

CS312 Homework #1

January 11, 2016

Instructions

Please submit all answers as a single text file via T.E.A.C.H using the naming format `$onidusername-hw1.txt`. This homework is due at 4pm on Monday, Jan 18th.

Questions

1. List four tasks that system administrators are expected to perform on a regular basis.
2. List the four early Linux distributions that most modern distributions are based off of.
3. Which distribution is CentOS a re-compilation of?
 - (a) Fedora
 - (b) Debian
 - (c) Redhat Enterprise Linux
 - (d) Slackware
4. Which manpage section includes standard file format information?
 - (a) 8

- (b) 5
 - (c) 1
 - (d) 9
5. Select any of the following which is a communication channel that's created for every process in Linux.
- (a) STDDEBUG
 - (b) STDOUT
 - (c) STDLOG
 - (d) STDERR
 - (e) STDIN
6. Which bash argument prints each command that is run before executing it?
- (a) -x
 - (b) -c
 - (c) -p
 - (d) -v
7. What command is used to count the number of lines, words or characters in a file?
- (a) count
 - (b) words
 - (c) count-lines
 - (d) wc
8. Write a regular expression which matches a US zip code.
9. Given the following `sshd_config` authentication options, what is the suggested configuration? Please use either `yes` or `no` for each.
- (a) `RhostsAuthentication`
 - (b) `RhostsRSAAuthentication`

- (c) `RSAAuthentication`
 - (d) `PasswordAuthentication`
 - (e) `PermitRootLogin`
10. Please correctly order the following boot steps.
- Administrator intervention (single-user mode only)
 - Loading and initialization of the kernel
 - Reading of the boot loader from the master boot record
 - Device detection and configuration
 - Execution of system startup scripts
 - Creation of kernel processes
11. Which directory contains network interface settings on Redhat
- (a) `/etc/network`
 - (b) `/etc/sysconfig/network-scripts`
 - (c) `/etc/network-interfaces`
 - (d) `/etc/conf.d/net`
12. Given the following `sudoers` config:
- ```
Cmdnd_Alias SHELLS = /bin/sh, /bin/bash
john ALL = (ALL), !SHELLS
```
- The user `john` has the ability to run a shell as root
- (a) True
  - (b) False
13. The `passwd` command does not require `setuid` to be set.
- (a) True
  - (b) False
14. Please correctly order the fields in a `/etc/passwd` file
- Login shell

- \_\_\_ UID (user ID) number
- \_\_\_ Encrypted password placeholder
- \_\_\_ Home directory
- \_\_\_ Default GID (group ID) number
- \_\_\_ 'GECOS' information
- \_\_\_ Login name

15. Which is the proper command to directly edit the `/etc/passwd` file?

- (a) `vipw`
- (b) `vim /etc/passwd`
- (c) `useredit`
- (d) `sudo vim /etc/passwd`

16. Provide the command (including the arguments) that creates a user with the following settings:

- (a) Login name: `john`
- (b) Shell: `/bin/false`
- (c) Home directory: `/home/john`
- (d) UID: `4000`

17. If the `unmask` is set to `022`, the default file permissions for **new files** would be:

- (a) `723`
- (b) `023`
- (c) `644`
- (d) `744`

18. The package manager that has support for remote repositories in CentOS is:

- (a) `yum`
- (b) `apt`

(c) rpm

(d) deb

19. Which top-level directory contains information about running processes?

(a) /dev

(b) /sys

(c) /kernel

(d) /proc

20. Given the following bash script:

```
VAR="The cow is brown."
echo ${VAR/brown/black and white}
```

What would it print on the prompt?

(a) The cow is black and white.

(b) The cow is brown.

(c) The cow is black.

(d) The cow is and white.