

101-500

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Exam A

QUESTION 1

Which umask value ensures that new directories can be read, written and listed by their owning user, read and listed by their owning group and are not accessible at all for everyone else?

- A. 0750
- B. 0027



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- C. 0036
- D. 7640
- E. 0029

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 2

Which of the following commands changes the number of days before the ext3 filesystem on /dev/sda1 has to run through a full filesystem check while booting?

- A. tune2fs -d 200 /dev/sda1
- B. tune2fs -i 200 /dev/sda1
- C. tune2fs -c 200 /dev/sda1
- D. tune2fs -n 200 /dev/sda1

E. `tune2fs --days 200 /dev/sda1`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 3

Which is the default percentage of reserved space for the root user on new ext4 filesystems?

- A. 10%
- B. 3%
- C. 15%
- D. 0%
- E. 5%

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:



QUESTION 4

What does the command `mount --bind` do?

- A. It makes the contents of one directory available in another directory
- B. It mounts all available filesystems to the current directory
- C. It mounts all user mountable filesystems to the user's home directory
- D. It mounts all file systems listed in `/etc/fstab` which have the option `userbind` set
- E. It permanently mounts a regular file to a directory

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 5

Consider the following directory:

```
drwxrwxr-x 2 root sales 4096 Jan 1 15:21 sales
```

Which command ensures new files created within the directory `sales` are owned by the group `sales`? (Choose two.)

- A. `chmod g+s sales`
- B. `setpol -R newgroup=sales sales`
- C. `chgrp -p sales sales`
- D. `chown --persistent *.sales sales`
- E. `chmod 2775 sales`

Correct Answer: AE

Section: (none)

Explanation



Explanation/Reference:

QUESTION 6

In order to display all currently mounted filesystems, which of the following commands could be used? (Choose two.)

- A. `cat /proc/self/mounts`
- B. `free`
- C. `lsmounts`
- D. `mount`
- E. `cat /proc/filesystems`

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 7

Which `chown` command changes the ownership to `dave` and the group to `staff` on a file named `data.txt`?

- A. `chown dave/staff data.txt`
- B. `chown -u dave -g staff data.txt`
- C. `chown --user dave --group staff data.txt`
- D. `chown dave+staff data.txt`
- E. `chown dave:staff data.txt`

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:



QUESTION 8

When considering the use of hard links, what are valid reasons not to use hard links?

- A. Hard links are not available on all Linux systems because traditional filesystems, such as `ext4`, do not support them
- B. Each hard link has individual ownership, permissions and ACLs which can lead to unintended disclosure of file content
- C. Hard links are specific to one filesystem and cannot point to files on another filesystem
- D. If users other than `root` should be able to create hard links, `su` has to be installed and configured
- E. When a hard linked file is changed, a copy of the file is created and consumes additional space

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 9

Which daemon handles power management events on a Linux system?

- A. `acpid`
- B. `batteryd`
- C. `pwrmgntd`
- D. `psd`
- E. `inetd`

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 10

Which of the following statements are true about the boot sequence of a PC using a BIOS? (Choose two.)

- A. Some parts of the boot process can be configured from the BIOS
- B. Linux does not require the assistance of the BIOS to boot a computer
- C. The BIOS boot process starts only if secondary storage, such as the hard disk, is functional
- D. The BIOS initiates the boot process after turning the computer on
- E. The BIOS is started by loading hardware drivers from secondary storage, such as the hard disk

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 11

What is true regarding UEFI firmware? (Choose two.)

- A. It can read and interpret partition tables
- B. It can use and read certain file systems
- C. It stores its entire configuration on the `/boot/` partition

- D. It is stored in a special area within the GPT metadata
- E. It is loaded from a fixed boot disk position

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 12

When is the content of the kernel ring buffer reset? (Choose two.)

- A. When the ring buffer is explicitly reset using the command `dmesg --clear`
- B. When the ring buffer is read using `dmesg` without any additional parameters
- C. When a configurable amount of time, 15 minutes by default, has passed
- D. When the kernel loads a previously unloaded kernel module
- E. When the system is shut down or rebooted

Correct Answer: AE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 13

A Debian package creates several files during its installation. Which of the following commands searches for packages owning the file `/etc/debian_version`?

- A. `apt-get search /etc/debian_version`
- B. `apt -r /etc/debian_version`
- C. `find /etc/debian_version -dpkg`
- D. `dpkg -S /etc/debian_version`
- E. `apt-file /etc/debian_version`

Correct Answer: D



Section: (none)

Explanation

Explanation/Reference:

QUESTION 14

What is contained on the EFI System Partition?

- A. The Linux root file system
- B. The first stage boot loader
- C. The default swap space file
- D. The Linux default shell binaries
- E. The user home directories

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:



QUESTION 15

Which of the following files exist in a standard GRUB 2 installation? (Choose two.)

- A. /boot/grub/stages/stage0
- B. /boot/grub/i386-pc/lvm.mod
- C. /boot/grub/fstab
- D. /boot/grub/grub.cfg
- E. /boot/grub/linux/vmlinuz

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 16

Which of the following commands installs GRUB 2 into the master boot record on the third hard disk?

- A. `grub2 install /dev/sdc`
- B. `grub-mkrescue /dev/sdc`
- C. `grub-mbrinstall /dev/sdc`
- D. `grub-setup /dev/sdc`
- E. `grub-install /dev/sdc`



Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 17

Which of the following partition types is used for Linux swap spaces when partitioning hard disk drives?

- A. 7
- B. 82
- C. 83
- D. 8e
- E. fd

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 18

Which of the following `apt-get` subcommands installs the newest versions of all currently installed packages?

- A. `auto-update`
- B. `dist-upgrade`
- C. `full-upgrade`
- D. `install`
- E. `update`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 19

Which command uninstalls a package but keeps its configuration files in case the package is re-installed?

- A. `dpkg -s pkgname`
- B. `dpkg -L pkgname`
- C. `dpkg -P pkgname`
- D. `dpkg -v pkgname`
- E. `dpkg -r pkgname`

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:



QUESTION 20

What is the maximum niceness value that a regular user can assign to a process with the nice command when executing a new process?

- A. 9
- B. 15
- C. 19
- D. 49
- E. 99

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 21

Which of the following commands list all files and directories within the /tmp/ directory and its subdirectories which are owned by the user root? (Choose two.)

- A. `find /tmp -user root -print`
- B. `find -path /tmp -uid root`
- C. `find /tmp -uid root -print`
- D. `find /tmp -user root`
- E. `find -path /tmp -user root -print`

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 22

Which of the following are valid stream redirection operators within Bash? (Choose two.)

- A. `<`

- B. #>
- C. %>
- D. >>>
- E. 2>&1

Correct Answer: AE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 23

Which of the following vi commands deletes two lines, the current and the following line?

- A. d2
- B. 2d
- C. 2dd
- D. dd2
- E. de12



Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 24

The command `dbmaint &` was used to run `dbmaint` in the background. However, `dbmaint` is terminated after logging out of the system. Which alternative `dbmaint` invocation lets `dbmaint` continue to run even when the user running the program logs out?

- A. `job -b dmaint`
- B. `dbmaint &>/dev/pts/null`
- C. `nohup dbmaint &`
- D. `bg dbmaint`
- E. `wait dbmaint`

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 25

From a Bash shell, which of the following commands directly execute the instructions from the file `/usr/local/bin/runme.sh` without starting a subshell?
(Choose two.)

- A. `source /usr/local/bin/runme.sh`
- B. `/usr/local/bin/runme.sh`
- C. `/bin/bash /usr/local/bin/runme.sh`
- D. `. /usr/local/bin/runme.sh`
- E. `run /usr/local/bin/runme.sh`

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 26

Immediately after deleting 3 lines of text in vi and moving the cursor to a different line, which single character command will insert the deleted content below the current line?

- A. `i` (lowercase)
- B. `p` (lowercase)
- C. `P` (uppercase)
- D. `U` (uppercase)
- E. `u` (lowercase)

Correct Answer: B



Section: (none)

Explanation

Explanation/Reference:

QUESTION 27

Which of the following commands changes all CR-LF line breaks in the text file `userlist.txt` to Linux standard LF line breaks and stores the result in `newlist.txt`?

- A. `tr -d '\r' < userlist.txt > newlist.txt`
- B. `tr -c '\n\r' '' <newlist.txt> userlist.txt`
- C. `tr '\r\n' '' <userlist.txt> newlist.txt`
- D. `tr '\r' '\n' userlist.txt newlist.txt`
- E. `tr -s '/^M/^J/' userlist.txt newlist.txt`

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 28

Given the following input stream:

`txt1.txt`

`atxt.txt`

`txtB.txt`

Which of the following regular expressions turns this input stream into the following output stream?

`txt1.bak.txt`

`atxt.bak.txt`

`txtB.bak.txt`

- A. `s/^.txt/.bak/`
- B. `s/txt/bak.txt/`



- C. `s/txt$/bak.txt/`
- D. `s/^txt$/bak^/`
- E. `s/[.txt]/bak$1/`

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 29

Which command must be entered before exiting vi to save the current file as `filea.txt`?

- A. `%s filea.txt`
- B. `%w filea.txt`
- C. `:save filea.txt`
- D. `:w filea.txt`
- E. `:s filea.txt`



Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 30

Which of the following commands displays the path to the executable file that would be executed when the command `foo` is invoked?

- A. `lsattr foo`
- B. `apropos foo`
- C. `locate foo`
- D. `whatis foo`

E. `which foo`

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 31

When redirecting the output of `find` to the `xargs` command, what option to `find` is useful if the filenames contain spaces?

A. `-rep-space`

B. `-printnul`

C. `-nospace`

D. `-ignore-space`

E. `-print0`

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 32

Which of the following commands can be used to determine how long the system has been running? (Choose two.)

A. `uptime`

B. `up`

C. `time --up`

D. `uname -u`

E. `top`



Correct Answer: AE

Section: (none)

Explanation

Explanation/Reference:

QUESTION 33

Which of the following files, located in a user's home directory, contains the Bash history?

- A. .bashrc_history
- B. .bash_histfile
- C. .history
- D. .bash_history
- E. .history_bash

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:



QUESTION 34

Which wildcards will match the following filenames? (Choose two.)

ttyS0

ttyS1

ttyS2

- A. ttyS[1-5]
- B. tty?[0-5]
- C. tty*2
- D. tty[A-Z][012] E. tty[Ss][02]

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 35

Which of the following commands displays the contents of a gzip compressed tar archive?

- A. `gzip archive.tgz | tar xvf -`
- B. `tar -fzt archive.tgz`
- C. `gzip -d archive.tgz | tar tvf -`
- D. `tar cf archive.tgz`
- E. `tar ztf archive.tgz`

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:



QUESTION 36

Which of the following commands prints a list of usernames (first column) and their primary group (fourth column) from the `/etc/passwd` file?

- A. `fmt -f 1,4 /etc/passwd`
- B. `cut -d : -f 1,4 /etc/passwd`
- C. `sort -t : -k 1,4 /etc/passwd`
- D. `paste -f 1,4 /etc/passwd`
- E. `split -c 1,4 /etc/passwd`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 37

Which of the following commands installs the GRUB boot files into the currently active file systems and the boot loader into the first partition of the first disk?

- A. `grub-install /dev/sda`
- B. `grub-install /dev/sda1`
- C. `grub-install current /dev/sda0`
- D. `grub-install /dev/sda0`
- E. `grub-install current /dev/sda1`

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:



QUESTION 38

Which of the following files are found in the `/boot/` file system? (Choose two.)

- A. Linux kernel images
- B. Bash shell binaries
- C. systemd target and service units
- D. Initial ramdisk images
- E. fsck binaries

Correct Answer: AC

Section: (none)

Explanation

Explanation/Reference:

QUESTION 39

When removing a package on a system using dpkg package management, which `dpkg` option ensures configuration files are removed as well?

- A. `--clean`
- B. `--purge`
- C. `--vacuum`
- D. `--remove`
- E. `--declare`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 40

Which of the following statements are correct when comparing Linux containers with traditional virtual machines (e.g. LXC vs. KVM)? (Choose three.)

- A. Containers are a lightweight virtualization method where the kernel controls process isolation and resource management.
- B. Fully virtualized machines can run any operating system for a specific hardware architecture within the virtual machine.
- C. Containers are completely decoupled from the host system's physical hardware and can only use emulated virtual hardware devices.
- D. The guest environment for fully virtualized machines is created by a hypervisor which provides virtual and emulated hardware devices.
- E. Containers on the same host can use different operating systems, as the container hypervisor creates separate kernel execution.

Correct Answer: ABD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 41

The installation of a local Debian package failed due to unsatisfied dependencies. Which of the following commands installs missing dependencies and completes the interrupted package installation?

- A. `dpkg --fix --all`

- B. `apt-get autoinstall`
- C. `dpkg-reconfigure --all`
- D. `apt-get all`
- E. `apt-get install -f`

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 42

Which of the following commands lists all currently installed packages when using RPM package management?

- A. `yum --query --all`
- B. `yum --list --installed`
- C. `rpm --query --list`
- D. `rpm --list --installed`
- E. `rpm --query --all`



Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

QUESTION 43

What is the purpose of the `ldd` command?

- A. It lists which shared libraries a binary needs to run.
- B. It installs and updates installed shared libraries.
- C. It turns a dynamically linked binary into a static binary.
- D. It defines which version of a library should be used by default.

E. It runs a binary with an alternate library search path.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 44

What are the main differences between GPT and MBR partition tables regarding maximum number and size of partitions? (Choose two.)

- A. MBR can handle partition sizes up to 4 TB, whereas GPT supports partition sizes up to 128 ZB.
- B. By default, GPT can manage up to 128 partitions while MBR only supports four primary partitions.
- C. By default, GPT can manage up to 64 partitions while MBR only supports 16 primary partitions.
- D. MBR can handle partition sizes up to 2.2 TB, whereas GPT supports sizes up to 9.4 ZB.
- E. Both GPT and MBR support up to four primary partitions, each with up to 4096 TB.

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 45

Running `chmod 640 filea.txt` as a regular user doesn't update `filea.txt`'s permission. What might be a reason why `chmod` cannot modify the permissions? (Choose two.)

- A. `filea.txt` is owned by another user and a regular user cannot change the permissions of another user's file.
- B. `filea.txt` is a symbolic link whose permissions are a fixed value which cannot be changed.
- C. `filea.txt` has the sticky bit set and a regular user cannot remove this permission.
- D. `filea.txt` is a hard link whose permissions are inherited from the target and cannot be set directly.
- E. `filea.txt` has the SetUID bit set which imposes the restriction that only the `root` user can make changes to the file.

Correct Answer: AB

Section: (none)

Explanation

Explanation/Reference:

QUESTION 46

Which of the following Linux filesystems preallocate a fixed number of inodes when creating a new filesystem instead of generating them as needed? (Choose two.)

- A. JFS
- B. ext3
- C. XFS
- D. ext2
- E. procfs

Correct Answer: BD

Section: (none)

Explanation

Explanation/Reference:



QUESTION 47

Which of the following commands sets the SetUID permission on the executable `/bin/foo`?

- A. `chmod 4755 /bin/foo`
- B. `chmod 1755 /bin/foo`
- C. `chmod u-s /bin/foo`
- D. `chmod 755+s /bin/foo`
- E. `chmod 2755 /bin/foo`

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 48

Which of the following commands show how the shell handles a specific command?

- A. where
- B. type



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- C. stat
- D. case
- E. fileinfo



Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 49

When in Normal mode in `vi`, which character can be used to begin a reverse search of the text?

- A. `r`
- B. `/`
- C. `F`
- D. `?`
- E. `s`

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 50

Which of the following commands is used to change options and positional parameters within a running Bash shell?

- A. history
- B. setsh
- C. bashconf
- D. set
- E. envsetup

Correct Answer: D

Section: (none)

Explanation



Explanation/Reference:

QUESTION 51

Which of the following commands display the IDs of all processes owned by root? (Choose two.)

- A. pgrep -c root
- B. pgrep -u root
- C. pgrep -f root
- D. pgrep -U 0
- E. pgrep -c 0

Correct Answer: BC

Section: (none)

Explanation

Explanation/Reference:

QUESTION 52

What is the effect of the `-v` option for the `grep` command?

- A. It enables color to highlight matching parts.
- B. It shows the command's version information.
- C. It only outputs non-matching lines.
- D. It changes the output order showing the last matching line first.
- E. It outputs all lines and prefixes matching lines with `a+`.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 53

Which of the following signals is sent to a process when the key combination `Ctrl+Z` is pressed on the keyboard?

- A. `SIGTERM`
- B. `SIGCONT`
- C. `SIGSTOP`
- D. `SIGKILL`
- E. `SIGINT`

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 54

What is the output when the regular expression `s/[ABC] [abc]/xx/` is applied to the following string?

ABCabc

- A. ABxxbc
- B. xxCxxc
- C. xxxxxx
- D. ABCabc
- E. Axxaxx

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 55

Which of the following commands print the current working directory when using a Bash shell? (Choose two.)

- A. `echo "${PWD}"`
- B. `echo "${WD}"`
- C. `printwd`
- D. `pwd`
- E. `echo "${pwd}"`



Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

QUESTION 56

What is the default nice level when a process is started using the `nice` command?

- A. -10
- B. 0
- C. 10
- D. 15

E. 20

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 57

In the vi editor, how can commands such as moving the cursor or copying lines into the buffer be issued multiple times or applied to multiple rows?

- A. By using the command `:repeat` followed by the number and the command
- B. By specifying the number right in front of a command such as `4l` or `2yj`.
- C. By selecting all affected lines using the shift and cursor keys before applying the command.
- D. By issuing a command such as `:set repetition=4` with repeats every subsequent command 4 times.
- E. By specifying the number after a command such as `14` or `yj2` followed by escape.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 58

In Bash, inserting `1>&2` after a command redirects...

- A. ...standard error to standard input.
- B. ...standard output to standard error.
- C. ...standard input to standard error.
- D. ...standard error to standard output.
- E. ...standard output to standard input.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 59

When booting from the hard disk, a computer successfully loads the Linux kernel and initramfs but hangs during the subsequent startup tasks. The system is booted using a Linux based rescue CD to investigate the problem. Which of the following methods helps to identify the root cause of the problem?

- A. Using the `dmesg` command from the rescue CD's shell to view the original system's boot logs.
- B. Investigating the file `/proc/kmsg` on the computer's hard disk for possible errors.
- C. Investigating the file `/var/log` on the computer's hard disk for possible errors.
- D. Using `chroot` to switch to the file system on the hard disk and use `dmesg` to view the logs.
- E. Rebooting again from the hard drive since the system successfully booted from the rescue CD.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:



QUESTION 60

Where is the bootloader stored on the hard disk of a UEFI system?

- A. In the EFI Boot Record (EBR).
- B. In the Master Boot Record (MBR).
- C. On the EFI System Partition (ESP).
- D. On the partition labeled `boot`.
- E. On the partition number `127`.

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

QUESTION 61

What is the correct way to set the default systemd boot target to multi-user?

- A. `systemctl isolate multi-user.target`
- B. `systemctl set-runlevel multi-user.target`
- C. `systemctl set-boot multi-user.target`
- D. `systemctl set-default multi-user.target`
- E. `systemctl boot -p multi-user.target`

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

QUESTION 62

Which of the following commands loads a kernel module along with any required dependency modules?

- A. `depmod`
- B. `modprobe`
- C. `module_install`
- D. `insmod`
- E. `loadmod`

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

QUESTION 63

Given the following two symbolic links in a System V init configuration:

`/etc/rc1.d/K01apache2`

/etc/rc2.d/S02apache2

When are the scripts executed that are referenced by these links? (Choose two.)

- A. S02apache2 is run when runlevel 2 is entered.
- B. S02apache2 is run when runlevel 2 is left.
- C. K01apache2 is never run because K indicates a deactivated service.
- D. Both S02apache2 and K01apache2 are run during a system shutdown.
- E. K01apache2 is run when runlevel 1 is entered.

Correct Answer: AC

Section: (none)

Explanation

Explanation/Reference:



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