

# Linux Homework Check Yourself Sheet

This file provides sources to learn Linux and Bash and some exercises in various topics to practice and test yourself.

## Sources

<https://linuxjourney.com/>

<https://linuxsurvival.com> <https://devhints.io/bash>

## Quiz Yourself

### File System

1. What does 'ls -ltr' do?
2. When you use 'cd' to navigate, what does each of these identifiers mean:
  - a. -
  - b. ..
  - c. /
  - d. ~
3. How can you create a structure of multiple subdirectories in one line, e.g. dir1/dir2/dir3
4. What is a symbolic link and how do you create it?
5. What does each of these file permissions mean:
  - a. u+x
  - b. o-r
  - c. a+rw
  - d. go-w
  - e. 774
  - f. 660

6. How do you change a file's... :
  - a. Permissions
  - b. Owner
  - c. Group

### String manipulation

1. Print all lines in `~/.bash_profile` that are not empty and not comments.  
Find at least 2 ways to do this.
2. Print number of empty lines in `~/.bash_profile`.
3. Switch all appearances of “buffalo” with “badger” in the following string:  
*An old buffalo watches a young buffalo playing in the grass with another buffalo*
4. Print the third word in the following string:  
*no:such:thing:as:too:many:colons*
5. Write a line that deletes all files and directories under `~/my_dir/` that don't contain the string “boo” in the name.
6. How do you perform arithmetic operations in shell (e.g.  $5 + 2$ )? Find 3 ways using different commands.

### Environment

1. What environment variable holds your previous location? What does PATH hold?
2. How do you print all environment variables? How do you create a new one?
3. What do the next reserved variables mean:
  - a. `$#`
  - b. `$@`
  - c. `$?`
4. How do you run the previous command (without using arrows)? How do you print the number of arguments of the previous command?
5. Which command switches between users?

6. How do you know if a remote server is up? (! there is more than one answer)
7. How do you connect to a remote server? How do you copy files between 2 machines?
8. Which command shows monitoring of all processes running?
9. How can you find the process id(s) of 'bash'?
10. What commands help you find:
  - a. Path of current directory
  - b. Current user name
  - c. Name of the machine
  - d. Current time and date

### Important Miscellaneous

1. How do you know what script runs a command? (for example, 'ls' actually runs '/bin/ls')
2. How do you know what a command does? (there are at least 2 options for native shell commands)
3. Print all aliases in your shell (alias is a shortened version of a command + parameters you frequently use). How do you create a new one? Where are they stored?

### Fun Bonus Escape Rooms

[CMD Challenge](#) (includes more than 1)