

# Self-test Linux/UNIX fundamentals

Document: e0829test.fm

3 September 2019

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# INTRODUCTION TO THE SELF-TEST LINUX/UNIX FUNDAMENTALS

The following questionnaire might help to check your personal knowledge of the various topics discussed in the [Linux/UNIX fundamentals](#) course, in order to find out whether it is useful for you to follow this course.

In this test, 20 questions are asked. For some questions, there is more than one correct answer. In such cases this will be clearly indicated. A question is answered correctly only if all correct answers are given.

You can find the right answers and guidelines for the evaluation at the end of this document. Good luck!

# SELF-TEST LINUX/UNIX FUNDAMENTALS

1. Find the intruder.

- (a) hsh
- (b) csh
- (c) ksh
- (d) bash

2. Indicate which commands are syntactically correct. (2 answers)

[a] ls -ld a\* b\*

[b] ls -l-d a\* b\*

[c] ls -l -d a\* b\*

[d] ls -l a\* -d b\*

3. Consider the following commands which have been entered one after the other, and indicate which output is generated by the last command.

```
$ mkdir a
$ cd a
$ ps > a
$ ls > b
$ cat b a
```

(a) cat: a: is a directory

(b) 

PID	TTY	TIME	CMD
29362	pts/3	0:00	-ksh
92598	pts/3	0:00	ps

  
a  
b

(c) a  
b  

PID	TTY	TIME	CMD
29362	pts/3	0:00	-ksh
92598	pts/3	0:00	ps

(d) a  

PID	TTY	TIME	CMD
29362	pts/3	0:00	-ksh
92598	pts/3	0:00	ps

(e) 

PID	TTY	TIME	CMD
29362	pts/3	0:00	-ksh
92598	pts/3	0:00	ps

  
a

4. Which are the four navigation keys in “vi”?

- (a) h - j - k - l
- (b) l - u - d - r
- (c) h - u - n - j
- (d) a - q - s - d

5. Give the name of the command which would compare two files and show its result in the following layout:

```
3c3
< Linux
---
> Unix
```

Answer: .....

6. I am in “vi” in command mode and I want to see the file list of a directory. For this I use the following command: (Select the most efficient solution)

- (a) <esc> :! ls -l <enter>
- (b) :!ls <enter>
- (c) :ls <enter>
- (d) This is not possible without closing “vi”

Look at the result below and answer the following three questions.

```
total 4
-rw-r--r--    2 tb00029  staff      74 Dec 26 16:50 a
-rw-r--r--    1 tb00029  staff         0 Dec 26 16:50 b
drwxr-xr-x    2 tb00029  staff    512 Dec 26 16:50 c
-rw-r--r--    2 tb00029  staff      74 Dec 26 16:50 d
lrwxrwxrwx    1 tb00029  staff         1 Dec 26 16:51 e -> c
```

7. Which command may have produced these lines?

- (a) ls -l
- (b) ls -al
- (c) ls -pl
- (d) ls -pe

8. In the same situation, which commands may have created file b? (2 answers)

[a] >b

[b] cat < b

[c] cat | b

[d] touch b

9. In the same situation, how has file d possibly been created?

(a) >d

(b) touch d

(c) cat < d

(d) cp a d

(e) ln a d

(f) ln -s a d

10. Starting from any directory, which command must be entered to return immediately to one's home directory?

(a) cd . <enter>

(b) cd - <enter>

(c) cd <enter>

(d) cd HOME <enter>

11. To copy all files with names starting with 'a' into the subdirectory 'c', I enter the following command:

(a) cp a\* c

(b) cp a? c/

(c) cp a[\*] c

(d) mv a? /c/a

(e) cp a\* /c/a

(f) mv a\* c/

12. Which command was entered to change the file permissions of 'a' from the first to the second form? (2 answers).

```
-rw-r--r--  2 tb00029  staff          74 Dec 26 16:50 a
.....
-rwxrw---x  2 tb00029  staff          74 Dec 26 16:50 a
```

- [a] `chmod 761 a`
- [b] `chmod 167`
- [c] `chmod +124 a`
- [d] `chmod ou+x,g+w,o-r a`
- [e] `chmod u+x a; chmod o+x;`
- [f] none of the above.
- [g] This is impossible with a single command. One needs a command to remove permissions and one to add permissions back.

13. Which command may give the following result?

```
PID    TTY    TIME CMD
35622  pts/0  0:01 -ksh
46828  pts/0  0:00 ps
Tue Nov 27 14:38:26 NPT 2005
Socrates
```

- (a) `ps#date#hostname`
- (b) `ps|date|hostname`
- (c) `ps>date>hostname`
- (d) `ps;date;hostname`
- (e) `ps/date/hostname`

14. For the following situation:

```
$ ls <enter>
abc  abc1  abc11  abc13  abc2  abc3
```

What will be the output of the following command?

```
$ ls abc[135]<enter>
```

- (a) abc1 abc3
  - (b) abc1 abc13 abc2 abc3
  - (c) abc1 abc3 abc5
  - (d) abc1 abc13 abc3
  - (e) abc1 abc2 abc3
  - (f) abc abc1 abc13 abc3
15. Which command permits to know how many login connections (result in digits only) are currently being used by user "root"?

- (a) `who|grep root|wc -l`
- (b) `who > grep root|wc -l`
- (c) `who|grep root>wc -l`
- (d) `who|grep >/dev/null|wc -l`
- (e) `grep root|who|wc -l`
- (f) `wc -l|grep root|who`
- (g) `wc -l<grep root<who`

16. Knowing the following result:

```
echo $abc <enter>
Tue Dec 27 15:15:57 NPT 2005
```

Which command was used to initialise the variable 'abc' with bash or Korn shell?

- (a) `set abc=date`
- (b) `abc=date`
- (c) `abc="date"`
- (d) `$abc=$date`
- (e) `abc=$(date)`
- (f) `abc=exec(date)`
- (g) `$abc=(date)`

17. Give the sequence of key presses and commands needed to run the script named "s" in background, then bring it to foreground, and finally interrupt and then kill it.

- (a) s<enter>  
ctrl-z  
fg %1<enter>  
stop %1<enter>
- (b) s<enter>  
ctrl-z<enter>  
fg %1<enter>  
stop %1<enter>  
kill %1<enter>
- (c) s<enter>  
fg %1<enter>  
ctrl-z  
stop %1<enter>  
kill %1<enter>
- (d) s<enter>  
ctrl-z<enter>  
fg %1<enter>  
kill %1<enter>
- (e) s<enter>  
fg %1<enter>  
ctrl-z  
kill %1<enter>

18. Which variant of the command "find" corresponds to the following search?

Content of the directory:

```
-rw-r--r--  1 tb00029  staff           0 Dec 27 14:48 abc
-rw-r--r--  1 tb00029  staff           0 Dec 27 14:48 abc1
-rw-r--r--  1 tb00029  staff           0 Dec 27 14:48 abc11
-rw-r--r--  1 tb00029  staff           0 Dec 27 14:54 abc13
-rw-r--r--  1 tb00029  staff           0 Dec 27 14:48 abc2
-rw-r--r--  1 tb00029  staff           0 Dec 27 14:49 abc3
drwxr-xr-x  2 tb00029  staff          512 Dec 27 16:10 abc4
drwxr-xr-x  2 tb00029  staff          512 Dec 27 16:11 abc5
```

Wanted result of the 'find' command:

```
drwxr-xr-x  2 tb00029  staff          512 Dec 27 16:10 ./abc4
drwxr-xr-x  2 tb00029  staff          512 Dec 27 16:11 ./abc5
```

- (a) find . -name "abc[345]" -type d
- (b) find . -name "abc[345]" -type d | ls -ltr
- (c) find abc[345] -type d -exec ls -l {} \;
- (d) find . -name 'abc[345]' -type d -exec ls -ld {} ' ';
- (e) find . -name -type d -exec ls -ld {} " ";
- (f) find . -name abc\[345\] -type d -exec ls -l {} \;

19. Which command permits to select from the file of users, those working in either ksh or csh? Make use of the following file content.

```
> cat /etc/passwd
root:!:0:0:root:/root:/usr/bin/sh
tb00804:!:202:1:Koen:/home/tb00804:/usr/bin/ksh
tb00041:!:448:1:Peter:/home/tb00041:/usr/bin/bash
student1:!:297:103:Student 1:/opt/bmc/pem/u/student1:/usr/bin/csh
student2:!:298:103:Student 2:/opt/bmc/pem/u/student2:/usr/bin/bash
team00:!:203:205:Student 00:/home/curaix/team00:/usr/bin/ksh
team01:!:204:205:Student 01:/home/curaix/team01:/usr/bin/ksh
```

..... result of the command ...

```
tb00029:!:202:1:Koen:/home/tb00029:/usr/bin/ksh
student1:!:297:103:Student 1:/opt/bmc/pem/u/student1:/usr/bin/csh
team00:!:203:205:Student 00:/home/curaix/team00:/usr/bin/ksh
team01:!:204:205:Student 01:/home/curaix/team01:/usr/bin/ksh
```

- (a) `grep '/ksh' /etc/passwd ; grep '/csh' /etc/passwd`
  - (b) `grep '/ksh' /etc/passwd | grep '/csh'`
  - (c) `grep '/[kc]sh$' /etc/passwd`
  - (d) `grep '/(klc)sh' /etc/passwd`
  - (e) `grep '[kc]sh^' /etc/passwd`
20. Give the name of the command that displays the documentation of an other command.

Answer: .....

# EVALUATION.

Here are the correct answers to all questions:

1. a
2. a c
3. c
4. a
5. diff
6. b
7. a
8. a d
9. e
10. c
11. a
12. a d
13. d
14. a
15. a
16. e
17. e
18. d
19. c
20. man

Give 1 point per correctly answered question, also for questions with multiple correct answers.

If your score is more than 80%, you do not have to follow this course. You have sufficient background to follow one of the courses [Linux/UNIX for advanced users](#), [Linux/UNIX shell programming](#), or one of the other courses in our [UNIX course programme](#).

When you have a score between 50% and 80%, following the course can improve your knowledge.

When your score is less than 50%, we strongly suggest you follow the [Linux/UNIX fundamentals](#) course.