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Assignment 1  
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1. *What is the Linux Operating System?*Linux is an open source Unix-like operating system that was originally developed by Linus Torvalds. An operating system manages the communication between the software the user uses (applications) and the hardware.
2. *Name at least 3 major parts of what makes up the Operating System?*For Linux, three of the major parts are the kernel, the GNU utilities, and the user interface (example: graphical desktop environment).
3. *The Kernel is the heart of the Linux Operating System. How can you tell what version of the kernel you are running?*run  
   **uname -a**  
   Output will have the major.minor.release (UPDATE: apparently outdated). Example  
   **
4. *What are the parts of the Kernel and what do they do?*
   1. System Memory management – manages both the physical memory and can also manage virtual memory on the hard disk (swap space)
   2. Software Program Management – maintains and allows certain processes to run based on the run levels
   3. Hardware Management – Using driver code, the kernel can pass data back and forth to the device
   4. Filesystem Management – Can read and write data to and from hard drives in different filesystems
5. *What is a Process?*A running program inside Linux
6. *What does running in the foreground and running in the background means?*A process running in the foreground will display output on a display, while a process running in the background does not.
7. *What is the name of the first process that the Linux system creates?*The **init process**
8. *Kernel communicate with devices through Drivers ( True or False )\_\_\_\_***True***.*
9. *There is no need to rebuild the kernel when you install new devices because Modules allow you to insert and remove Driver code in the Live Kernel. ( True or False)\_\_\_\_.***True** (at least now, it is true)
10. *All devices in Linux are identified by the kernel as Files. The types of files are Character, Block and Network.(True or False)\_\_\_\_.***True.** The three classification of device files are character, block, and network.
11. *Describe what a character device is and give one example.*A character device, for example, modems, are devices that only handle one character at a time.
12. *Block devices handles data blocks at a time--example are Disk Drives--(True or false)***True**. Block deices can handle data in large blocks at a time.
13. *Which kind of file type will be used to send packets?***Network** device file type is used to send package
14. *What is the name of the special device files created by Linux for all devices on the system and makes use of a Major number and a Minor Number? (Nodes)*Nodes are special device files that use a unique major and minor device number pair to identify each device to the Linux kernel.
15. *What is a File System?*A file system controls how data is read and written to and from hard drives.
16. *List at least 3 Linux file system types?*ext, ext3, ReiserFS
17. *What is GNU? Who started the concept?*GNUS’s Not Unix is a set of Unix utilities created by Richard Stallman
18. *Describe the purpose of the SHELL*The shell is an interactive utility which allows users to start programs, manage files, and manage processes. It is a command interpreter.
19. *What piece of software works directly with your Video card and Monitor in the PC when it comes to presenting graphics?*X Window
20. *List at least 2 Desktops for Linux.*KDE (K Desktop Environment), GNOME (GNU Network Object Model Environment)
21. *What do you call a complete Linux system package?*A complete Linux sytem package is called a Distribution.
22. ***What is a Live CD and name at least 3 live Distros.  ( Allows you to boot your PC and run Linux w/o installing anything on the hard drive.) [ PCLinuxOS, Knoppix, Ubuntu, Puppy)*A Live CD lets a user use Linux from a CD 9or other bootable device without installing on the hard drive. Examples include Knoppix, Slax, and Puppy Linux**
23. *What is a Console?*A console is a simple terminal, originally just a directly plugged in monitor and keyboard interface. A Linux console emulates that with a simple shell command line interface on the monitor.
24. *When Linux starts, it creates many virtual consoles. ( True or False)\_\_\_\_\_.***True**
25. *CLI (command line interface) was the only means of accessing Linux before the Graphical User Interfaces were developed(True or False) \_\_\_\_\_.***True**
26. *How to access the virtual console: CTRL + ALT + { F1 to F7 } Depending on the virtual console you want to use.*Not really a question here, though depending on the distribution it may not use all F1 through F7.
27. *What two things must every user have to log onto a Linux system?*User ID and Password
28. *How do you see what shell you are in?*Run  
    **echo $0**  
    **ps -p $$** # this works too:**For example, I’m using the bash shell on virtual console 2
29. *Linux is an operating system and has a hierarchical file system that begins with the root directory '/'.  All files and directories are created relative to the '/' directory( True or False)?***True.** Everything branches off from the root directory
30. *How do you switch user from one user to another?*To switch without reading profile, run  
    **su <username>**or to switch and read profile  
    **su - <username>**