1. **What is the name of the standard Linux shell?**

BASH

1. **Which of these shells were predecessors of the BASH shell?**

|  |  |  |
| --- | --- | --- |
|  | B. | csh, sh, ksh |

1. **Who created the csh?  (C shell - same guy who created vi)**

Bill Joy

1. **What is the correct order of files for your system to process shell variables upon startup and through the login process?**

|  |  |  |
| --- | --- | --- |
|  | D. | * + /etc/profile   + ~/.bash\_profile or ~/.bash\_logon   + ~/.bashrc |

1. **What profile file is processes on a non-login? (when you launch a new terminal window?) (give the absolute path using ~)**

~/.bashrc

1. **How can you display your system path from the command line? (Give the command and then variable)**

**echo** $PATH

1. **What file would you edit in order to change your default system path permanently? (give the absolute path using ~)**

~/.bash\_profile

1. **What does your system path variable $PATH do?**

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| --- | --- | --- |
|  | B. | The PATH variable holds a list of locations on the sytem where system executables are stored.  Every  command that is typed at the commandline is parsed and the system looks for a filename match in all the locations that are in the PATh variable. |

1. **What are the 3P's of Linux Problems?**

|  |  |  |
| --- | --- | --- |
|  | B. | Path, Permission, dePendencies |

1. **What is the two character code and path to the bash interpreter  in the first line of a shell script to tell the system to use the BASH interpreter? (The first line of every BASH shell script)  Assume that bash in is located at /bin/bash for this exercise.**

#!/bin/bash

1. **What character is used to make a comment in a shell script?**

#

1. **Shell scripts always have to be written in BASH or can they be written in other languages such as Python, Perl, or Ruby.**

 True

1. **What is the difference between these commands:   
   mkdir /root/mydir; cp /etc/hosts /root/mydir**

**mkdir /root/mydir && cp /etc/hosts /root/mydir**

|  |  |  |
| --- | --- | --- |
|  | III. | ; means that the first command will execute and then the second command will execute regardless if the first command is successful.  && means that the second command will only execute if the first command succesfully executes |

1. **What is the proper syntax to assign a shell variable a value in BASH? ( VAR is the name of the variable and x is the value of the value.)**

VAR=x

1. **It is ok to put a space when assigning a shell varialbe  Example: $PI = 3.14159**

 False

1. **What command and options can you use to see all the processes that are running on your system?**

|  |  |  |
| --- | --- | --- |
|  | D. | ps –ef |

1. **On older Linux systems using SysVInit the init demon was assigned PID 1.  In Fedora 20 what process now has PID 1?**

|  |  |  |
| --- | --- | --- |
|  | C. | systemd |

1. **Name the two major families of Linux distributions that all current distros descend from**

|  |  |  |
| --- | --- | --- |
|  | B. | Redhat & Debian |

1. **In the bash shell what is the character shortcut to re-execute the previous command you just executed?**

!!

1. **What key on the keyboard preforms auto-complete in the bash shell? (use all caps)**

TAB

1. **What command would you use to change a file that is 644 to give it (Owner only) permission to execute?**

**(Assume the file name is finalanswers.txt and you are in that directory and you have correct permissions (no tricks) (Use numbering not +x)**

chmod 744 finalanswers.txt

1. **The control structures in BASH programming are different in concept from C, C++, and Java control structures.**

 False

1. **this is a valid if statement in BASH:**

**if [ $# -eq 0 ]**

**then**

**echo "Not enough arguments!"**

**fi**

 True

1. **In a Bash shell script what does the shell variable $# tell you?**

|  |  |  |
| --- | --- | --- |
|  | C. | The number of positional parameters passed to a shell script |

1. **Who created systemd?**

|  |  |  |
| --- | --- | --- |
|  | D. | Lennart Poettering |

1. **SysVInit has runlevels - what is the systemd equivillent?**

targets

1. **What is the command that is used to manage services under systemd?  (hint under SysVInit it was the service command)**

systemctl

1. **What does the command dmesg do?**

|  |  |  |
| --- | --- | --- |
|  | A. | Show out put of the system log (/var/log/messages) without needing sudo permissions |

1. **In the kill commmand what SIG would you issue to restart a process and have it reread a config file?**

**Give the kill command and the number of the correct SIGNAL)**

Kill -1 SIGHUP

1. **In the kill commmand what SIG would you issue to stop a process (equivilent of ctrl+C)**

Kill -2 SIGHNT

1. **In the kill commmand what SIG would you issue to stop a zombie process that is refusing to accept any signals (ungracefully)**

Kill -9 SIGKILL

1. **/etc/hostname file and function was replaced by what ctl in systemd?**

hostnamectl

1. **What is the location of all the network configuration files in a Fedora system?**

/etc/sysconfig/network

1. **What is the default filesystem used on a majority if Linux distros today?**

ext4

1. **What is the default filesystem used on RHEL 7 and why?**

|  |  |  |
| --- | --- | --- |
|  |  | XFS - it is designed to handle larger files and larger amounts of storage better by design than ext4 |

1. **What is the default file system used on USB drives and why?**

|  |  |  |
| --- | --- | --- |
|  | A. | FAT - because it is a standard and compatible on every operating system |

1. **What command do you use to add a filesystem to your Linux Distro (hint think carrying large tape reels)**

|  |  |  |
| --- | --- | --- |
|  | D. | mount |

1. **Every time a system boots is "mounts" all the system partitions:**

**/**

**/boot**

**swap**

**What configuration file holds this information and the fielsystem mappings to devices? (just the location of the file)**

/etc/fstab

1. **What command would let you format a partition with etx4 file system?**

|  |  |  |
| --- | --- | --- |
|  |  | mkfs4 -t ext4 |

1. **The openSSH suite replaces what set of insecure tools?**

|  |  |  |
| --- | --- | --- |
|  | A. | telnet, rcp, rsh, sftp |

1. **What does the OpenSSH suite use to secure communication?**

|  |  |  |
| --- | --- | --- |
|  | C. | Public/Private key encryption |

1. **OpenSSH suite came from what operating system in the year 1999?**

|  |  |  |
| --- | --- | --- |
|  | C. | OpenBSD |

1. **What is the correct syntax for logging in remotely to an SSH server?**

|  |  |  |
| --- | --- | --- |
|  | A. | [username@hostname](mailto:username@hostname) |

1. **The password Tr0ub4dor&3  is an easy password for humans to remember and hard for computers to crack**

 False

1. **What is the command to generate a new RSA keypair?**

ssh-keygen -t rsa -b 8192

1. **What command is used to transfer your public/private key identity to a remote server for password-less authentication (just the command)?**

ssh-copy-id

1. **What is the name of the currently most common webserver on Linux?**

|  |  |  |
| --- | --- | --- |
|  | B. | Apache |

1. **What is the command from the commandline would you use to install the Apache webserver on Fedora 20 (assume sudo)?**

sudo yum install httpd

1. **What is the systemctl command to enable the Apache webserver service everytime the system boots (assume sudo)?**

sudo systemctl enable httpd.service

1. **Where is the location of the Apache webserver error\_log?**

**/var/log/httpd/error\_log**