**11) What is command substitution?**

Command substitution is one of the steps being performed every time commands are processed by the shell. The shell executes only those commands that are enclosed in backquotes. This will then replace the standard output of the command and displayed on the command line.

**12) What is a directory?**

Every file is assigned to a directory. A directory is a specialized form of a file that maintains a list of all files in it.

**14) You have a file called tonky in the directory honky. Later you add new material to tonky. What changes take place in the directory, inode, and file?**

The directory entry is unchanged since the name and inode number remain unchanged. In the inode file, the file size, time of last access, and time of last modification are updated. In the file itself, the new material is added.

**15) Describe file systems in UNIX**

[](https://www.guru99.com/images/1/101818_0823_Top50UnixIn1.png)

Understanding file systems in UNIX has to do with knowing how files and inodes are stored on a system. What happens is that a disk or portion of a disk is set aside to store files and the inode entries. The entire functional unit is referred to as a file system.

Tree-like structure of directories and files

**18) Briefly describe the Shell's responsibilities**

* program execution
* variable and file name substitution
* I/O redirection
* pipeline hookup
* environment control
* interpreted programming language
* **20) What are the differences among a system call, a library function, and a UNIX command?**
* A system call is part of the programming for the kernel. A library function is a program that is not part of the kernel but which is available to users of the system. UNIX commands, however, are stand-alone programs; they may incorporate both system calls and library functions in their programming.

21) difference between diff and cmp

Diff: show all the different line of two file wants to make it identical

Cmp: shows the first byte that is not equals

**24) What is the use of -l when listing a directory?**

-l, which is normally used in listing command like ls, is used to show files in a long format, one file per line. Long format refers to additional information that is associated with the file, such as ownership, permissions, data, and filesize.

**26) What is a superuser?**

A superuser is a special type user who has open access to all files and commands on a system. Note that the superuser's login is usually root, and is protected by a so-called root password.

**27) How do you determine and set the path in UNIX?**

Each time you enter a command, a variable named PATH or path will define in which directory the shell will search for that command. In cases wherein an error message was returned, the reason maybe that the command was not in your path, or that the command itself does not exist. You can also manually set the path using the "set path = [directory path]" command.

Set: shell variable

Env: user variable

**33) What is parsing?**

Parsing is the process of breaking up of a command line into words. This is made possible by using delimiters and spaces. In the event that tabs or multiple spaces are part of the command, these are eventually replaced by a single space.

**35) How does the system know where one command ends and another begins?**

Normally, the newline character, which is generated by the ENTER or RETURN key, acts as the signpost. However, the semicolon and the ampersand characters can also serve as command terminators.

**38) What is the output of this command? $who | sort –logfile > newfile**

In this command, the output from the command "who" becomes the input to the "sort" command. At the same time, "sort" opens logfile, arranges it together with the output from the command "who", and places the final sorted output to the file newfile.

**42) Write a command that will find all text files in a directory such that it does not contain the word "amazing" in any form (that is, it must include the words Amazing, AMAZING, or aMAZINg)**

Answer:

grep –vi amazing \*.txt

grep –v 没有