. finds patterns in a file corresponding to lines
    c. a recursive list of pathnames
    d. finds lines in a file matching a pattern
    e. account names matching a pattern

58. What is the output of this command line in an empty directory:
```
touch .a .b .c ; echo .??*
```
a. `.??*`
b. an error message from `echo` saying `.??*` does not exist
c. `.a .b .c`
d. no output
e. `. .. .a .b .c`

59. 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`

60. Which pathname almost always leads to the same file named: `/etc/passwd`?
a. `./etc/passwd` *b.* `/etc/./etc/../passwd`
c. `../etc/passwd` *d.* `/etc/../etc/./passwd`
e. `/etc/passwd/.`

61. 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
```
a. `12` *b.* `8` *c.* `7` *d.* `5` *e.* `0`

62. If my current directory is `/bin`, which of these pathnames is equivalent to the file name `/bin/ls`?
a. `ls/.` *b.* `./bin/ls` *c.* `../bin/ls/.`
d. `../../bin/ls` *e.* `/root/bin/ls`

63. What is true about this command line: `date >ls ; ls -ls ls >wc`
a. The `wc` command counts the output of the `ls` command.
b. The shell finds and executes three different commands.
c. The `ls` command receives the output of `date` on standard input.
d. The `ls` command is executed more than once.
e. The file `wc` has one line in it.

64. Which pathname almost always leads to the same file named: `/etc/passwd`
a. `./etc/passwd` *b.* `/etc/../passwd`
c. `/etc/etc/../passwd` *d.* `/./etc/./passwd`
e. `/etc/passwd/.`

65. 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*`
a. `3` *b.* `1` *c.* `4` *d.* `2` *e.* none

66. What is your HOME directory?
a. The directory into which you are placed when you first log in
b. The top directory of the Unix/Linux/BSD/OSX file system tree
c. The directory that your shell is in now
d. The directory named `/home`
e. This is where "root" goes when "root" logs in to the system

67. Which command below is the best way to find a line containing a question mark (`?`) in the file `/etc/passwd`?
a. `grep '?' /etc/passwd` *b.* `search '?' /etc/passwd`
c. `grep './?' /etc/passwd` *d.* `find '?' /etc/passwd`
e. `grep /etc/passwd '?'`

68. In an empty directory, what is the output on your screen after this command line:
```
ls 2>/dev/null nosuchfile
```
a. `ls: 2>/dev/null nosuchfile: No such file or directory`
b. no output
c. `nosuchfile`
d. `ls: nosuchfile: No such file or directory`
e. `ls: /dev/null: No such file or directory`

69. In a manual page **SYNOPSIS** section, ellipsis (three dots) (`...`) mean:
a. the parent directory *b.* something that is repeated
c. something that is optional *d.* no special meaning
e. a hidden directory

70. 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/../..`

71. What is an operating system?
a. A word-processing computer program.
b. An accounting package program.
c. A computer program that manages the hardware.
d. A web-browser program.
e. A video display card.

72. 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`
a. the directory `mt` is still empty
b. the directory `bar` now contains a file named `foo`
c. the directory `mt` now contains a file named `foo`
d. the command fails because `bar/mt` is not a directory
e. the directory `mt` now contains a directory named `bar`

73. Which of these commands always returns you to your account HOME directory?
a. `cd /home` *b.* `cd /home/..` *c.* `cd home`
d. `cd` *e.* `cd ..`

74. What is in the file **bar** after this command line:
```
echo hi >x ; echo ho >x ; mv x y >bar
```
a. no such file (nonexistent) *b.* **hi**
c. **ho** *d.* nothing (empty file)
e. **hi** followed by **ho**

75. The shell meta-character used to separate multiple separate commands on the same line of typing is:
a. **+** *b.* **@** *c.* **;** *d.* **,** *e.* **:**

76. The purpose of the **PS1** shell variable is:
a. to allow access to the ROOT directory
b. to protect your HOME directory from access
c. to list your suspended jobs
d. to set the shell prompt
e. to find patterns inside a text file

77. In an empty directory, what is the output on your screen of this command line:
```
echo hi >foo >bar ; cat foo
```
a. **hi**
b. **cat: foo: No such file or directory**
c. **hi >foo >bar**
d. no output
e. **hi >foo**

78. Which Unix command line deletes a directory and everything inside it?
a. **rm -all dir** *b.* **rm -r dir**
c. **rmdir -r dir** *d.* **deltree -all dir**
e. **rmdir -all dir**

79. Which command line lists all possible utilities available for compiling programs?
a. **locate compile** *b.* **grep 'compile' /etc/**
c. **find compile** *d.* **man compile**
e. **man -k compile**

80. What is in file **foo** after this command line: **echo 1 2 >foo 3**
a. **1 2 3** *b.* **3**
c. nothing (empty file) *d.* **1 2**
e. **echo 1 2**

81. What is the output on your screen of this command line:
```
echo pig >one ; echo bat | tail one
```
a. **bat** *b.* **pig** followed by **bat**
c. **bat** followed by **pig** *d.* **pig**
e. an error message

82. 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. **5** *b.* **0** *c.* **2** *d.* **4** *e.* **1**

83. If file **a** contains 2 lines, and file **b** contains 3 lines, then how many lines are output on your screen by this: **cp b a | head**
a. **3** followed by **2** *b.* **2** followed by **3** *c.* no output
d. **2** *e.* **3**

84. How do you search for the word **nongraphic** in the man page for **ls**?
a. type **man nongraphic | grep ls** at the shell
b. type **man ls** at the shell, then **^F** (CTRL-F), then **nongraphic**
c. type **man -k nongraphic** at the shell
d. type **man ls -nongraphic** at the shell
e. type **man ls** at the shell, then **/nongraphic**

85. 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**?
a. **cp a b >foo**
b. **cp a >foo ; cp b >>foo**
c. **cat a >foo ; cat b >>foo**
d. **mv a b >foo**
e. **echo a b >foo**

86. 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
```
a. **0** *b.* **20** *c.* **50** *d.* **21** *e.* **30**

87. 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
```
a. the directory **mt** now contains a file named **foo**
b. the directory **me** now contains a file named **bar**
c. the command fails because the path **../me/bar** does not exist
d. the command fails because the path **mt/../foo** does not exist
e. the directory **mt** is still empty

88. What is the output of this command line in an empty directory: **cat ***
a. no output
b. an error message from **cat** saying ***** does not exist
c. ***
d. **.**
e. **. ..**

89. 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/????
```
a. **dir/.123 dir/.124**
b. **dir/????**
c. no output
d. **echo: dir/????: No such file or directory**
e. **dir/.123 dir/.124 dir/.???**

90. 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 -n 4 | head -n 1
```
a. **4** *b.* no output *c.* **8**
d. **1** *e.* **6**

91. In an empty directory, what happens after this command line:
```
mkdir a b c ; mv a b c
```
a. an error message: **mv: target 'c' is not a directory**
b. the directories **a**, **b**, and **c** are moved to the current directory
c. the directories **a** and **b** are appended to the directory **c**
d. the directories **a** and **b** are moved into the directory **c**
e. the directories **a**, **b**, and **c** are moved to the directory **c**

92. Which of these command line will make **bar** contain all of the content of **f1** followed by all of the content of **f2**?
a. **echo f1 f2 >bar** *b.* **wc f1 f2 >bar**
c. **cp f1 f2 >bar** *d.* **mv f1 f2 >bar**
e. **cat f1 f2 >bar**

93. In which section of the manual do you find super-user and admin commands?
a. 8 *b.* 4 *c.* 3 *d.* 2 *e.* 1

94. 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 command fails because the path **mt/../../me** does not exist
b. the command fails because the path **mt/./foo** does not exist
c. the directory **mt** now contains only a file named **y**
d. there is a second copy of the file **foo** in the file named **y**
e. the directory **mt** is still empty

95. What is the output on your screen of this command line:
```
echo hi >hi ; head hi >hi ; wc hi
```
a. **1 1 3 hi** *b.* **0 0 0 hi** *c.* no output
d. **1 1 2 hi** *e.* **2 2 4 hi**

96. Which command line displays only the non-hidden names in the current directory that contain the letter **a** (and no other names)?
a. **echo ?a?** *b.* **echo [a]** *c.* **echo *a**
d. **echo *a*** *e.* **echo a***

97. 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. the directory **foo** is now empty
c. the command fails because the name **foo/bar** does not exist
d. the directory **foo** now contains only a file named **me**
e. there is a second copy of the file **bar** in the file named **me**

98. How many lines are in the file **bar** after this command line:
```
echo hi >x ; echo ho >>x ; cat x >bar
```
a. **1** *b.* **2** *c.* **0** *d.* **4** *e.* **6**

99. Which command line tells you the recursive count of all pathnames under the current directory and all subdirectories?
a. **ls | wc** *b.* **wc *** *c.* **find | wc**
d. **wc .** *e.* **wc "$PWD"**

100. Which command line displays only the non-hidden names in the current directory that contain the case-insensitive word **me** (and no other names)?
a. **echo *[me]*** *b.* **echo *[MmEe]***
c. **echo ?[MmEe]?** *d.* **echo *[Mm][Ee]***
e. **echo *(M,m,E,e)***

101. What is the output of this command line in an empty directory:
```
touch .1 .2 .3 4 5 6 ; echo .*
```
a. **.***
b. **.1 .2 .3 4 5 6**
c. **4 5 6**
d. an error message from **echo** saying **.*** does not exist
e. **. .. .1 .2 .3**

102. 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 -n 4 | tail -n 1
```
a. **5** *b.* **6** *c.* **7** *d.* **9** *e.* **8**

103. 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.* **1** *d.* **0** *e.* **6**

104. In the output of the command **`ls -a`**, the one-character name **`.`** signifies what?
   a. The ROOT directory.
   b. A current file.
   c. The current directory.
   d. A name with an unprintable character.
   e. The parent directory.

105. What is the output of this command line in an empty directory: **`echo *`**
   a. **`.`**
   b. **`*`**
   c. no output
   d. an error message from **`echo`** saying **`*`** does not exist
   e. **`.  ..`**

106. 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*`**
   a. none *b.* **`2`** *c.* **`3`** *d.* **`1`** *e.* **`4`**

107. What is the *current directory*?
   a. The directory that your shell (or any Unix process) is in now
   b. The directory into which you are placed when you first log in
   c. This is where "root" goes when "root" logs in to the system
   d. The directory named **`/current`**
   e. The directory named **`..`** (dot dot)

108. Which of these characters is *not* a shell GLOB meta-character?
   a. **`?`** *b.* **`*`** *c.* **`[`** *d.* **`]`** *e.* **`#`**

109. What is the output of this command line in an empty directory:
```
touch a .a bc .bc def ; echo [ab]*
```
   a. **`[ab]*`**
   b. **`a bc`**
   c. an error message from **`echo`** saying **`[ab]*`** does not exist
   d. no output
   e. **`a .a bc .bc`**

110. What command displays the sizes of files in the current directory?
   a. **`ls -l`** *b.* **`ps -s`** *c.* **`ls -p`**
   d. **`ps -l`** *e.* **`cat -s`**

111. Which pathname almost always leads to the same file named: **`/etc/shadow`**
   a. **`./../etc/shadow`** *b.* **`/etc/shadow/../..`**
   c. **`/./../etc/./shadow`** *d.* **`/etc/shadow/./.`**
   e. **`/etc/../../shadow`**

112. In an empty directory, what is the output on your screen after this command line:
```
echo hi >a ; ls nosuchfile 2>/dev/null
```
   a. **`ls: nosuchfile: No such file or directory`**
   b. **`a`**
   c. no output
   d. **`ls: 2>/dev/null: No such file or directory`**
   e. **`nosuchfile`**

113. 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
```
   a. **`50`** *b.* **`70`** *c.* **`80`** *d.* **`120`** *e.* **`0`**

114. In an empty directory, what is the output on your screen after this command line:
```
ls out 2>/dev/null
```
   a. **`ls: out 2>/dev/null: No such file or directory`**
   b. no output
   c. **`out`**
   d. **`ls: out: No such file or directory`**
   e. **`ls: /dev/null: No such file or directory`**

115. 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 -n 2 | head -n 1
```
   a. **`8 8`** *b.* **`8`** *c.* **`1`** *d.* **`9`** *e.* **`2 2`**

116. What happens when you try to change to the parent directory of ROOT, e.g.
```
cd / ; cd ..
```
   a. you go to the parent directory containing your **`C:`** drive
   b. the shell asks you to retype this invalid directory
   c. the shell issues an error message and does not change
   d. the shell current directory is still ROOT; no change
   e. the shell issues a warning, but changes to the parent

117. Given the pathname **`a/b/c`**, the *basename* of this pathname is:
   a. **`b`** *b.* **`a/b`** *c.* **`c`** *d.* **`b/c`** *e.* **`a`**

118. What is the Unix user name for the Super-User account?
   a. **`administrator`** *b.* **`alterego`**
   c. **`root`** *d.* **`superuser`**
   e. **`master`**

119. What is the output on your screen of this command line:
```
echo bat >pig ; echo one | tail pig
```
   a. **`one`** *b.* **`bat`** followed by **`one`**
   c. **`one`** followed by **`bat`** *d.* an error message
   e. **`bat`**

120. 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**
   a. the command fails because **mt/bar** is not a directory
   b. the directory **mt** now contains a file named **bar**
   c. the directory **mt** is still empty
   d. the directory **bar** now contains a file named **foo**
   e. the directory **mt** now contains a file named **foo**

121. What is the result of this exact command line: **echo /foo bar**
   a. the two text strings **/foo** and **bar** will be displayed
   b. all the files under directory **/foo** with the name **bar** will be displayed
   c. the contents of the files **/foo** and **bar** will be displayed
   d. file **/foo** will be copied to **bar**
   e. the names of the pathnames **/foo** and **bar** will be displayed

122. In an empty directory, what is the output on your screen after this command line:
```
echo hi >a ; ls >wc -l
```
   a. **2** *b.* **1** *c.* **0**
   d. no output *e.* **a**

123. 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. **.??***
   c. **. .. .a .b .c**
   d. **.a .b .c**
   e. **. .. 1 2 3 .a .b .c**

124. 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/???
```
   a. **dir/???**
   b. no output
   c. **dir/.aa dir/.ab**
   d. **dir/.aa dir/.ab dir/.a? dir/.a***
   e. **dir/.a?**

125. 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.* **2** *c.* **4** *d.* none *e.* **3**

126. If a shell GLOB pattern fails to match anything, what happens by default? The shell:
   a. removes the pattern and passes nothing
   b. returns the closest match to the pattern
   c. gives an error message and does not execute
   d. passes the pattern unchanged to the command
   e. gives a warning message but continues

127. Which command line does *not* show any lines from inside the file **bat**?
   a. **sort bat** *b.* **ls bat** *c.* **tail bat**
   d. **head bat** *e.* **less bat**

128. In an empty directory, what is the output on your screen after this command line:
```
echo hi >a ; sort * 1>/dev/null
```
   a. **a**
   b. **sort: 1>/dev/null: No such file or directory**
   c. no output
   d. **hi**
   e. **sort: *: No such file or directory**

129. 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
```
   a. **24** *b.* **0** *c.* **5** *d.* **7** *e.* **12**

130. To prevent disconnections when using the Windows version of **PuTTY**, you should make this configuration change:
   a. use your student number as your password
   b. log in using your Blackboard userid
   c. set the seconds between keepalives to 55
   d. your password will not echo on your screen as you type
   e. use your ACSIS password as your password

131. 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.* **1 1 3 wc** *c.* **0 0 0 wc**
   d. **wc** *e.* no output

132. 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
```
   a. the directory **mt** now has a file named **dog** in it
   b. the file named **cat** is now renamed to **dog**
   c. the command fails because the path **./mt/../cat** does not exist
   d. the directory **mt** is still empty
   e. the directory **mt** now contains two files

133. 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. **bash: 2>/dev/null: command not found**
   b. **ls: nosuchfile: No such file or directory**
   c. **dog**
   d. no output
   e. **nosuchfile**

134. If you type the command **cat**, which *CTRL* key will send an **EOF** and take you back to the command prompt?
a. **^D** *b.* **^E** *c.* **^R** *d.* **^U** *e.* **^C**

135. The option to **ls** that shows which names are directories is:
a. **-l** *b.* **-i** *c.* **-a** *d.* **-1** *e.* **-d**

136. What command can you use to delete an empty directory?
a. **deldir** *b.* **rmdir** *c.* **mvdir**
d. **delete** *e.* **erase**

137. Which command line displays only the names in the current directory that are exactly three digits long (and no other names)?
a. **echo ???** *b.* **echo [3][3][3]**
c. **echo [?][?][?]** *d.* **echo [0-9][0-9][0-9]**
e. **echo [1-3][1-3][1-3]**

138. Which command line lists all possible utilities available for compiling programs?
a. **find compile** *b.* **grep compile /etc/**
c. **apropos compile** *d.* **locate compile**
e. **man compile**

139. 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
```
a. **30** *b.* **0** *c.* **50** *d.* **100** *e.* **60**

140. 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. **0** *b.* **50** *c.* **80** *d.* **20** *e.* **30**

141. In a manual page **SYNOPSIS** section, square brackets (**[]**) mean:
a. something that is repeated *b.* something that is optional
c. a GLOB pattern matching a list *d.* no special meaning
e. an arithmetic expression

142. How many lines are in the file **out** after this command line:
```
date >f ; ls f >>f ; cat f f >out
```
a. **2** *b.* **0** *c.* **6** *d.* **1** *e.* **4**

143. 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. **160** *b.* **0** *c.* **50** *d.* **30** *e.* **80**

144. 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
```
a. the command fails because the path **../me/old** does not exist
b. the command fails because the path **./dir/../new** does not exist
c. the directory **dir** now contains only a file named **old**
d. the parent directory of **dir** now has a file named **old** in it
e. there is a second copy of the file named **new** in the file named **old**

145. Which of the command lines below can generate a non-empty file?
a. **grep 'foo' foo >foo** *b.* **tail foo >foo**
c. **cat foo >foo** *d.* **sort foo >foo**
e. **ls foo >foo**

146. 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 -n 4 | head -n 1
```
a. **98** *b.* **96 96** *c.* **04 04**
d. **96** *e.* **01 01**

147. 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. **bash: 2>/dev/null: command not found**
d. no output
e. **mt**

148. In an empty directory, what is the output on your screen after this command line:
```
ls nosuchfile 2>out
```
a. **nosuchfile 2 not found** *b.* **nosuchfile not found**
c. **nosuchfile** *d.* **2 not found**
e. no output

149. 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
```
a. **1** followed by **2** *b.* **1** *c.* no output
d. **2** *e.* **2** followed by **1**

150. What command shows all the lines in file **cow** that contain the string **pig**?
a. **grep pig >cow** *b.* **cat cow > grep pig**
c. **grep pig <cow** *d.* **grep cow pig**
e. **grep cat cow pig**

151. If my current directory is **/lib**, which of these pathnames is equivalent to the pathname **/lib/x/y**?
a. **./lib/x/y** *b.* **/x/y** *c.* **../x/y**
d. **../lib/x/y** *e.* **../lib/y**

152. In an empty directory, how many words are in file **out** after this command line:
```
touch a ; ls >out
```
a. **4** *b.* **0** *c.* **2** *d.* **1** *e.* **3**

153. If **cow** is a sub-directory that contains only the file **dog**, what happens after this command: **mv cow/dog cow/././cat**
a. the command fails because the name **cat** does not exist
b. the directory **cow** is now empty
c. there is a second copy of the file **dog** in the file named **cat**
d. the command fails because the name **cow/././cat** does not exist
e. the directory **cow** now contains only a file named **cat**

154. 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 -n 5 x >x ; sort x y z >cat
```
a. **50** *b.* **60** *c.* **40** *d.* **0** *e.* **55**

155. Which of the following commands will leave **file1** non-empty?
a. **head file1 > file1** *b.* **wc file1 > file1**
c. **tail file1 > file1** *d.* **cat file1 > file1**
e. **sort file1 > file1**

156. What is the output of this command line in an empty directory:
```
touch 1 2 3 .a .ab .abc ; echo [.]*
```
a. no output
b. **. .. .a .ab .abc**
c. an error message from **echo** saying **[.]*** does not exist
d. **.a .ab .abc**
e. **[.]***

157. Which command line below does *not* show any lines from inside the file **out**?
a. **wc out** *b.* **tail out** *c.* **more out**
d. **sort out** *e.* **head out**

158. What is the output of this successful command sequence?
```
cd /home/dir ; mkdir one ; mkdir two ; pwd
```
a. **/home/dir** *b.* **/home/dir/one**
c. **/two** *d.* **/home/dir/one/two**
e. **/home/dir/two**

159. 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. no output *b.* **2 2 4 cat** *c.* **1 1 3 cat**
d. **0 0 0 cat** *e.* **1 1 2 cat**

160. If **foo** is a sub-directory that contains only the file **bar**, what happens after this command: **mv foo/./bar foo/././me**
a. the directory **foo** now contains only a file named **me**
b. the command fails because the name **foo/./bar** does not exist
c. the directory **foo** is now empty
d. the command fails because the name **me** does not exist
e. there is a second copy of the file **bar** in the file named **me**

161. If my current directory is **/etc**, which of these pathnames is equivalent to the pathname **/etc/x/y**?
a. **/x/y** *b.* **./etc/x/y** *c.* **../etc/y**
d. **../etc/x/y** *e.* **../x/y**

162. If my current directory is **/usr**, which of these pathnames is equivalent to the pathname **/usr/x/y/z**?
a. **x/./y/z** *b.* **/x/y/z** *c.* **../x/y/z**
d. **../usr/y/z** *e.* **./usr/x/y/z**

163. What can you do to get back (redo) the last command you typed?
a. Type **[ALT]-[F2]** *b.* Type **[CTRL]-[ALT]-[UP]**
c. Use the "**UpArrow**" key. *d.* Use the "**PageUp**" key.
e. Type **[CTRL]-[BACKSPACE]**

164. In an empty directory, what happens after this command line:
```
touch a b c ; mv a b c
```
a. an error message: **mv: target 'c' is not a directory**
b. the files **a**, **b**, and **c** are moved to the directory **c**
c. the files **a**, **b**, and **c** are moved to the current directory
d. the files **a** and **b** are appended to the file **c**
e. the files **a** and **b** are moved into the directory **c**

165. The option to **ls** that shows hidden names is:
a. **-l** *b.* **-i** *c.* **-1** *d.* **-a** *e.* **-h**

166. If **/bin/bash** is a file name, which pathname always leads to the same file?
a. **./../bin/bash** *b.* **/bin/../bash**
c. **/bin/bin/../bash** *d.* **/../bin/./bash**
e. **/bin/bash/.**

167. 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. the command fails because the name **pig/././cat** does not exist
c. there is a second copy of the file named **dog** in the file named **cat**
d. the directory **pig** is now empty
e. the directory **pig** now contains only a file named **cat**

168. If **/bin/bash** is a file name, which pathname always leads to the same file?
   a. **/bin/bin/../bash** *b.* **/./bin/./bash**
   c. **/bin/../bash** *d.* **/bin/bash/.**
   e. **./bin/bash**

169. How do I search for the string **foo** in the text display output from the **man** command?
   a. **/foo** *b.* select "**Search**" in the menu
   c. **@foo** *d.* **find foo**
   e. **search foo**

170. 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**

171. How many lines are in file **out** after this command line:
```
echo hi >dog >out >cat
```
   a. **3** *b.* **4** *c.* **0** *d.* **2** *e.* **1**

172. 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. no output
   b. **dir/.on dir/.tw dir/.th**
   c. **dir/. dir/.. dir/.on dir/.tw dir/.th dir/.f.**
   d. **dir/***
   e. **dir/.f.**

173. 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**

174. If my current working directory is **/var**, which command copies the password file into directory **/var/ian** under the name **bar**?
   a. **cp ./ian/../../etc/passwd ian/bar**
   b. **cp ././ian/../etc/passwd ../var/ian/bar**
   c. **cp ../../etc/./passwd /ian/bar**
   d. **cp ../var/./ian/../etc/passwd ./ian/./bar**
   e. **cp ./../etc/passwd ../ian/bar**

175. Which command line displays the contents of the Unix **passwd** file one page at a time?
   a. **cat /etc/passwd less** *b.* **/etc/passwd | less**
   c. **cat less | /etc/passwd** *d.* **less /etc/passwd**
   e. **/etc/passwd cat less**

176. Which of these statements is true?
   a. Unix commands must be entered in lower-case letters.
   b. To delete a word from the shell command line, type [CTRL]-[D]
   c. To erase an entire line of typing, type [CTRL]-[D].
   d. To indicate End-of-File (no more input), type [CTRL]-[C].
   e. Unix commands can be entered in upper-case or lower-case letters; they are equivalent.

177. 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 −n 5 y >y ; sort x y z >cat
```
   a. **60** *b.* **40** *c.* **0** *d.* **50** *e.* **45**

178. Which *CTRL* key will erase a full line of typing in a terminal window?
   a. **^I** *b.* **^U** *c.* **^R** *d.* **^C** *e.* **^D**

179. Which of these statements is true?
   a. Command **apropos** is an exact synonym for command **man**.
   b. To indicate End-of-File (no more input) to a program, type **[CTRL]−[D]**.
   c. The **file** command creates a new, empty file in the current directory
   d. To interrupt a Unix process from the keyboard, type **[CTRL]−[D]**.
   e. To erase an entire line of typing, type **[ALT]−[DELETE]**.

180. 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 me/../../etc/passwd me/foo**
   b. **cp ./me/../etc/passwd ../home/me/foo**
   c. **cp ../etc/passwd ../me/foo**
   d. **cp ../../etc/passwd /me/foo**
   e. **cp ../home/me/../etc/passwd ./me/./foo**

181. To change your own account password, use this exact command line:
   a. **$ passwd**
   b. **$ passwd root**
   c. **$ passwd cst8207**
   d. **$ passwd cst8207.idallen.ca**
   e. **$ passwd options LOGIN**

182. What is the output of this command line in an empty directory:
```
touch 1 .1 23 .23 456 ; echo [12]*
```
   a. **1 .1 23 .23 456**
   b. **1 .1 23 .23**
   c. **1 23**
   d. **[12]***
   e. an error message from **echo** saying **[ab]*** does not exist

183. In an empty directory, how many lines are in file **foo** after this command line:
```
ls nosuchfile . .. 2>foo
```
a. **4** *b.* **2** *c.* **0** *d.* **3** *e.* **1**

184. If **/etc/shadow** is a file name, which pathname always leads to the same file?
a. **/./../etc/./shadow** *b.* **/etc/shadow/./.**
c. **/etc/shadow/../..** *d.* **./etc/shadow**
e. **/etc/../../shadow**

185. What would you see if you typed this command: **cat /foo**
a. The contents of the file **foo** located in the ROOT directory
b. The contents of your subdirectory named **foo**
c. The contents of your directory named **foo**
d. The contents of the file **foo** located in the parent directory
e. The contents of the file **foo** located in your HOME directory

186. What is the output of this command line in an empty directory:
```
touch x .a .ab .cde .fghi ; echo .??*
```
a. **.??***
b. **.ab .cde .fghi**
c. **.cde .fghi**
d. **. .. .a .ab .cde .fghi**
e. an error message from **echo** saying **.??*** does not exist

187. In an empty directory, what is the output on your screen after this command line:
```
date >.foo >.bar ; ls *
```
a. **. .. .foo .bar**
b. no output
c. *****
d. an error message from **ls** saying ***** does not exist
e. **.foo .bar**

188. What is the possible output on your screen of this command line:
```
echo wc >date ; sort date >date ; cat date
```
a. no output
b. **1 6 29 date**
c. **wc**
d. **1 6 28 date**
e. **Fri Mar 16 12:00:00 EST 2012**

189. What command can you use to delete a directory that isn't empty?
a. **del -r dir** *b.* **deldir -r dir**
c. **rmdir -r dir** *d.* **deltree -r dir**
e. **rm -r dir**

190. In an empty directory, what is the output on your screen after this command line:
```
touch 1 2 .a .b ; echo .*
```
a. **.a .b**
b. **1 2**
c. **.***
d. **. .. .a .b**
e. an error message from **echo** saying **.*** does not exist

191. In which section of the manual do you find standard commands?
a. 8 *b.* 2 *c.* 3 *d.* 1 *e.* 4

192. 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 **mt** now contains only a file named **bar**
b. the directory **../me** 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 the path **mt/../foo** does not exist
e. the command fails because the path **mt/../bar** does not exist

193. What is the result of this exact command line: **ls /foo bar**
a. the two text strings **/foo** and **bar** will be displayed
b. file **/foo** will be copied to **bar**
c. the names of the pathnames **/foo** and **bar** will be displayed
d. all the files under directory **/foo** with the name **bar** will be displayed
e. the contents of the files **/foo** and **bar** will be displayed

194. If my current directory is **/lib**, which of these pathnames is equivalent to the file name **/lib/foo**?
a. **./lib/foo** *b.* **../lib/foo/.** *c.* **./foo**
d. **../foo** *e.* **/foo**

195. 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.* **1** *d.* **2** *e.* **3**

196. What is the output on your screen after this command line:
```
mkdir dir ; touch dir/.aa dir/.bb ; echo dir/*
```
a. **dir/***
b. **dir/. dir/.. dir/.aa dir/.bb**
c. **dir/.aa dir/.bb**
d. no output
e. **dir/**

197. 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***
a. **3** *b.* **1** *c.* none *d.* **4** *e.* **2**

198. 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 2>&1 >out`**
   c. **`date 1>out 2>1`**
   d. **`date >out 2>&1`**
   e. **`date 1>out 2>out`**

199. In an empty directory, what is the output on your screen after this command line:
```
touch a b .1 .2 ; echo .??*
```
   a. **`a b`**
   b. **`.??*`**
   c. **`. .. .1 .2`**
   d. an error message from **`echo`** saying **`.??*`** does not exist
   e. **`. .. a b .1 .2`**

200. 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 -n 5 | head -n 1
```
   a. **`7`** *b.* **`1 1`** *c.* **`9`** *d.* **`5 5`** *e.* **`1`**

201. What is the absolute pathname of the Unix/Linux password (account) file?
   a. **`/usr/passwd`** *b.* **`/var/passwd`** *c.* **`/lib/passwd`**
   d. **`/bin/passwd`** *e.* **`/etc/passwd`**

202. 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
```
   a. the directory **`sub`** now contains only a file named **`cat`**
   b. the directory **`sub/..`** now has a file named **`cat`** in it
   c. the command fails because the path **`sub/../fil`** does not exist
   d. the command fails because the path **`../myhome/cat`** does not exist
   e. there is a second copy of the file **`fil`** in the file named **`cat`**

203. 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/*
```
   a. no output
   b. **`cow/*`**
   c. **`cow/.AA cow/.A1 cow/.BB cow/.B.`**
   d. **`cow/.B.`**
   e. **`cow/.AA cow/.A1 cow/.BB`**

204. In an empty directory, how many words are in file **`out`** after this command line:
```
echo hi >a ; ls >out
```
   a. **`4`** *b.* **`0`** *c.* **`1`** *d.* **`2`** *e.* **`3`**

205. If my current directory is **`/etc`**, which of these pathnames is equivalent to the file name **`/etc/passwd`**?
   a. **`/root/etc/passwd`**
   b. **`./../../etc/./passwd`**
   c. **`./etc/passwd`**
   d. **`passwd/.`**
   e. **`../etc/passwd/.`**

206. In a directory that contains only the file **`foo`**, what happens after this command:
```
cp foo bar
```
   a. the command fails because **`bar`** is not a directory
   b. there is a copy of the file named **`foo`** in the file named **`bar`**
   c. an empty file named **`bar`** is created
   d. there is only the file named **`bar`** in the directory now
   e. the command fails because the name **`bar`** does not exist

207. Give the minimum number of directories in this pathname: **`/a/b/c/d`**
   a. **`1`** *b.* **`2`** *c.* **`3`** *d.* **`5`** *e.* **`4`**

208. In a directory containing one file named **`dog`**, what is the output on your screen after this command line: **`1>/dev/null ls *`**
   a. **`ls: *: No such file or directory`**
   b. **`*`**
   c. no output
   d. **`bash: 1>/dev/null: command not found`**
   e. **`dog`**

209. What is the output of this command line in an empty directory:
```
touch .12 .345 .6789 ; echo .??*
```
   a. **`.??*`**
   b. **`.12 .345 .6789`**
   c. no output
   d. an error message from **`echo`** saying **`.??*`** does not exist
   e. **`. .. .12 .345 .6789`**

210. 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 contains only a file named **`cat`**
   c. there is a second copy of the file **`fil`** in the file named **`cat`**
   d. the command fails because the path **`sub/../fil`** does not exist
   e. the directory **`sub/..`** now has a file named **`cat`** in it

211. If **foo** is a sub-directory that contains only the file **bar**, what happens after this command: **mv ./foo/bar foo/../me**
   a. the directory **foo** is now empty
   b. the command fails because the name **./foo/bar** does not exist
   c. there is a second copy of the file **bar** in the file named **me**
   d. the command fails because the name **me** does not exist
   e. the directory **foo** now contains only a file named **me**

212. What would you type to find the string **tony** in the file **/etc/passwd**?
   a. **cat tony /etc/passwd**
   b. **grep /etc/passwd tony**
   c. **find /etc/passwd -user tony -print**
   d. **find /etc/passwd -name tony -print**
   e. **grep tony /etc/passwd**

213. How many words are in file **out** after this command line:
```
echo one >two >three >out
```
   a. **3** *b.* **4** *c.* **2** *d.* **0** *e.* **1**

214. The shell expands a leading tilde (**~**) in a pathname (e.g. **~/foo**) to be:
   a. the current directory *b.* your HOME directory
   c. the directory **/root** *d.* the ROOT directory
   e. the parent directory

215. In a directory that contains only the file **foo**, what happens after this command:
```
mv foo bar
```
   a. the command fails because **bar** is not a directory
   b. there is only the file named **bar** in the directory now
   c. the command fails because the name **bar** does not exist
   d. there is a copy of the file named **foo** in the file named **bar**
   e. an empty file named **bar** is created

216. What is the result of this exact command line: **cat /foo bar**
   a. file **/foo** will be copied to **bar**
   b. all the files under directory **/foo** with the name **bar** will be displayed
   c. the names of the pathnames **/foo** and **bar** will be displayed
   d. the two text strings **/foo** and **bar** will be displayed
   e. the contents of the files **/foo** and **bar** will be displayed

217. In an empty directory, how many words are in file **foo** after this command line:
```
date >.bar >.out ; ls >foo
```
   a. **1** *b.* **2** *c.* **0** *d.* **4** *e.* **3**

218. In an empty directory, how many words are in file **cow** after this command line:
```
touch dog dog cat ; ls >cow
```
   a. **4** *b.* **3** *c.* **0** *d.* **1** *e.* **2**

219. 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. **2** *b.* **3** *c.* **8** *d.* **0** *e.* **5**

220. 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. **0** *b.* **10** *c.* **12** *d.* **8** *e.* **7**

221. How can you ask the **bash** (Linux) shell to complete commands or file names for you?
   a. Type the first part of the command or file name and press the **[CTRL]-[D]** key.
   b. Type the first part of the command or file name and press the **[ALT]-[F1]** key.
   c. Type the first part of the command or file name and press the **[ALT]** key.
   d. Type the first part of the command or file name and press the **[TAB]** key.
   e. Type the first part of the command or file name and press the **[CTRL]-[C]** key.

222. If **foo** is a sub-directory that contains only the file **bar**, what happens after this command: **mv foo/me foo/bar**
   a. there is a second copy of the file **bar** in the file named **me**
   b. there is only the file named **me** in the directory now
   c. the command fails because the name **me** does not exist
   d. the command fails because **bar** is not a directory
   e. an empty file named **me** is created

223. If my current directory is **/etc**, which of these pathnames is equivalent to the file name **/etc/passwd**?
   a. **../etc/passwd/.** *b.* **../passwd**
   c. **./etc/passwd** *d.* **/passwd**
   e. **passwd**

224. What is the output on your screen after this command line:
```
echo hi >ls ; cat ls > wc
```
   a. no output *b.* **hi** *c.* **1 1 2**
   d. **1 1 3** *e.* **ls**

225. In an empty directory, what is the output on your screen after this command line:
```
touch a ; ls >wc -l
```
   a. **2** *b.* **0** *c.* **1**
   d. **3** *e.* no output

226. 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 -n 4 | head -n 1
```
   a. **1 1** *b.* **6** *c.* **4 4** *d.* **6 6** *e.* **8**

227. To leave a shell and let the terminal window close, type:
   a. **[CTRL-C]** *b.* **q** *c.* **quit**
   d. **bye** *e.* **exit**

228. Which command pipeline outputs the count of the number of manual page titles that contain the keyword "sort"?

a. **`man sort ; wc`** *b.* **`wc man sort`**
c. **`man sort | wc`** *d.* **`man -k sort | wc`**
e. **`wc -k sort`**

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

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

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