

CNSE M55 (Ch 1 to 5)

Candidate: Ethan Bonavida (suborange)

Date: 11/20/2022 8:32:50 pm • **Time Spent:** 28:59

Score: 100%

▼ Question 1: ✓ Correct

Which of the following paths represents the root directory?

☐ /boot

☐ /root

☒ /

☐ /home/root

Explanation

The forward slash (/) character represents the root filesystem of the Linux system.

The /root directory is the root user's home directory. Do not confuse /root with the root filesystem (/).

The /home/root directory does not exist. The /home directory contains all users' home directories except for the root user.

The /boot directory contains the kernel and boot loader files.

References


 2.11.2 Filesystem Hierarchy Standard (FHS) Facts

q_dir_lp5_02.question.fex

▼ Question 2: ✓ Correct

You are installing Linux on an old computer with an old BIOS, and you are planning the partitions for the hard disk drive.



Which of the following directories SHOULD exist in the first 1024 cylinders of the hard disk drive?

- ☐ /var
-  ☒ /boot
- ☐ /bin
- ☐ /home

Explanation

The /boot partition must be completely within the first 1,024 cylinders on systems with older BIOS versions. This is because the disk is used via the BIOS during boot and BIOS can't handle more than 1,024 cylinders. Newer versions of the BIOS can handle disks with more than 1,024 cylinders.

References

-  **15.12.1 Security Best Practices**
-  **15.12.2 Security Best Practices Facts**

q_install_des_f_lp5_05.question.fex

▼ Question 3:

✓ Correct

Which of the following commands will move a file from one location to another?

☐ **copy -r**☐ **cp -d**☒ **mv**☐ **move****Explanation**












The **mv** command moves a file from one location to another.

The **move** command will most likely return an error unless an alias has been created.

The **copy -r** command will most likely return an error unless an alias has been created.

The **cp -d** command copies a file, but does not move it. The **-d** option (no-deference) will never follow symbolic links for the source file.

References

-  2.8.1 Directory Navigation
-  2.8.2 Navigate Directories
-  2.8.3 Directory Management
-  2.8.4 Manage Directories
-  2.8.5 Directory Management Facts
-  2.9.2 File Management
-  2.9.4 Manage Files
-  2.9.5 File Management Facts
-  2.10.1 Links
-  2.10.2 Create Links
-  2.10.3 Link Facts



2.12.2 Finding Linux Commands



2.12.3 Finding Files



2.12.4 File Search Facts



2.12.5 Content Search Utilities



2.12.6 Find File Content



2.12.7 Content Search Facts

q_fil_comm_f_lp5_03.question.fex

▼ Question 4:

✓ Correct

According to the Filesystem Hierarchy Standard (FHS), which of the following directories contains information about the system state and processes?

- ☐ /bin
- ➡ ☒ /proc
- ☐ /tmp
- ☐ /root

Explanation

Under the Filesystem Hierarchy Standard (FHS), the /proc directory contains information about the system state and processes. The Filesystem Hierarchy Standard (FHS) governs the unified file system for Linux systems by defining a standard set of directories, subdirectories, and files.

The /root directory is the root user's home directory. Do not confuse /root with the root of the system (/).

The /bin directory contains binary commands that are available to all users.

The /tmp directory contains temporary files created by programs during system use.

References

 2.11.2 Filesystem Hierarchy Standard (FHS) Facts

q_dir_lp5_04.question.fex

▼ Question 5:

✓ Correct

Which of the following directories is the home directory for the root user account?

- ➡ ☒ /root
- ☐ /home/root
- ☐ /
- ☐ /home

Explanation

The /root directory is the home directory for the root user account. Do not confuse /root with the root of the system (/).

The root of the system (/) represents the base of all directories governed by the Filesystem Hierarchy Standard (FHS).

The /home directory contains the user home directories by default.

The /home/root directory is not a valid home directory for the root users. Standard user accounts will have /home/*username* as their home directory.

References

 2.11.2 Filesystem Hierarchy Standard (FHS) Facts

q_dir_lp5_05.question.fex

▼ **Question 6:** ✓ Correct

You are working on a Linux distribution that uses systemd.

Which file in the `/usr/lib/systemd/system/` directory is text-based and used to start the services that support multiple users and support networking?

- ➡ ☒ **multi-user.target**
- ☐ **graphical.target**
- ☐ **init.d**
- ☐ **rc-sysinit.conf**
- ☐ **default.target**

Explanation

The `/usr/lib/systemd/system/multi-user.target` file is text-based and used to start the services that support multiple users and networking.

The `graphical.target` file in the `/usr/lib/systemd/system/` directory is used to start the services necessary for multiple users, networking, and graphical display on a system running systemd. The `default.target` file is in the `/etc/systemd/system` directory and is a symlink to the target file in the `/usr/lib/systemd/system/` directory that is the default boot target. The `rc-sysinit.conf` file is used to set the default runlevel on a system running Upstart. The `init.d` directory is used to set the default runlevel on a SysV init system.

References

 **4.4.3 System Service Facts**

q_services_lp5_02.question.fex

▼ Question 7: **✓ Correct**

Your company has implemented both Linux and Window servers. The system administrators use Windows desktops, so they have access to Windows administration tools. They routinely access the Windows servers using Windows Remote Desktop.

Which of the following implementations would allow the system administrators to connect to the Linux systems using Windows Remote Desktop?

- ☐ NX
- ☐ VNC
- ☒ **XRDP**
- ☐ SPICE

Explanation

xrdp is an open-source implementation of Microsoft's Remote Desktop Protocol. This technology allows a Windows machine to connect to a Linux system using Windows Remote Desktop.


VNC allows you to connect to and control a remote computer. It can transmit the keyboard and mouse events from the remote server back to the client computer.

NX is the remote desktop protocol developed by a company named NoMachine.

SPICE provides a complete open-source solution for remote access to virtual machines.

References

 **5.3.1 Remote Desktop**

 **5.3.2 Remote Desktop Facts**

q_remote_desktop_lp5_xrdp.question.fex

▼ **Question 8:**

✓ Correct

During installation, you need to make sure there is plenty of hard disk space allocated to the partition that is going to hold the entire Linux operating system.

Which of the following is the BEST mount point for this partition?

☐ /boot☐ /home☐ /usr☒ /**Explanation**

The root partition must have a large amount hard disk space allocated during installation to accommodate the entire Linux operating system. The mount point for the root partition is /.

The /boot partition contains the kernel and bootloader files.

The /home partition contains the user home directories (by default).

The /usr partition contains system commands and utilities.

References 15.12.1 Security Best Practices 15.12.2 Security Best Practices Facts

q_install_facts_lp5_03.question.fex

▼ **Question 9:**

✓ Correct

Which of the following desktops is the default for many Linux distributions, such as Fedora and Ubuntu?

☐ Unity☒ **GNOME**☐ MATE☐ KDE**Explanation**

GNOME is one of the most popular desktop environments and is the default GUI for many distributions, such as Fedora and Ubuntu. Gnome is an acronym for GNU Network Object Model.

References**5.2.1 Comparing Linux Desktops****5.2.2 Comparing Linux Desktops Facts**`q_desktops_lp5_gnome.question.fex`

▼ Question 10: ✓ Correct

Which of the following nano text editor features makes it easier for beginners to learn than the vi text editor?

- ➡ ☒ Keyboard shortcuts are displayed at the bottom of the editor.
- ☐ There are multiple operational modes.
- ☐ The software falls under the GNU General Public License.
- ☐ It is included in most Linux distributions.

Explanation





The nano text editor is considered by most beginning to be easier to learn because the keyboard shortcuts are displayed at the bottom of the editor.

While the nano text editor falls under the GNU General Public License which makes it essential free software, the vi text editor also falls under the BSD License of CDDL, which makes it free and open source software.

The nano text editor is included in most Linux distributions. The vi text editor is included in virtually every Linux distribution. However, this availability does not make one editor easier for beginners to learn.

The vi text editor has multiple operational modes. The nano editor does not. The vi editor interface is considered to be more complex due to these operational modes.


References

-  2.3.1 Text Editors
-  2.3.2 Use vi
-  2.3.3 Use nano
-  2.3.4 Text Editor Facts

q_vi_nano_11.question.fex

▼ Question 11: **✓ Correct**



Which of the following desktops emulates a Windows desktop, especially in the location of the menu options and bottom panel bar?

-  ☒ KDE
- ☐ GNOME
- ☐ MATE
- ☐ Unity

Explanation

KDE is an acronym for K Desktop Environment. Like Cinnamon, KDE also emulates the Windows desktop; most of its menu options are located on the bottom panel bar. This panel bar can be customized to include favorite shortcuts to applications, services, and widgets. For example, as you look on the right side of this panel, you can see several options that are similar to Windows, such as the time, volume controls, and networking.

References

-  **5.2.1 Comparing Linux Desktops**
-  **5.2.2 Comparing Linux Desktops Facts**

q_desktops_lp5_kde.question.fex

▼ **Question 12:** ✓ Correct

Which of the following commands displays all lines within the MTS file that have the word "world" within them?

- ☐ find MTS world
- ➔ ☒ **grep world MTS**
- ☐ find world MTS
- ☐ grep MTS world

Explanation










The **grep world MTS** command searches for lines in the MTS file that contains the word "world".















The **grep MTS world** command searches for lines in the world file that contains the word "MTS".

The **find MTS world** command attempts to find the MTS and world files in the current directory.

The **find world MTS** command attempts to find the world and MTS files in the current directory.

References


-  2.8.1 Directory Navigation
-  2.8.2 Navigate Directories
-  2.8.3 Directory Management
-  2.8.4 Manage Directories
-  2.8.5 Directory Management Facts
-  2.9.1 Commands for Viewing Files
-  2.9.2 File Management
-  2.9.3 View File Contents
-  2.9.4 Manage Files

-  2.9.5 File Management Facts
-  2.10.1 Links
-  2.10.2 Create Links
-  2.10.3 Link Facts
-  2.12.2 Finding Linux Commands
-  2.12.3 Finding Files
-  2.12.4 File Search Facts
-  2.12.5 Content Search Utilities
-  2.12.6 Find File Content
-  2.12.7 Content Search Facts
-  2.13.1 Text Stream Processing
-  2.13.2 The awk and sed Commands
-  2.13.3 Process Text Streams
-  2.13.4 Text Stream Processing Facts

q_search_cf_lp5_04.question.fex

▼ Question 13: **✓ Correct**

Which component is responsible for loading and executing the initial process?

- ☐ primary boot loader
- ☐ BIOS
-  ☒ **OS kernel**
- ☐ initrd image

Explanation


The OS kernel stage loads and executes the initial (init) process. During this stage, the Linux kernel:

1. Resides in the /boot directory.
2. Initializes the hardware on the system.
3. Locates and loads the initrd script to access the linuxrc program which configures the operating system.
4. Dismounts and erases the RAM disk image (initrd image).
5. Looks for new hardware and loads the drivers.
6. Mounts the root partition.
7. Loads and executes the initial process (init or systemd).

The BIOS is responsible for verifying system hardware, reading settings from the CMOS, detecting hardware changes, and passing control of the system to the boot loader. The initrd image is used to mount the actual file system and loads the kernel into RAM. The primary boot loader takes one of two actions:

- Examines the partition table marked as bootable and then loads the boot sector from that partition. This boot sector contains a secondary boot loader, which locates an OS kernel.
- Locates an OS kernel directly, without using a secondary boot loader.


References

 **4.1.2 Linux Boot Process Facts**

q_bootproc_lp5_07.question.fex

▼ Question 14: **✓ Correct**

Linux provides technology that allows the user to remotely view a graphical user interface and control mouse and keyboard events. Which of the following technologies establishes a connection with a remote computer using a viewer on one end and a server on the remote end?

-  ☒ **VNC**
- ☐ **SPICE**
- ☐ **XRDP**

Explanation

VNC allows you to connect to and control a remote computer. It can transmit the keyboard and mouse events from the remote server back to the client computer.

xrdp is an open-source implementation of Microsoft's Remote Desktop Protocol. This technology allows a Windows machine to connect to a Linux system using Windows Remote Desktop.

SPICE provides a complete open-source solution for remote access to virtual machines.

References

 **5.3.1 Remote Desktop**

 **5.3.2 Remote Desktop Facts**

q_remote_desktop_lp5_vnc.question.fex

▼ Question 15: **✓ Correct**

Which of the following man page sections shows a list of options available for a Linux command and explains what the options do?

- ☐ TITLE
- ☐ SYNOPSIS
- ☐ NAME
- ☒ **DESCRIPTION**

Explanation


The DESCRIPTION section typically lists the options that are available for the command and explains their purpose and use.

The SYNOPSIS section shows a brief description of the syntax for using the command.

The NAME section gives the name of the command and a short description of what the command does.

The TITLE section shows the title of the man page and the section of the manual it is found in.

References

 **2.2.3 Help Facts**

q_help_lp5_03.question.fex

▼ Question 16: ✓ Correct

Which of the following has a process ID (PID) of 1?

- ☐ The boot loader
- ☐ The BIOS
- ☐ The OS kernel
- ➡ ☒ The initial process

Explanation

The initial process have the process ID (PID) of 1 because it is the first process to run on the system. On a SysV init Linux system, the name of the initial process is *init*. On a systemd Linux system, the initial process is named *systemd*.


The BIOS, boot loader, and OS kernel do not receive PIDs.

References**15.4.2 Remove Unneeded Services and Scan Ports**

q_bootproc_lp5_06.question.fex

▼ Question 17: **✓ Correct**

Which of the following is the standard shell for MOST Linux computers?

- ☐ C-shell
-  ☒ **Bourne-again shell (bash)**
- ☐ Korn
- ☐ Bourne shell
- ☐ tcsh

Explanation

The Bourne-again shell (bash) is the standard shell used in most Linux computers. It uses commands similar to a UNIX shell. Bash includes features such as:

- Command completion when pressing the tab key
- Command history
- Improved arithmetic functions

The Bourne shell is an earlier version of the Bash shell. It is similar in many ways.







Sh is the original shell created by Steve Bourne.

The Korn shell was developed by David Korn. Ksh has scripting features not found in bash.

The C-shell uses syntax similar to syntax used in the C programming language.

The tcsh shell is an improved version of csh. It offers command line editing and completion features not available with csh.

References

-  **2.5.1 Environment Variables**
-  **2.5.2 Manage Environment Variables**
-  **2.5.3 Environment Variable Facts**
-  **14.1.1 Bash Scripting Overview**
-  **14.1.2 Bash Script Execution**
-  **14.2.1 Bash Shell Environments and Shell Variables**



14.2.2 Bash Shell Parameters, User Variables and Expansions



14.2.3 Bash Shell Variables and Parameters



14.2.4 User Variables and Shell Arithmetic



14.2.5 Arrays and Expansions



14.2.6 Shell Environments, Bash Variables and Parameters Facts

q_shell_lp5_01.question.fex

▼ **Question 18:** ✓ Correct

A user has requested that each time she presents credentials to log in, a particular entry be written to a log file. This action will only apply to her, and she is using the bash shell. Which of the following configuration files is the BEST to modify to enable this action?

- ☐ **.bashrc**
- ☐ **/etc/profile**
- ☐ **.sh**
- ➡ ☒ **.profile**

Explanation



The **.profile** file exists within the user's home directory and is executed upon each login. Modifying this script will enable this action for only this user.

The **.sh** file is a custom hidden script file, but would not be executed during user login.

While typically the **.bashrc** file is run by a login script, all Linux distributions don't guarantee to run this file during user logins.

The **/etc/profile** file will run for all users instead of one specific user.

References

-  **2.5.1 Environment Variables**
-  **2.5.3 Environment Variable Facts**

q_shell_conf_lp5_02.question.fex

▼ Question 19: ✓ Correct

Within the **/var** directory is a subdirectory named **backup**. Ken, a Linux administrator, needs to delete the directory **backup** and any files that it contains. He changes directory focus to **/var**.

Which of the following commands deletes the directory named **backup** and any file it contains?

- ☐ **rm backup/***
- ☐ **rm backup**
- ☐ **rm -r backup/***
- ➡ ☒ **rm -r backup**

Explanation










The **rm -r backup** command deletes the directories and all the files it contains.

The **rm backup/*** command only deletes the files in the **/var/backup** directory.

The **rm backup** command fails without the **-r** recursive switch.

The **rm -r backup/*** command only deletes the files in the **/var/backup** directory.

References

-  2.8.1 Directory Navigation
-  2.8.2 Navigate Directories
-  2.8.3 Directory Management
-  2.8.4 Manage Directories
-  2.8.5 Directory Management Facts
-  2.9.2 File Management
-  2.9.4 Manage Files
-  2.9.5 File Management Facts
-  2.10.1 Links



2.10.2 Create Links



2.10.3 Link Facts



2.12.2 Finding Linux Commands



2.12.3 Finding Files



2.12.4 File Search Facts



2.12.5 Content Search Utilities



2.12.6 Find File Content



2.12.7 Content Search Facts

q_dir_fil_f_lp5_02.question.fex

▼ **Question 20:** ✓ Correct

Which of the following commands shows the value of the **LANG** environmental variable currently set for the language the operating system uses?

- ☐ **echo %LANG%**
- ☐ **echo LANG**
- ☐ **echo %LANG**
- ➡ ☒ **echo \$LANG**

Explanation









The **echo** command displays the results of an expression. An expression formed with a dollar sign (\$) followed by a variable name results in the assigned value of the variable.

The **echo LANG** command gives the results "LANG" without translating the variable to its assigned value.

The **echo %LANG** command gives the results "%LANG" without translating the variable to its assigned value. The percent (%) character is used for substitutions in Windows command line scripts.

The **echo %LANG%** command gives the results "%LANG%" without translating the variable to its assigned value. The percent (%) character is used for substitutions in Windows command line scripts.

References

-  2.5.1 Environment Variables
-  2.5.2 Manage Environment Variables
-  2.5.3 Environment Variable Facts
-  14.1.1 Bash Scripting Overview
-  14.1.2 Bash Script Execution
-  14.2.1 Bash Shell Environments and Shell Variables
-  14.2.2 Bash Shell Parameters, User Variables and Expansions
-  14.2.3 Bash Shell Variables and Parameters



14.2.4 User Variables and Shell Arithmetic



14.2.5 Arrays and Expansions




14.2.6 Shell Environments, Bash Variables and Parameters Facts

q_envvft_lp5_01.question.fex

▼ Question 21: **✓ Correct**

Which of the following BEST describes the role of the Linux desktop?

- ☐ The Linux desktop manages input devices such as the mouse and keyboard and controls output to monitors and printers.
- ☐ The Linux desktop takes the information from the display server and renders it so that it can be displayed on the screen.
-  ☒ **The Linux desktop adds a series of tools and utilities to make the GUI useful.**
- ☐ The Linux desktop controls the placement and appearance of windows on a Linux computer.

Explanation

The desktop environment leverages the information created by the window manager or compositor and then adds a series of tools and utilities to make the graphical user interface useful. It ties all of your GUI components together into one cohesive environment. In most cases, the desktop gives the end user the look and feel of Windows, although each desktop version will vary in what is shown and how that information is accessed.

The window manager is responsible for the placement and appearance of windows.

Any rendering required is performed by either the compositor (for X11) or the Wayland client.

The display server (X11 or Wayland compositor) is responsible for getting the events from devices such as the keyboard.

References

 **5.2.1 Comparing Linux Desktops**

 **5.2.2 Comparing Linux Desktops Facts**

q_gui_lp5_04.question.fex

▼ **Question 22:** ✓ Correct

You are experiencing a problem with a SysV init network server. You want to bring the system down and try reseating the cards within it before restarting it.

Which command completely shuts down the system in an orderly manner?

➡ ☒ **init 0**

☐ **init 1**

☐ **init 5**

☐ **init 6**

Explanation

On a SysV init system, use the **init** utility to change runlevels.

- Runlevel 0 will shut the system completely down and require a manual reboot.
- Runlevel 1 places the system in single-user mode.
- Runlevel 5 places the system in the X Windows environment.
- Runlevel 6 forces an automatic system reboot.

References

 **4.5.4 Shutdown Facts**

q_shutdown_lp5_01.question.fex

▼ Question 23: **✓ Correct**

Which system component verifies the hardware and passes control of the computer to the boot loader?

- ☐ OS kernel
- ➡ ☒ BIOS
- ☐ Init
- ☐ CMOS


Explanation

The BIOS is responsible for verifying system hardware, reading settings from the CMOS, detecting hardware changes, and passing control of the system to the boot loader.

The boot process for a Linux computer includes the following general stages:

1. BIOS (in the BIOS stage, BIOS is loaded, and the system hardware is identified).
2. Boot loader (during the boot loader stage, BIOS gives control to the boot loader program to load the kernel into RAM).
3. OS Kernel (during the OS kernel stage, the Linux kernel takes over).
4. Init (during the Init stage, the initial [init or system] process determines which other programs to run, such as a login shell).


References

 **4.1.2 Linux Boot Process Facts**

q_bootproc_lp5_02.question.fex

▼ Question 24: **✓ Correct**

Which of the following partitions functions as virtual memory for a Linux system?

- ☐ /
- ☐ /var
-  ☒ **swap**
- ☐ /srv

Explanation

The swap partition functions as virtual memory for your Linux system. It allows the system to use more memory than it physically has installed.

/ is the root partition and is required to boot a Linux system. It is mounted at the root of the Linux file system.

The /srv partition contains files for services such as HTTP and FTP servers.

The /var partition contains data files that change constantly, such as:

- User mailboxes
- Print queues
- Log files

References

 **15.12.1 Security Best Practices**

 **15.12.2 Security Best Practices Facts**

q_install_facts_lp5_02.question.fex

▼ **Question 25:** ✓ Correct

You are trying to pipe data from the **cat** command to another program, but the data output does not make sense. You believe that the system's locale is corrupting the output. To test your hypothesis, you decide to change a locale environment variable.

Which of the following changed variable would MOST likely produce correct data?

- ➡ ☒ **LANG=C**
- ☐ LC_COLLATE=C
- ☐ LC_NAME=C
- ☐ LC_NUMERIC=C

Explanation

When the LANG variable is set to LANG=C, programs will display their output without passing it through the locale translation. This is helpful when the output is being corrupted by the system's locale variables and will help avoid some types of problems, such as when using pipelines and scripts that pass on a program's data to another program in binary form.

Changing any of the following to *variable=C* will not provide the desired results.

LC_NAME specifies personal name format. This includes things such as whether the surname comes first or last.

LC_NUMERIC defines formatting for numeric values that are not monetary. It affects things such as the thousands separator and the decimal separator.

LC_COLLATE defines the alphabetical ordering of strings. This affects the output of sorted directory listings.

References

 **3.3.3 Localization Facts**

q_local_facts_lp5_04.question.fex