

# LPI 101 Certification Practice Test

1.3/1/1

multiple alphabetic

SELECT FOR ANSWER

Suppose that you have an application whose behavior depends on the environment variable BAR. Which of the following command lines may be used in a bash shell to configure the application?

- A. `export $BAR=baz; echo $BAR`
- B. `set BAR=baz`
- C. `BAR=baz ; export BAR`
- D. `echo $BAR=baz`
- E. `declare -x BAR=baz`
- F. `echo BAR=baz`

1.3/1/2

alphabetic

SELECT FOR ANSWER

Which of the following commands can be used to assure that a file 'myfile' exists?

- A. `cp myfile /dev/null`
- B. `touch myfile`
- C. `create myfile`
- D. `mkfile myfile`

1.3/2/1

alphabetic

SELECT FOR ANSWER

Which of the following command lines can be used to convert a file containing DOS-style CR-LF line endings into Unix-style LF line endings? Assume for this question that the DOS-style file is called 'dosfile', and we want the modified contents in 'unixfile'

- A. `sed 's/\n//' dosfile > unixfile`
- B. `tr -d '\r' < dosfile > unixfile`
- C. `dos2unix dosfile unixfile`
- D. `strip '\r' < dosfile > unixfile`

1.3/2/2

alphabetic

SELECT FOR ANSWER

Suppose for this question that you have a file called 'wordlist' that contains a

number of words, one per line. You would like to produce an ad-hoc report that contains a numbered list of the first five words, according to alphabetical order. Which of the following command lines can be used to produce this report to the console?

- A. `sort wordlist | nl | head -5`
- B. `split -1 wordlist ; cat xa? | head -5`
- C. `nl wordlist | sort | sed '/^ [^12345]/d'`
- D. `nl wordlist | sort | head -5`

|         |            |                   |
|---------|------------|-------------------|
| 1.3/2/3 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

The command 'ps -A' displays an ordered list of all running processes, with the right-justified process ID in the first space-separated field. Suppose you would like to display to screen a list of the five most recently launched processes (those with the highest process IDs). Which of the following commands will display the desired items?

- A. `ps -A | tail -5 | cut -f 1 -d " "`
- B. `ps -A | tail -5 | sed 's/[ ]*[0-9]*//'`
- C. `ps -A | head -5 | nl`
- D. `ps -A | tac | head -5 | cut -b 1-5`

|         |            |                   |
|---------|------------|-------------------|
| 1.3/2/4 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Suppose that a file 'names' contains a list of names in the form, "firstname lastname", one per line. These names are unsorted, and you would like them sorted by lastname; however, the format of names on each line should remain the same. Which ONE of the following commands will NOT output an appropriately sorted list of names to the console?

- A. `cut -f 2 -d " " names | paste names - | sort -k 3 | cut -f 1`
- B. `sort -k 2 names`
- C. `sed 's/\\(\\w*\\) \\(\\w*\\)/\\2 \\1 \\2/' names | sort | cut -f 2-3 -d " "`
- D. `cut -f 2 -d " " names | sort`
- E. `cut -f 2 -d " " names | paste - names | sort | cut -f 2`

|         |            |                   |
|---------|------------|-------------------|
| 1.3/3/1 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Assume that your current working directory is '/tmp' and your home directory is '/home/jane'. Which of the below commands will copy all the content of '/tmp/test/' to a 'test' subdirectory of your home directory?

- A. `cp -r test/* /home/jane`
- B. `cp -r ./test ~`
- C. `cp -r ~/test .`
- D. `cp -r /tmp/test /home/jane/test`

1.3/4/1

multiple alphabetic

SELECT FOR ANSWER

Suppose that you have several files matching the filename pattern 'file[0-9]'. You would like to visually compare the contents of all such files, in a side-by-side fashion. Which of the following commands would let you view the desired ad hoc report?

- A. `ls file[0-9] | xargs paste | less`
- B. `paste `ls file[0-9]` > report ; vi report ; rm report`
- C. `cat file[0-9] | paste - | more | less`
- D. `ls file[0-9] | tee fnames | paste `cat fnames``
- E. `ls file[0-9] | tee fnames | xargs paste | more`
- F. `ls *word* > fnames ; paste < xargs `cat fnames` | vi`

1.3/5/1

alphabetic

SELECT FOR ANSWER

Which of the following Linux utilities does NOT include the capability to list the process IDs of running applications?

- A. `jobs`
- B. `ps`
- C. `nice`
- D. `top`

1.3/5/2

alphabetic

SELECT FOR ANSWER

```
# jobs -l
[1] 5110 Running          kedit &
[2]- 5382 Stopped (signal) pine
[3]+ 5457 Stopped (tty output) vi
```

Given the 'jobs' display in the exhibit, which command could you use to switch display focus to the application 'vi'?

- A. `bg %3`
- B. `fg %3`

- C. top -p 5457
- D. switch %5457

|         |            |                   |
|---------|------------|-------------------|
| 1.3/5/3 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

```
# jobs -l
[1] 5110 Running          kedit &
[2]- 5382 Stopped (signal) pine
[3]+ 5457 Stopped (tty output) vi
```

Given the 'jobs' display in the exhibit, which command could you use to terminate the application 'vi'?

- A. bg %3
- B. kill -9 5457
- C. term -i %3
- D. fg 5457

|         |            |                   |
|---------|------------|-------------------|
| 1.3/6/1 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Suppose you have a running program called 'myprog', that is a child of the current shell. You would like to decrease the CPU usage of this program. Which of the following command lines can you use to make 'myprog' yield more CPU resources?

- A. nice +1 myprog
- B. ps h -o pid -C myprog | xargs nice +1 -
- C. renice +1 -u `whoami` myprog
- D. renice +1 -p `ps -a | grep myprog | cut -b 1-6`

|         |            |                   |
|---------|------------|-------------------|
| 1.3/7/1 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

```
int double(int n)
{ /* int arg, int return */
  return n*2;
}
char hello(int n)
{ /* int arg, char return */
  printf("hello %i\n", n);
}
int five()
{ /* no args, int return */
  return 5;
}
int      triple(int n, int other, char nonsense)
{ /* int arg, int return */
```

```
    return n*3;  
}
```

Correctly parsing a C source file requires a full-fledged parser (such as that built into a C compiler). Nonetheless, regular expressions can be used to provide a pretty good approximate descriptions of many program constructs. Which of the following searches will locate at least most of the C functions that accept an int as a first argument, and return an int (and will not produce false positives very often). The exhibit contains a fragment of C code with several annotated matching and non-matching functions (for non-C programmers).

- A. `grep -E "int[ \t]+\w+[ \t]*\([ \t]*int" *.c`
- B. `grep -E "^int\w+[A-Za-z_]+\w*\(\w*int" *.c`
- C. `grep -E "int.+\[ \t\]+int.*\)" *.c`
- D. `grep -E "int[ \t]+[A-Za-z_][ \t]+\(int" *.c`

1.3/7/2

alphabetic

SELECT FOR ANSWER

Some tools that use regular expressions support so-called "extended" regular expressions. For example, GNU 'grep' with the '-E' option uses extended regular expressions. Other tools like 'sed' only support "basic" regular expressions. As a consequence, one must be careful in selecting the right regular expression syntax. Which of the following characters have a special meaning in extended regular expressions, but not in basic regular expressions. That is, which of the following is an extended regular expression "meta-character", but only a regular character in basic regular expressions?

- A. `^`
- B. `[`
- C. `+`
- D. `*`

2.4/1/1

multiple alphabetic

SELECT FOR ANSWER

Based on Linux' partition naming system, which of the following device names point to "logical" partitions (assuming the corresponding partitions exist at all on the system in question)?

- A. `/dev/sda3`
- B. `/dev/fd0`
- C. `/dev/hdb7`
- D. `/dev/hda4`

- E. `/dev/fd7`
- F. `/dev/sdc11`

2.4/1/2

alphabetic

SELECT FOR ANSWER

Which of the following command lines can (possibly) be used to format a partition? Assume required partitions exist, and also that logical partitioning is used on each hard-disk.

- A. `mkfs -t msdos /dev/sda1`
- B. `mkfs.ext2 /dev/null`
- C. `mkfs -t ext2 /dev/hda4`
- D. `mkfs --type=ext2 /dev/hdb7`

2.4/2/1

alphabetic

SELECT FOR ANSWER

Which Linux command can be used to repair improperly shutdown, or otherwise potentially corrupt partitions?

- A. `chkdsk`
- B. `scandisk`
- C. `fsck`
- D. `fdisk`

2.4/2/2

alphabetic

SELECT FOR ANSWER

Which of the following command lines will produce an ad hoc report on the total disk space used personally by the current user?

- A. `fsck ~`
- B. `df ~/.`
- C. `quota --used`
- D. `du -hs ~`

2.4/2/3

alphabetic

SELECT FOR ANSWER

Which Linux command can be used to determine the available space on local hard-disk partitions?

- A. `free`
- B. `df`

- C. du
- D. fdisk

2.4/3/1

alphabetic

SELECT FOR ANSWER

Please examine the exhibit for this question which displays the actual '/etc/fstab' file for the system on which this exam was created. Which of the following lines in the file causes a fixed and user-writeable partition to be mounted?

- A. Line 5
- B. Line 11
- C. Line 9
- D. Line 7

2.4/4/1

alphabetic

SELECT FOR ANSWER

Which Linux command can be used to limit the disk space usage allowance of a particular user? Assume for this question that quotas are enabled for the filesystem(s) in use on the system in question.

- A. edquota
- B. setquota
- C. quotaon
- D. repquota

2.4/5/1

alphabetic

SELECT FOR ANSWER

Suppose you have created a new application 'myapp', and copied it to the directory '/usr/local/bin'. You would like all the users of the system to be able to run your application. Which of the following command lines would allow the appropriate access?

- A. chmod o+x /usr/local/bin/myapp
- B. chgrp bin /usr/local/bin/myapp
- C. umask 0022 /usr/local/bin/myapp
- D. chown 755 /usr/local/bin/myapp

2.4/5/2

alphabetic

SELECT FOR ANSWER

Proper file security is particularly important for CGI applications invoked over the web, given the diversity of users. Which of the command lines setup reasonable file permissions for a CGI applications? Even though particular web servers may

require slightly different configurations, you should be able to rule out all the wrong answers below.

- A. `chmod a-x ~/www/cgi-bin/myapp.cgi`
- B. `chmod 075 ~/www/cgi-bin/myapp.cgi`
- C. `chmod 711 ~/www/cgi-bin/myapp.cgi`
- D. `chmod o+w ~/www/cgi-bin/myapp.cgi`

2.4/6/1

alphabetic

SELECT FOR ANSWER

Which Linux command is used to assign privileges over a particular file to a designated user

- A. `chroot`
- B. `chown`
- C. `assign`
- D. `chgrp`

2.4/7/1

alphabetic

SELECT FOR ANSWER

One advantage of hard links over symbolic links is:

- A. A hard link can span different filesystems
- B. A hard link does not become disconnected from the underlying file if the file is moved.
- C. You can determine the inode used by a hard link, but not for a symbolic link.
- D. A hard link allows you to change the permissions on the underlying file.

2.4/8/1

alphabetic

SELECT FOR ANSWER

According to the Linux filesystem hierarchy standard, which of the following directories would be an appropriate location for a user to install a shared application to?

- A. `/sbin`
- B. `/dev/user/bin`
- C. `/usr/local/bin`
- D. `/etc/bin`



2.6/1/1

alphabetic

SELECT FOR ANSWER

Which of the following Linux command lines can be used to examine kernel bootup messages after boot time?

- A. `dmesg | less`
- B. `less /proc/kmsg`
- C. `bootlog -v`
- D. `vi /var/log/messages`

2.6/1/2

alphabetic

SELECT FOR ANSWER

```
boot=/dev/hda
map=/boot/map
install=/boot/boot.b
vga=791
default=redhat
keytable=/boot/us.klt
lba32
prompt
timeout=200
message=/boot/message
menu-scheme=wb:bw:wb:bw
image=/boot/vmlinuz
    label=failsafe
    root=/dev/hda10
    initrd=/boot/initrd.img
    append=" devfs=mount failsafe"
    read-only
image=/boot/vmlinuz-2.4.16
    label=redhat
    alias=redhat-2.4.16
    root=/dev/hda9
    read-only
image=/boot/vmlinuz-2.4.8-26mdk
    label=mandrake81
    root=/dev/hda10
    initrd=/boot/initrd.img
    append=" devfs=mount"
    read-only
other=/dev/hda2
    label=eComStation
    table=/dev/hda
other=/dev/fd0
    label=floppy
    unsafe
```

Please examine the exhibit for this question which displays the file '/etc/lilo.conf'. Assume that the 'lilo' command has been run while this configuration file is as listed. Which of the following statements correctly describes what happens when this machine boots up?

- A. The system boots after a 20 second delay, and absent user intervention the root filesystem is on /dev/hda10.
- B. The system boots after a 20 second delay, and absent user intervention the root filesystem is on /dev/hda9.
- C. The system boots after 2 seconds delay, and absent user intervention the root filesystem is on /dev/hda9.
- D. The system boots after a 200 second delay, and absent user intervention the floppy disk is a fallback boot device.

|         |            |                   |
|---------|------------|-------------------|
| 2.6/2/1 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Which command line can be used to restart a running Linux system immediately?

- A. `restart --delay=0`
- B. `reboot -w`
- C. `halt -p`
- D. `shutdown -r now`

|         |            |                   |
|---------|------------|-------------------|
| 1.8/1/1 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Suppose that you know that a task deals with the general concept "floozyflam", but you are not certain what Linux command(s) are available for working with floozyflams. Which of the following Linux command lines would be the BEST first step in finding out about available tools?

- A. `man floozyflam`
- B. `locate floozyflam`
- C. `apropos floozyflam`
- D. `whatis floozyflam`

|         |            |                   |
|---------|------------|-------------------|
| 1.8/1/2 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Suppose you know that an application 'someapp' is installed on the current system. You have already examine the man and info pages for 'someapp', but are trying to find additional information about 'someapp'. Which of the following directories is the BEST first place to look for further documentation files?

- A. `/usr/local/doc/someapp-2.37`
  - B. `/usr/share/doc/someapp-2.37`
  - C. `/etc/someapp-2.37/doc`
  - D. `/etc/doc/someapp-2.37`
-

|         |            |                   |
|---------|------------|-------------------|
| 1.8/1/3 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Which of the following Linux commands are you likely to use to display hypertextual documentation on a command?

- A. info
- B. man
- C. whatis
- D. locate

|         |            |                   |
|---------|------------|-------------------|
| 1.8/2/1 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Which of the following URLs is a BEST first internet site to go to for information about how to perform an unfamiliar Linux task?

- A. <http://www.linuxman.com/>
- B. <http://www.linuxhowto.net/>
- C. <http://www.linuxtoday.com/>
- D. <http://www.linuxdoc.org/>

|         |            |                   |
|---------|------------|-------------------|
| 1.8/3/1 | alphabetic | SELECT FOR ANSWER |
|---------|------------|-------------------|

Suppose you have created an application that you wish to distribute to other users and system. Your application archive already contains the necessary executables, source code, and configuration files. But you would like to provide user with a quick explanation of the purpose and requirements of your application. Which of the following filenames BEST matches users' expectations about where first to look for application documentation

- A. START
- B. README
- C. FIRST
- D. MAKEFILE

|          |            |                   |
|----------|------------|-------------------|
| 2.11/1/1 | alphabetic | SELECT FOR ANSWER |
|----------|------------|-------------------|

Which of the following Linux commands can be used to set an expiration date for a user's password?

- A. chage
- B. vipw

- C. passwd
- D. usermod

|          |            |                   |
|----------|------------|-------------------|
| 2.11/1/2 | alphabetic | SELECT FOR ANSWER |
|----------|------------|-------------------|

```
jdoe:x:502:1000:John Doe:/home/jdoe:/bin/bash
```

The exhibit for this question contains a line from the file '/etc/passwd'. Which of the following statements is true, based on the information in the exhibit?

- A. User John Doe belongs to the group with groupID 502.
- B. Shadow passwords are used on the current system.
- C. The username 'jdoe' belongs to the group 'jdoe'.
- D. Members of groupID 1000 can read directory /home/jdoe.

|          |            |                   |
|----------|------------|-------------------|
| 2.11/1/3 | alphabetic | SELECT FOR ANSWER |
|----------|------------|-------------------|

Which Linux command can be used to create a new user account?

- A. newuser
- B. useradd
- C. mkuser
- D. usercfg

|          |                     |                   |
|----------|---------------------|-------------------|
| 2.11/1/4 | multiple alphabetic | SELECT FOR ANSWER |
|----------|---------------------|-------------------|

Which Linux command(s) can be used to modify the list of groups a user belongs to?

- A. usermod
- B. groupadd
- C. groups
- D. gpasswd
- E. chgrp
- F. userinfo

|          |            |                   |
|----------|------------|-------------------|
| 2.11/2/1 | alphabetic | SELECT FOR ANSWER |
|----------|------------|-------------------|

Which Linux file can be used to configure the default bash shell behavior for EVERY users on a system?

- A. /etc/skel/.bashrc
- B. /home/.bash\_profile
- C. /etc/profile
- D. /etc/passwd

2.11/2/2

alphabetic

SELECT FOR ANSWER

Which of the following BEST describes the purpose of the '/etc/skel' directory?

- A. The contents of the directory control the initialization of the shell environment during each login.
- B. The contents of the directory determine the actions performed during the system boot process.
- C. The contents of the directory provide a default environment for newly created users.
- D. The contents of the directory list the background processes that run during a user's session.

2.11/3/1

alphabetic

SELECT FOR ANSWER

Which of the following command lines would allow you to examine how many times remote users have opened secure shells into the current system?

- A. dmesg | less
- B. less /proc/kmsg
- C. sshd --log | more
- D. vi /var/log/messages

2.11/4/1

alphabetic

SELECT FOR ANSWER

```
SHELL=/bin/bash
PATH=/sbin:/bin:/usr/sbin:/usr/bin
MAILTO=root
HOME=/
# run-parts
01 * * * * root run-parts /etc/cron.hourly
02 4 * * * root run-parts /etc/cron.daily
22 4 * * 0 root run-parts /etc/cron.weekly
42 4 1 * * root run-parts /etc/cron.monthly
23 4 * 1,6 1 root run-parts /etc/cron.special
```

Refer to the '/etc/crontab' file listed in the exhibit for this question. Which of the following statements is true?

- A. The script file '/etc/cron.special' is run once a week, on Mondays.
- B. The contents of the '/etc/cron.special' directory are run during January and June.
- C. During some parts of the year '/etc/cron.special' is run one minute after '/etc/cron.weekly'.
- D. During the month of March, '/etc/cron.special' is run on Mondays.

2.11/4/2

alphabetic

SELECT FOR ANSWER

```
# cat /etc/cron.daily/slocate.cron
#!/bin/sh
renice +19 -p $$ >/dev/null 2>&1
/usr/bin/updatedb -f "nfs,smbfs,ncpfs,proc,devpts" -e "/tmp,/var/tmp,/usr/tmp"
```

Based on the what the exhibit shows, which of the following statements is the BEST assumption?

- A. When cron runs updatedb, confirmations are logged to the root console.
- B. The /etc/crontab file is configured to automatically index remote filesystems.
- C. cron runs updatedb at a high processor priority in order to complete it quickly.
- D. The locate database is automatically refreshed on a daily basis.

2.11/5/1

alphabetic

SELECT FOR ANSWER

Which of the following Linux commands can be used to create backups of filesystems and directories?

- A. backup
- B. gzip
- C. tar
- D. archive