

PRINT Name: _____ LAB Section:

Test Version: 192 One-Answer Multiple Choice 228 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. **Taip** (Yes - Lithuanian)
 - c. **Jes** (Yes - Esperanto)
 - d. **Tak** (Yes - Polish)
 - e. **Igen** (Yes - Hungarian)
2. **My three-digit Lab Section number is:**
 - a. My lecture section number, e.g. 010 or 020.
 - b. The timetable section number of my weekly 2-hour lab period.
 - c. My lecture room number, e.g. T117
 - d. My lab room number, e.g. B182, B119, J218, CA418
 - e. The Test Version number printed in the top left corner.
3. 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. one or two
 - c. exactly two
 - d. zero, one, or two
 - e. two or more
4. What is the correct syntax to redirect both standard output and standard error into the same output file?
 - a. `date 1>out 2>out`
 - b. `date 2>1 >out`
 - c. `date 1>out 2>1`
 - d. `date >out 2>&1`
 - e. `date 2>&1 >out`
5. 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 2 cat
 - d. 0 0 0 cat
 - e. 1 1 3 cat
6. 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 command fails because **bar/mt** is not a directory
 - b. the directory **mt** now contains a directory 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**

7. 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
```

 - a. 0
 - b. 45
 - c. 60
 - d. 40
 - e. 50
8. 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/.aa dir/.ab`
 - b. `dir/.a?`
 - c. no output
 - d. `dir/.aa dir/.ab dir/.a? dir/.a*`
 - e. `dir/???`
9. 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 ""`
10. What is the absolute pathname of the Unix/Linux password (account) file?
 - a. `/bin/passwd`
 - b. `/etc/passwd`
 - c. `/usr/passwd`
 - d. `/lib/passwd`
 - e. `/var/passwd`
11. 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`
12. 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 ../foo/./bin/ls ../home/foo/xx`
 - c. `cp ../../bin/./ls /foo/xx`
 - d. `cp ../home/./foo/./bin/ls foo/xx`
 - e. `cp ../bin/ls ../foo/xx`
13. 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. 0
 - b. 7
 - c. 12
 - d. 5
 - e. 8
14. 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. 9
 - b. 1
 - c. 7
 - d. 1 1
 - e. 5 5

15. What is the result of this exact command line: `cat /foo bar`
- the two text strings `/foo` and `bar` will be displayed
 - the names of the pathnames `/foo` and `bar` will be displayed
 - all the files under directory `/foo` with the name `bar` will be displayed
 - file `/foo` will be copied to `bar`
 - the contents of the files `/foo` and `bar` will be displayed
16. 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 command fails because the path `./dir/../new` does not exist
  - 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 command fails because the path `../me/old` does not exist
  - the directory `dir` now contains only a file named `old`
17. What command shows all the lines in file `cow` that contain the string `pig`?
- `grep cat cow pig`
  - `grep pig <cow`
  - `grep cow pig`
  - `cat cow > grep pig`
  - `grep pig >cow`
18. Which command line displays the contents of the Unix `passwd` file one page at a time?
- `cat /etc/passwd less`
  - `/etc/passwd cat less`
  - `cat less | /etc/passwd`
  - `less /etc/passwd`
  - `/etc/passwd | less`
19. 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
```
- 24
 - 12
 - 7
 - 5
 - 0
20. In an empty directory, what is the output on your screen of this command line:
- ```
echo hi >foo >bar ; cat foo
```
- `hi >foo`
  - `hi`
  - `hi >foo >bar`
  - no output
  - `cat: foo: No such file or directory`
21. 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*`
- 3
  - 5
  - 4
  - 1
  - 2

22. 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` now contains only a file named `me`
  - the command fails because the name `foo/./bar` does not exist
  - the command fails because the name `me` does not exist
  - the directory `foo` is now empty
  - there is a second copy of the file `bar` in the file named `me`
23. In a directory containing one file named `mt`, what is the output on your screen after this command line: `ls 2>/dev/null nosuchfile`
- `ls: nosuchfile: No such file or directory`
  - `nosuchfile`
  - no output
  - `mt`
  - `bash: 2>/dev/null: command not found`
24. In an empty directory, what is the output on your screen after this command line:
- ```
touch 1 2 .a .b ; echo .*
```
- `. . . .a .b`
 - `1 2`
 - `.*`
 - an error message from `echo` saying `.*` does not exist
 - `.a .b`
25. What is the output of this command line in an empty directory: `echo *`
- an error message from `echo` saying `*` does not exist
 - `. ..`
 - `*`
 - no output on screen
 - `.`
26. 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
```
- 0
  - 60
  - 30
  - 100
  - 50
27. Which command line displays only the non-hidden names in the current directory that contain the case-insensitive word `me` (and no other names)?
- `echo *(M,m,E,e)*`
  - `echo *[MmEe]*`
  - `echo *[Mm][Ee]*`
  - `echo ?[MmEe]?`
  - `echo *[me]*`
28. 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*`
- 4
  - 3
  - 2
  - 1
  - none

29. If my current directory is `/usr`, which of these pathnames is equivalent to the pathname `/usr/x/y/z`?
- `./usr/x/y/z`
  - `../usr/y/z`
  - `/x/y/z`
  - `x./y/z`
  - `../x/y/z`
30. What can you do to get back (redo) the last command you typed?
- Type `[CTRL]-[BACKSPACE]`
  - Type `[CTRL]-[ALT]-[UP]`
  - Type `[ALT]-[F2]`
  - Use the "UpArrow" key.
  - Use the "PageUp" key.
31. How many lines are in file `out` after this command line:
- ```
date >wc >cat >out
```
- 0
 - 2
 - 1 6 29
 - 1
 - 0 0 0
32. 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
```
- 01 01
  - 96 96
  - 96
  - 04 04
  - 98
33. The purpose of the `PS1` shell variable is:
- to allow access to the `ROOT` directory
  - to set the shell prompt
  - to protect your `HOME` directory from access
  - to find patterns inside a text file
  - to list your suspended jobs
34. If `pig` is a sub-directory that contains only the file `dog`, what happens after this command: `mv pig/dog pig/././cat`
- the command fails because the name `cat` does not exist
  - the directory `pig` now contains only a file named `cat`
  - the command fails because the name `pig/././cat` does not exist
  - the directory `pig` is now empty
  - there is a second copy of the file `dog` in the file named `cat`
35. What is the output on your screen of this command line:
- ```
echo bat >pig ; echo one | tail pig
```
- an error message
 - `one`
 - `bat`
 - `one` followed by `bat`
 - `bat` followed by `one`
36. In a manual page `SYNOPSIS` section, square brackets (`[]`) mean:
- no special meaning
 - something that is optional
 - a GLOB pattern matching a list
 - an arithmetic expression
 - something that is repeated

37. The output of the `find` command is:
- finds patterns in a file corresponding to lines
 - a recursive list of pathnames
 - a recursive list of users logged in to the system
 - finds lines in a file matching a pattern
 - account names matching a pattern
38. The shell meta-character used to separate multiple separate commands on the same line of typing is:
- ,
 - +
 - @
 - ;
 - :
39. What is the output of this command line in an empty directory:
- ```
touch .a .b .c ; echo [.]*
```
- `[.]*`
  - `.a .b .c`
  - no output
  - an error message from `echo` saying `[.]*` does not exist
  - `... .a .b .c`
40. What is the possible output on your screen of this command line:
- ```
echo wc >date ; sort date >date ; cat date
```
- no output on screen
 - `wc`
 - `Fri Mar 16 12:00:00 EST 2012`
 - `1 6 29 date`
 - `1 6 28 date`
41. What command displays the sizes of files in the current directory?
- `ls -l`
 - `ps -l`
 - `cat -s`
 - `ps -s`
 - `ls -p`
42. If `pig` is a sub-directory that contains only the file `dog`, what happens after this command: `mv pig/dog pig/././cat`
- there is a second copy of the file named `dog` in the file named `cat`
 - the command fails because the name `pig/././cat` does not exist
 - the directory `pig` is now empty
 - the directory `pig` now contains only a file named `cat`
 - the command fails because the name `cat` does not exist
43. 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 `dir/c` sees only one argument
  - The command `dir/c` sees two arguments.
  - The command is always invalid.
  - The command `cat` sees two arguments.

44. In a directory containing one file named **dog**, what is the output on your screen after this command line: `1>/dev/null ls *`
- `*`
  - `ls: *: No such file or directory`
  - no output
  - `dog`
  - `bash: 1>/dev/null: command not found`
45. Which pathname almost always leads to the same file named: `/etc/shadow`
- `././etc/shadow`
  - `/etc/shadow/././.`
  - `/././etc/./shadow`
  - `/etc/shadow/./.`
  - `/etc/./././shadow`
46. 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
```
- 55
 - 60
 - 40
 - 50
 - 0
47. If `/etc/passwd` is a file name, which pathname always leads to the same file?
- `./etc/./passwd`
 - `./etc/passwd`
 - `/etc/passwd/.`
 - `/etc/./passwd`
 - `/etc/etc/./passwd`
48. In an empty directory, how many lines are in file **foo** after this command line:
- ```
ls nosuchfile . .. 2>foo
```
- 3
  - 2
  - 4
  - 1
  - 0
49. 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 ./me/./etc/passwd ../home/me/foo`
  - `cp ../etc/passwd ../me/foo`
  - `cp ../home/me/./etc/passwd ./me/./foo`
  - `cp ../etc/passwd ./me/foo`
  - `cp .././etc/passwd /me/foo`
50. If my current directory is `/home`, which of these pathnames is equivalent to the pathname `/home/a/b/c`?
- `./a/b/c`
  - `../home/b/c`
  - `/a/b/c`
  - `./home/a/b/c`
  - `./a/b/c`
51. What would you see if you typed this command: `cat /foo`
- The contents of the file **foo** located in the parent directory
  - The contents of your directory named **foo**
  - The contents of the file **foo** located in the ROOT directory
  - The contents of your subdirectory named **foo**
  - The contents of the file **foo** located in your HOME directory

52. 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
```
- 60
 - 100
 - 200
 - 160
 - 40
53. Which command line displays only the non-hidden names in the current directory that contain the letter **a** (and no other names)?
- `echo *a*`
 - `echo [a]`
 - `echo a*`
 - `echo ?a?`
 - `echo *a`
54. Which CTRL key will erase a full line of typing in a terminal window?
- `^D`
 - `^R`
 - `^U`
 - `^C`
 - `^I`
55. Which command below is the best way to find a line containing a question mark (?) in the file `/etc/passwd`?
- `grep '?' /etc/passwd`
 - `search '?' /etc/passwd`
 - `find '?' /etc/passwd`
 - `grep /etc/passwd '?'`
 - `grep './?' /etc/passwd`
56. In an empty directory, how many lines are in file **out** after this command line:
- ```
ls . .. nosuchfile 2>out
```
- 3
  - 1
  - 0
  - 4
  - 2
57. If my current directory is `/etc`, which of these pathnames is equivalent to the file name `/etc/passwd`?
- `../etc/passwd/.`
  - `./passwd`
  - `./etc/passwd`
  - `/passwd`
  - `../passwd`
58. In a directory containing one file named **dog**, what is the output on your screen after this command line: `2>/dev/null ls nosuchfile`
- `nosuchfile`
  - `dog`
  - `bash: 2>/dev/null: command not found`
  - `ls: nosuchfile: No such file or directory`
  - no output
59. Which of these statements is true?
- To indicate End-of-File (no more input), type `[CTRL]-[C]`.
  - To delete a word from the shell command line, type `[CTRL]-[D]`
  - Unix commands must be entered in lower-case letters.
  - Unix commands can be entered in upper-case or lower-case letters; they are equivalent.
  - To erase an entire line of typing, type `[CTRL]-[D]`.
60. 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
```
- 120
 - 50
 - 0
 - 70
 - 80

61. The option to **ls** that shows hidden names is:
 a. **-l** b. **-i** c. **-h** d. **-1** e. **-a**
62. 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. **5** b. **2** followed by **3** c. **3**
 d. **2** e. **3** followed by **2**
63. If my current directory is **/lib**, which of these pathnames is equivalent to the file name **/lib/foo**?
 a. **./foo** b. **../foo** c. **/foo**
 d. **../lib/foo/.** e. **./lib/foo**
64. 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. **21** b. **0** c. **50** d. **20** e. **30**
65. 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 directory **mt** now contains only a file named **y**
 c. the directory **mt** is still empty
 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
66. 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 contains two files
 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** now has a file named **dog** in it
 e. the directory **mt** is still empty
67. In an empty directory, how many words are in file **out** after this command line:
echo hi >a ; ls >out
 a. **1** b. **3** c. **0** d. **2** e. **4**
68. 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. **10** c. **30** d. **20** e. **0**

69. 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 **[TAB]** key.
 b. Type the first part of the command or file name and press the **[CTRL]-[D]** 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 **[CTRL]-[C]** key.
 e. Type the first part of the command or file name and press the **[ALT]-[F1]** key.
70. In a directory that contains only the file **foo**, what happens after this command:
mv foo bar
 a. there is only the file named **bar** in the directory now
 b. an empty file named **bar** is created
 c. the command fails because the name **bar** does not exist
 d. the command fails because **bar** is not a directory
 e. there is a copy of the file named **foo** in the file named **bar**
71. How many lines are in the file **out** after this command line:
date >f ; ls f >>f ; cat f f >out
 a. **2** b. **6** c. **4** d. **0** e. **1**
72. What is the output on your screen after this command line:
echo hi >a ; ls a > wc
 a. no output b. **1 1 3** c. **1 1 2**
 d. **3** e. **2**
73. What is the output of this command line in an empty directory:
touch x .a .ab .cde .fghi ; echo .??*
 a. **.. .a .ab .cde .fghi**
 b. an error message from **echo** saying **.??*** does not exist
 c. **.ab .cde .fghi**
 d. **.cde .fghi**
 e. **.??***
74. 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. **wc** c. **0 0 0 wc**
 d. no output e. **1 1 3 wc**
75. 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
 a. **8 8** b. **1** c. **2 2** d. **8** e. **9**

76. 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 */.`
- 25 pathnames
 - an error message because `*/.` does not exist
 - no output
 - 15 directory names
 - `*/.`
77. What is the *current directory*?
- The directory that your shell (or any Unix process) is in now
 - The directory into which you are placed when you first log in
 - The directory named `..` (dot dot)
 - This is where "root" goes when "root" logs in to the system
 - The directory named `/current`
78. What is the output of this command line in an empty directory:
- ```
touch .12 .345 .6789 ; echo .??*
```
- `.12 .345 .6789`
  - an error message from `echo` saying `.??*` does not exist
  - no output
  - `.??*`
  - `. . . .12 .345 .6789`
79. How many lines are in the file `out` after this command line:

```
echo hi >x ; echo ho >>x ; cat x x x >out
```

  - 0
  - 3
  - 2
  - 6
  - 1

80. How many lines are in the file `bar` after this command line:

```
echo hi >x ; echo ho >>x ; cat x x >bar
```

  - 4
  - 1
  - 6
  - 2
  - 0

81. The option to `ls` that shows which names are directories is:

  - `-l`
  - `-d`
  - `-i`
  - `-a`
  - `-1`

82. 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/.B.`
  - no output
  - `cow/*`
  - `cow/.AA cow/.A1 cow/.BB`
  - `cow/.AA cow/.A1 cow/.BB cow/.B.`

83. 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
```

  - 1
  - 9
  - 8
  - 8 8
  - 2 2

84. Which command line does *not* show any lines from inside the file `bat`?
- `sort bat`
  - `tail bat`
  - `less bat`
  - `head bat`
  - `ls bat`
85. If `ian` is a sub-directory that contains only the file `foo`, what happens after this command: `mv ./ian/./foo ./ian/./bar`
- the directory `ian` is now empty
  - the command fails because the name `./ian/./foo` does not exist
  - the command fails because the name `./ian/./bar` does not exist
  - the directory `ian` now contains only a file named `bar`
  - there is a second copy of the file `foo` in the file named `bar`
86. If `/bin/bash` is a file name, which pathname always leads to the same file?
- `/bin/./bash`
  - `/bin/bin/./bash`
  - `/bin/bash/.`
  - `./../bin/bash`
  - `./../bin/./bash`
87. In an empty directory, what is the output on your screen after this command line:

```
ls nosuchfile 2>out
```

  - `nosuchfile not found`
  - no output
  - `nosuchfile 2 not found`
  - `2 not found`
  - `nosuchfile`

88. What is your HOME directory?

  - This is where "root" goes when "root" logs in to the system
  - The directory into which you are placed when you first log in
  - The top directory of the Unix/Linux/BSD/OSX file system tree
  - The directory named `/home`
  - The directory that your shell is in now

89. 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*`

  - 3
  - none
  - 2
  - 4
  - 1

90. 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 `me` now contains a file named `bar`
  - the directory `mt` is still empty
  - the directory `mt` now contains a file named `foo`
  - the command fails because the path `../me/bar` does not exist
  - the command fails because the path `mt/./foo` does not exist

91. Which of the following commands will leave `file1` non-empty?

  - `cat file1 > file1`
  - `head file1 > file1`
  - `sort file1 > file1`
  - `wc file1 > file1`
  - `tail file1 > file1`

92. Which Unix command line deletes a directory and everything inside it?  
 a. `deltree -all dir`                      b. `rmdir -r dir`  
 c. `rm -all dir`                              d. `rmdir -all dir`  
 e. `rm -r dir`
93. If my current directory is `/etc`, which of these pathnames is equivalent to the file name `/etc/passwd`?  
 a. `passwd`                                      b. `./etc/passwd`  
 c. `../passwd`                                d. `/passwd`  
 e. `../etc/passwd/.`
94. 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 `sub/./fil` does not exist  
 b. the command fails because the path `../me/cat` does not exist  
 c. there is a second copy of the file `fil` in the file named `cat`  
 d. the directory `sub/..` now has a file named `cat` in it  
 e. the directory `sub` now contains only a file named `cat`
95. In an empty directory, what is the output on your screen after this command line:  
`echo hi >a ; sort * l>/dev/null`  
 a. no output  
 b. `hi`  
 c. `a`  
 d. `sort: *: No such file or directory`  
 e. `sort: l>/dev/null: No such file or directory`
96. What is the output of this command line in an empty directory:  
`touch .a .b .c ; echo .??*`  
 a. `.a .b .c`  
 b. an error message from `echo` saying `.??*` does not exist  
 c. `... .a .b .c`  
 d. no output  
 e. `.??*`
97. In which section of the manual do you find super-user and admin commands?  
 a. 2                      b. 3                      c. 8                      d. 1                      e. 4
98. Give the minimum number of directories in this pathname: `/a/b/c/d`  
 a. 1                      b. 2                      c. 3                      d. 4                      e. 5
99. 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. 30                      b. 50                      c. 80                      d. 20                      e. 0

100. In an empty directory, what is the output on your screen after this command line:  
`echo hi >a ; ls nosuchfile 2>/dev/null`  
 a. `nosuchfile`  
 b. `ls: nosuchfile: No such file or directory`  
 c. `ls: 2>/dev/null: No such file or directory`  
 d. `a`  
 e. no output
101. What is the output of this command line in an empty directory:  
`touch .1 .2 .3 4 5 6 ; echo .*`  
 a. an error message from `echo` saying `.*` does not exist  
 b. `.1 .2 .3 4 5 6`  
 c. `... .1 .2 .3`  
 d. `.*`  
 e. `4 5 6`
102. 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. 20                      b. 50                      c. 40                      d. 30                      e. 0
103. 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. no output                      b. 8                      c. 4  
 d. 1                                      e. 6
104. How many lines are in the file `bar` after this command line:  
`echo hi >x ; echo ho >>x ; cat x >bar`  
 a. 4                      b. 1                      c. 2                      d. 0                      e. 6
105. What is the output of this command line in an empty directory:  
`touch .a .b .c ; echo .*`  
 a. `.a .b .c`  
 b. no output  
 c. `... .a .b .c`  
 d. `.*`  
 e. an error message from `echo` saying `.*` does not exist
106. 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`

107. In a directory that contains only the file **foo**, what happens after this command:  
`cp foo bar`
- an empty file named **bar** is created
  - 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
  - the command fails because **bar** is not a directory
108. In an empty directory, what is the output on your screen after this command line:  
`touch a b .1 .2 ; echo .??*`
- `. . . .1 .2`
  - `. . . a b .1 .2`
  - `.??*`
  - `a b`
  - an error message from **echo** saying `.??*` does not exist
109. What does *quoting* mean on a shell command line?
- setting the `PS1` variable to be your shell prompt
  - using more than one pathname argument to a command, e.g. `rm a b c`
  - turning off the special meaning of shell meta-characters
  - typing a "control" character using the [CTRL] key
  - using a leading tilde ("`~`") on a pathname to mean your HOME directory
110. What is in file **foo** after this command line: `echo 1 2 >foo 3`
- `1 2`
  - `1 2 3`
  - nothing (empty file)
  - `echo 1 2`
  - `3`
111. 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`
- `3`
  - `0`
  - `2`
  - no output
  - `5`
112. If **foo** is a sub-directory that contains only the file **bar**, what happens after this command: `mv ./foo/bar foo/./me`
- there is a second copy of the file **bar** in the file named **me**
  - the directory **foo** is now empty
  - the directory **foo** now contains only a file named **me**
  - the command fails because the name `./foo/bar` does not exist
  - the command fails because the name **me** does not exist
113. Which pathname almost always leads to the same file named: `/bin/ls`
- `/bin/./bin/./ls`
  - `/bin/./ls`
  - `./bin/ls`
  - `./bin/./ls`
  - `./bin/./ls/`
114. How many words are in file **out** after this command line:  
`echo one >two >three >out`
- `0`
  - `4`
  - `2`
  - `1`
  - `3`

115. If my current directory is `/lib`, which of these pathnames is equivalent to the pathname `/lib/x/y`?
- `../x/y`
  - `../lib/y`
  - `../lib/x/y`
  - `/x/y`
  - `./lib/x/y`
116. Which command line shows the file in `/bin` with the largest checksum?
- `cat /bin | sum | sort -nr | head -1`
  - `ls /bin/* | sum | sort -nr | head -1`
  - `sum /bin/* | sort -nr | head -1`
  - `sum /bin | sort -nr | head -1`
  - `cat /bin/* | sum | sort -nr | head -1`
117. 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`
- the command fails because the path `../myhome/old` does not exist
  - the command fails because the path `./dir/./new` does not exist
  - there is a second copy of the file **new** in the file named **old**
  - the parent directory of **dir** now has a file named **old** in it
  - the directory **dir** now contains only a file named **old**
118. Which command line displays only the names in the current directory that are exactly three digits long (and no other names)?
- `echo [1-3][1-3][1-3]`
  - `echo [0-9][0-9][0-9]`
  - `echo [3][3][3]`
  - `echo ???`
  - `echo [?][?][?]`
119. If **cow** is a sub-directory that contains only the file **dog**, what happens after this command: `mv cow/dog cow/./cat`
- the command fails because the name **cat** does not exist
  - the directory **cow** now contains only a file named **cat**
  - the directory **cow** is now empty
  - there is a second copy of the file **dog** in the file named **cat**
  - the command fails because the name `cow/./cat` does not exist
120. If you type the command `sleep 60`, which CTRL key will **interrupt** it and take you back to the command prompt?
- `^C`
  - `^U`
  - `^R`
  - `^I`
  - `^D`
121. Which of these commands always returns you to your account HOME directory?
- `cd home`
  - `cd ..`
  - `cd /home/..`
  - `cd /home`
  - `cd`

122. In the output of the command `ls -a`, a dot (period) that *begins* a name signifies what?
- A name with an unprintable character.
  - A name that is hidden.
  - A current file.
  - The parent directory.
  - The current directory.
123. What is true about this command line: `date >ls ; ls -ls ls >wc`
- The `ls` command receives the output of `date` on standard input.
  - The file `wc` has one line in it.
  - The `wc` command counts the output of the `ls` command.
  - The `ls` command is executed more than once.
  - The shell finds and executes three different commands.
124. In the output of the command `ls -a`, the one-character name `.` signifies what?
- A current file.
  - The parent directory.
  - A name with an unprintable character.
  - The current directory.
  - The ROOT directory.
125. 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 ../home/me/../../etc/passwd ./me/./foo`
  - `cp me/../../etc/passwd me/foo`
  - `cp ./me/../../etc/passwd ../home/me/foo`
  - `cp ../etc/passwd ../me/foo`
126. If a shell GLOB pattern fails to match anything, what happens by default? The shell:
- gives a warning message but continues
  - returns the closest match to the pattern
  - gives an error message and does not execute
  - removes the pattern and passes nothing
  - passes the pattern unchanged to the command
127. If `/etc/passwd` is a file name, which pathname always leads to the same file?
- `../../etc/./passwd`
  - `./etc/../../passwd`
  - `/etc/passwd/.`
  - `./etc/passwd`
  - `/etc/passwd/../../`

128. What would you type to find the string `tony` in the file `/etc/passwd`?
- `find /etc/passwd -user tony -print`
  - `cat tony /etc/passwd`
  - `grep tony /etc/passwd`
  - `grep /etc/passwd tony`
  - `find /etc/passwd -name tony -print`
129. To change your own account password, use this exact command line:
- `$ passwd cst8207.idallen.ca`
  - `$ passwd options LOGIN`
  - `$ passwd root`
  - `$ passwd`
  - `$ passwd cst8207`
130. How many words are in the file `x` after this command line:
- ```
echo 1 2 >x ; echo 3 >x ; echo 4 >>x
```
- 2
 - 4
 - 0
 - 3
 - 1
131. 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*`
- 3
 - 4
 - 1
 - 2
 - none
132. Which pathname almost always leads to the same file named: `/etc/passwd`?
- `/etc/passwd/.`
 - `./etc/passwd`
 - `/etc/./etc/./passwd`
 - `/etc/./etc/./passwd`
 - `../etc/passwd`
133. The shell expands a leading tilde (`~`) in a pathname (e.g. `~/foo`) to be:
- the current directory
 - the ROOT directory
 - the parent directory
 - the directory `/root`
 - your HOME directory
134. Which of these command line will make `bar` contain all of the content of `f1` followed by all of the content of `f2`?
- `mv f1 f2 >bar`
 - `cat f1 f2 >bar`
 - `cp f1 f2 >bar`
 - `echo f1 f2 >bar`
 - `wc f1 f2 >bar`
135. To leave a shell and let the terminal window close, type:
- `[CTRL-C]`
 - `quit`
 - `bye`
 - `exit`
 - `q`
136. In an empty directory, how many words are in file `foo` after this command line:
- ```
date >.bar >.out ; ls >foo
```
- 4
  - 1
  - 2
  - 3
  - 0
137. Which command line lists all possible utilities available for compiling programs?
- `man compile`
  - `grep compile /etc/`
  - `find compile`
  - `apropos compile`
  - `locate compile`

138. What command can you use to delete a directory that isn't empty?
- `rmdir -r dir`
  - `deltree -r dir`
  - `del -r dir`
  - `deldir -r dir`
  - `rm -r dir`
139. How many arguments and options are there to the command: `wc -wc wc`
- Two command name arguments and two bundled options.
  - Two options, no arguments.
  - Two arguments, one of which is a single option and the other is a pathname.
  - Two arguments, no options.
  - Two command line arguments, one of which contains two bundled options.
140. 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 parent directory of `mt` now contains a file named `bar`
  - the command fails because the path `../me/bar` does not exist
  - the command fails because the path `./mt/./foo` does not exist
  - there is a second copy of the file `foo` in the file named `bar`
  - the directory `mt` now contains only a file named `bar`
141. Which of the command lines below can generate a non-empty file?
- `ls foo >foo`
  - `grep 'foo' foo >foo`
  - `cat foo >foo`
  - `sort foo >foo`
  - `tail foo >foo`
142. In an empty directory, what happens after this command line:  
`touch a b c ; mv a b c`
- an error message: `mv: target 'c' is not a directory`
  - the files `a` and `b` are moved into the directory `c`
  - the files `a`, `b`, and `c` are moved to the current directory
  - the files `a`, `b`, and `c` are moved to the directory `c`
  - the files `a` and `b` are appended to the file `c`
143. If my current directory is `/bin`, which of these pathnames is equivalent to the file name `/bin/ls`?
- `../bin/ls/.`
  - `ls/.`
  - `./bin/ls`
  - `.././bin/ls`
  - `/root/bin/ls`
144. 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`
- 8
  - 5
  - 9
  - 6
  - 7
145. How many lines are in file `out` after this command line:  
`echo hi >dog >out >cat`
- 3
  - 4
  - 2
  - 1
  - 0
146. In an empty directory, how many words are in file `cow` after this command line:  
`touch dog dog cat ; ls >cow`
- 2
  - 1
  - 0
  - 3
  - 4

147. 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`
- 1
  - 2
  - 2 followed by 1
  - 1 followed by 2
  - no output
148. What is the output of this command line in an empty directory:  
`touch 1 .1 23 .23 456 ; echo [12]*`
- 1 23
  - [12]\*
  - an error message from `echo` saying `[ab]*` does not exist
  - 1 .1 23 .23
  - 1 .1 23 .23 456
149. 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*`
- 4
  - 2
  - none
  - 3
  - 1
150. In an empty directory, what is the output on your screen after this command line:  
`touch a ; ls >wc -l`
- no output
  - 2
  - 3
  - 0
  - 1
151. If `foo` is a sub-directory that contains only the file `bar`, what happens after this command: `mv foo/bar foo/moo`
- the command fails because `bar` is not a directory
  - an empty file named `moo` is created
  - there is a second copy of the file `bar` in the file named `moo`
  - the command fails because the name `moo` does not exist
  - there is only the file named `moo` in the directory now
152. What is the result of this exact command line: `echo /foo 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 contents of the files `/foo` and `bar` will be displayed
  - file `/foo` will be copied to `bar`
  - the names of the pathnames `/foo` and `bar` will be displayed
153. In which section of the manual do you find standard commands?
- 4
  - 2
  - 1
  - 3
  - 8
154. What is in the file `bar` after this command line:  
`echo hi >x ; echo ho >x ; mv x y >bar`
- `hi`
  - `hi` followed by `ho`
  - no such file (nonexistent)
  - nothing (empty file)
  - `ho`

155. What is the output of this command line in an empty directory:  
`touch 1 2 3 .a .ab .abc ; echo [.]*`
- `. . . .a .ab .abc`
  - `[.]*`
  - no output
  - an error message from `echo` saying `[.]*` does not exist
  - `.a .ab .abc`
156. If `/bin/bash` is a file name, which pathname always leads to the same file?
- `/bin/./bash`
  - `/bin/bash/.`
  - `./bin/bash`
  - `./././bin/bash`
  - `/bin/bash/..`
157. 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`
  - `cp a b >foo`
  - `cp a >foo ; cp b >>foo`
  - `mv a b >foo`
  - `cat a >foo ; cat b >>foo`
158. In an empty directory, how many words are in file `pig` after this command line:  
`touch pig pig ; ls >pig`
- 2
  - 4
  - 3
  - 0
  - 1
159. If `/bin/bash` is a file name, which pathname always leads to the same file?
- `/bin/./bash`
  - `/bin/bin/./bash`
  - `/bin/bash/.`
  - `./bin/bash`
  - `././bin/./bash`
160. 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:
- `[CTRL]-[C]`
  - `[CTRL]-[D]`
  - `[TAB]`
  - `[ALT]-[F1]`
  - `[ALT]`
161. How many arguments does the shell pass to this `echo` command:  
`echo one two three >four five`
- 5
  - 2
  - 3
  - 4
  - 6
162. 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`
- 3
  - 5
  - 2
  - 0
  - 8
163. Which of these statements is true?
- To interrupt a Unix process from the keyboard, type `[CTRL]-[D]`.
  - The `file` command creates a new, empty file in the current directory
  - To erase an entire line of typing, type `[ALT]-[DELETE]`.
  - Command `apropos` is an exact synonym for command `man`.
  - To indicate End-of-File (no more input) to a program, type `[CTRL]-[D]`.

164. Which command pipeline outputs the count of the number of manual page titles that contain the keyword "sort"?
- `man sort ; wc`
  - `wc -k sort`
  - `wc man sort`
  - `man sort | wc`
  - `man -k sort | wc`
165. 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 command fails because the path `../myhome/cat` does not exist
  - the command fails because the path `sub/./fil` does not exist
  - the directory `sub/..` now has a file named `cat` in it
  - there is a second copy of the file `fil` in the file named `cat`
  - the directory `sub` now contains only a file named `cat`
166. What is the output of this command line in an empty directory:  
`touch a .a bc .bc def ; echo [ab]*`
- no output
  - an error message from `echo` saying `[ab]*` does not exist
  - `[ab]*`
  - `a .a bc .bc`
  - `a bc`
167. 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`
- 12
  - 7
  - 0
  - 10
  - 8
168. 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`
169. What command can you use to delete an empty directory?
- `deldir`
  - `delete`
  - `rmdir`
  - `erase`
  - `mvdir`
170. In an empty directory, what is the output on your screen after this command line:  
`ls out 2>/dev/null`
- `ls: out: No such file or directory`
  - `out`
  - no output
  - `ls: out 2>/dev/null: No such file or directory`
  - `ls: /dev/null: No such file or directory`

171. What is the Unix user name for the Super-User account?
- master
  - root
  - alterego
  - superuser
  - administrator
172. 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 ../home/me/./etc/passwd ./me/./foo`
  - `cp me/././etc/passwd me/foo`
  - `cp ./me/./etc/passwd ../home/me/foo`
  - `cp ../etc/passwd ../me/foo`
  - `cp .././etc/passwd /me/foo`
173. What do you do to erase an entire line of typing in the shell?
- type `[CTRL-W]`
  - type `[CTRL-D]`
  - select the line with the mouse and use the `DEL` key
  - type `[CTRL-C]`
  - type `[CTRL-U]`
174. If you type the command `cat`, which `CTRL` key will send an `EOF` and take you back to the command prompt?
- `^R`
  - `^C`
  - `^E`
  - `^U`
  - `^D`
175. The output of the `tree` command is:
- the tree of files under the ROOT directory
  - a recursive list of users logged in to the system
  - the tree of users logged in to the system
  - the tree of files under your HOME directory
  - an indented, recursive list of directories and their contents
176. If `/etc/passwd` is a file name, which pathname always leads to the same file?
- `/etc/././passwd`
  - `././etc/./passwd`
  - `/etc/passwd/./`
  - `/etc/passwd/././`
  - `././etc/passwd`
177. Given the pathname `a/b/c`, the *basename* of this pathname is:
- `c`
  - `a/b`
  - `b`
  - `a`
  - `b/c`
178. 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/????
```
- `dir/.123 dir/.124`
 - `dir/????`
 - `echo: dir/????: No such file or directory`
 - no output
 - `dir/.123 dir/.124 dir/.???`

179. How do you search for the word `nongraphic` in the man page for `ls`?
- type `man nongraphic | grep ls` at the shell
 - type `man ls` at the shell, then `^F` (CTRL-F), then `nongraphic`
 - type `man -k nongraphic` at the shell
 - type `man ls` at the shell, then `/nongraphic`
 - type `man ls -nongraphic` at the shell
180. In the output of `ls -a`, the two-character name `..` signifies what?
- It begins every name that is hidden.
 - A file or directory with double links.
 - The ROOT directory.
 - The current directory.
 - The parent directory.
181. 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
```
- 8
  - 3
  - 16
  - 0
  - 5
182. 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
```
- 7
 - 5
 - 6
 - 8
 - 9
183. Which pathname almost always leads to the same file named: `/etc/passwd`
- `./etc/./passwd`
 - `/etc/passwd/.`
 - `/etc/etc/./passwd`
 - `/etc/./passwd`
 - `./etc/passwd`
184. In an empty directory, how many arguments are passed to the `cat` command in this command line: `touch a1 a2 ba ca ; cat a*`
- 3
 - 4
 - 1
 - 2
 - none
185. What is the result of this exact command line: `ls /foo bar`
- file `/foo` will be copied to `bar`
 - the names of the pathnames `/foo` and `bar` will be displayed
 - the two text strings `/foo` and `bar` will be displayed
 - all the files under directory `/foo` with the name `bar` will be displayed
 - the contents of the files `/foo` and `bar` will be displayed
186. To prevent disconnections when using the Windows version of `PuTTY`, you should make this configuration change:
- set the seconds between keepalives to 55
 - your password will not echo on your screen as you type
 - use your ACSIS password as your password
 - use your student number as your password
 - log in using your Blackboard userid

187. 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`
- there is a second copy of the file `fil` in the file named `y`
 - the command fails because the path `x/./fil` does not exist
 - the directory `x` now contains only a file named `y`
 - the command fails because the path `x/./../me` does not exist
 - the directory `x` is still empty
188. In an empty directory, what is the output on your screen after this command line:
`date >.foo >.bar ; ls *`
- *
 - `.foo .bar`
 - no output
 - an error message from `ls` saying `*` does not exist
 - `. .. .foo .bar`
189. In an empty directory, how many words are in file `out` after this command line:
`touch a ; ls >out`
- 0
 - 2
 - 1
 - 4
 - 3
190. 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 asks you to retype this invalid directory
 - the shell issues a warning, but changes to the parent
 - the shell current directory is still ROOT; no change
 - the shell issues an error message and does not change
191. If my current working directory is `/var`, which command copies the password file into directory `/var/ian` under the name `bar`?
- `cp ../../etc/passwd ../ian/bar`
 - `cp ../var/./ian/./etc/passwd ./ian/./bar`
 - `cp ./ian/../../../../etc/passwd ian/bar`
 - `cp ../../etc/./passwd /ian/bar`
 - `cp ../ian/./etc/passwd ../var/ian/bar`
192. In an empty directory, what is the output on your screen after this command line:
`ls 2>/dev/null nosuchfile`
- `ls: 2>/dev/null nosuchfile: No such file or directory`
 - no output
 - `ls: /dev/null: No such file or directory`
 - `ls: nosuchfile: No such file or directory`
 - `nosuchfile`

193. Which command line tells you the recursive count of all pathnames under the current directory and all subdirectories?
- `find | wc`
 - `wc .`
 - `wc "$PWD"`
 - `wc *`
 - `ls | wc`
194. Which command line lists all possible utilities available for compiling programs?
- `find compile`
 - `man compile`
 - `man -k compile`
 - `grep 'compile' /etc/`
 - `locate compile`
195. Which command line below does *not* show any lines from inside the file `out`?
- `more out`
 - `tail out`
 - `sort out`
 - `wc out`
 - `head out`
196. 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 `bar` is not a directory
 - the command fails because the name `me` does not exist
 - an empty file named `me` is created
 - there is only the file named `me` in the directory now
 - there is a second copy of the file `bar` in the file named `me`
197. What is the output of this command line in an empty directory: `cat *`
- an error message from `cat` saying `*` does not exist
 - `. ..`
 - *
 - no output on screen
 - .
198. If my current directory is `/home`, which of these pathnames is equivalent to the pathname `/home/a/b/c`?
- `./home/a/b/c`
 - `../home/b/c`
 - `../a/b/c`
 - `/a/b/c`
 - `../home/a/b/c`
199. 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`
- 4 4
 - 6
 - 6 6
 - 1 1
 - 8
200. In an empty directory, how many words are in file `out` after this command line:
`touch 1 2 3 2 1 ; ls >out`
- 0
 - 5
 - 3
 - 4
 - 6
201. What is the output on your screen of this command line:
`echo pig >one ; echo cow | head -2 one`
- `pig` followed by `cow`
 - `pig`
 - `cow`
 - `cow` followed by `pig`
 - an error message

202. What is an operating system?
- A video display card.
 - A word-processing computer program.
 - A computer program that manages the hardware.
 - An accounting package program.
 - A web-browser program.
203. In a manual page **SYNOPSIS** section, ellipsis (three dots) (...) mean:
- something that is optional
 - no special meaning
 - the parent directory
 - something that is repeated
 - a hidden directory
204. How do I search for the string **foo** in the text display output from the **man** command?
- find foo**
 - @foo**
 - /foo**
 - select "**Search**" in the menu
 - search foo**
205. What is the output on your screen of this command line:
- ```
echo hi >hi ; head hi >hi ; wc hi
```
- 0 0 0 hi
  - 1 1 3 hi
  - 1 1 2 hi
  - no output
  - 2 2 4 hi
206. In an empty directory, what happens after this command line:
- ```
mkdir a b c ; mv a b c
```
- the directories **a** and **b** are appended to the directory **c**
 - an error message: **mv: target 'c' is not a directory**
 - the directories **a**, **b**, and **c** are moved to the current directory
 - the directories **a**, **b**, and **c** are moved to the directory **c**
 - the directories **a** and **b** are moved into the directory **c**
207. Which of these pathnames is *not* an absolute pathname (after all shell expansions)?
- /foo**
 - ~/foo**
 - ././foo**
 - foo**
 - \$HOME/foo**
208. Which of these characters is *not* a shell GLOB meta-character?
- ?**
 - [**
 - ***
 -]**
 - #**
209. 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 **bar**
 - the directory **bar** now contains a file named **foo**
 - the directory **mt** now contains a file named **foo**
 - the command fails because **mt/bar** is not a directory

210. Which command line below outputs only lines 11-15 of the Unix password file?
- head -15 /etc/passwd | tail -5 /etc/passwd**
 - head -15 /etc/passwd | tail -5**
 - head -10 /etc/passwd | tail -15 /etc/passwd**
 - tail -10 /etc/passwd | head -15 /etc/passwd**
 - tail -15 /etc/passwd | head -10**
211. 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
  - 04 04
  - 02
  - 96 96
  - 98
212. If **foo** is a sub-directory that contains only the file **bar**, what happens after this command: **cp foo/bar ./foo/./me**
- 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
  - there is a second copy of the file **bar** in directory **foo**
213. 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**
- the directory **mt** now contains only a file named **bar**
  - the command fails because the path **mt/./bar** does not exist
  - the directory **./me** now contains a file named **bar**
  - there is a second copy of the file **foo** in the file named **bar**
  - the command fails because the path **mt/./foo** does not exist
214. 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 ??**
- 4
  - 0
  - 5
  - 2
  - 1
215. In an empty directory, what is the output on your screen after this command line:
- ```
echo hi >a ; ls >wc -l
```
- 0
 - 1
 - no output
 - 2
 - a
216. What is the output of this successful command sequence?
- ```
cd /home/dir ; mkdir one ; mkdir two ; pwd
```
- /home/dir**
  - /home/dir/one/two**
  - /two**
  - /home/dir/two**
  - /home/dir/one**
217. What is the output on your screen after this command line:
- ```
echo hi >ls ; cat ls > wc
```
- no output on screen
 - 1 1 2
 - hi
 - ls
 - 1 1 3

218. 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/*`
- `dir/. dir/.. dir/.on dir/.tw dir/.th dir/.f.`
 - `dir/.f.`
 - `dir/.on dir/.tw dir/.th`
 - `dir/*`
 - no output
219. In an empty directory, what is the output on your screen after this command line:
`ls l>/dev/null nosuchfile`
- no output
 - `ls: l>/dev/null nosuchfile: No such file or directory`
 - `nosuchfile`
 - `ls: /dev/null: No such file or directory`
 - `ls: nosuchfile: No such file or directory`
220. 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`
- 0
 - 160
 - 30
 - 50
 - 80
221. The command that creates a directory and all parent directories is:
- `rm -r a/b/c`
 - `mkdir -r a/b/c`
 - `touch a/b/c`
 - `mkdir -p a/b/c`
 - `rmdir -r a/b/c`
222. The basic purpose of a shell is:
- to search for strings inside text files
 - to program system administration backup procedures
 - to find and run commands
 - to expand pathnames
 - to format hard drives
223. What is the output of this command line in an empty directory:
`touch 1 2 3 .a .b .c ; echo .??*`
- `.a .b .c`
 - `. .. .a .b .c`
 - `.??*`
 - `. .. 1 2 3 .a .b .c`
 - an error message from `echo` saying `.??*` does not exist

224. 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 path `../me/bar` does not exist
 - the directory **mt** now contains only a file named **bar**
 - the command fails because path `./mt/./foo` does not exist
 - there is a second copy of the file **foo** in the file named **bar**
 - the directory **mt/..** now contains a file named **bar**
225. What is the output on your screen after this command line:
`mkdir dir ; touch dir/.aa dir/.bb ; echo dir/*`
- no output
 - `dir/.aa dir/.bb`
 - `dir/`
 - `dir/. dir/.. dir/.aa dir/.bb`
 - `dir/*`
226. If my current directory is **/etc**, which of these pathnames is equivalent to the pathname **/etc/x/y**?
- `/x/y`
 - `./etc/x/y`
 - `../etc/x/y`
 - `../etc/y`
 - `../x/y`
227. 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 ../home/me/./etc/passwd ./me/./foo`
 - `cp ../etc/passwd ./me/foo`
 - `cp ../../etc/passwd /me/foo`
 - `cp ./me/./etc/passwd ../home/me/foo`
228. **Did you read all the words of the test instructions on page one?**
- Tak** (Yes - Polish)
 - Jes** (Yes - Esperanto)
 - Sim** (Yes - Portuguese)
 - Taip** (Yes - Lithuanian)
 - Igen** (Yes - Hungarian)