

# Chapter 5 Assignment Key

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## Hands on #1

### Project 5-1

1. [balbachl@cisunix ~]\$ ls -l /etc

2 [balbachl@cisunix ~]\$ ls -l /etc |more

```
total 3008
-rw-r--r--  1 root root   15326 Oct 27  2006 a2ps.cfg
-rw-r--r--  1 root root    2562 Oct 27  2006 a2ps-site.cfg
drwxr-xr-x  4 root root    4096 Jan  4 06:01 acpi
-rw-r--r--  1 root root     44 Jan  4 14:04 adjtime
-rw-r--r--  1 root root    1512 Apr 25  2005 aliases
-rw-r----- 1 root smmsp 12288 Jan  4 14:55 aliases.db
drwxr-xr-x  4 root root    4096 Jan  4 13:05 alsa
drwxr-xr-x  2 root root    4096 Jan  4 13:47 alternatives
-rw-r--r--  1 root root     298 Oct 30  2006 anacrontab
-rw-----  1 root root      1 Jan 30  2007 at.deny
-rw-----  1 root root   2479 Aug  6  2007 autofs_ldap_auth.conf
-rw-r--r--  1 root root     560 Aug  6  2007 auto.master
-rw-r--r--  1 root root     581 Aug  6  2007 auto.misc
-rwxr-xr-x  1 root root    1292 Aug  6  2007 auto.net
-rwxr-xr-x  1 root root     715 Aug  6  2007 auto.smb
drwxr-xr-x  4 root root    4096 Jan  4 13:12 avahi
-rw-r--r--  1 root root    1437 Nov 28  2006 bashrc
drwxr-xr-x  2 root root    4096 Jan  4 13:37 beagle
drwxr-xr-x  2 root root    4096 Jan  4 14:55 blkid
drwxr-xr-x  2 root root    4096 Jan  4 13:51 bluetooth
drwxr-xr-x  2 root root    4096 Jan  4 05:51 bonobo-activation
-rw-r--r--  1 root root     351 Jul 19  2006 capi.conf
-rw-r--r--  1 root root     977 Aug 16  2006 cdrecord.conf
--More--
```

### Project 5-2

1. [[balbachl@cisunix ~]\$ ls /etc |sort -r |more

```
yum.repos.d
yum.conf
yum
yp.conf
xml
xinetd.d
xdg
X11
wvdial.conf
wpa_supplicant
wgetrc
warnquota.conf
virac
```

```
vimrc
updatedb.conf
udev
termcap
syslog.conf
sysctl.conf
sysconfig
sudoers
stunnel
ssh
sound
--More--
```

## Additional Commands

```
[balbachl@cisunix ~]$ cat corp_phones1 corp_phones2 | sort | tee
sortedphones
219 432 4527 Polk          John          S 4520 Accountant      09-22-1998
219:432:4527:Polk:John:S:4520:Accountant:09-22-1998
219 432 4567 Harrison     Joel          M 4540 Accountant      09-12-1985
219:432:4567:Harrison:Joel:M:4540:Accountant:09-12-1985
219 432 4587 Mitchell    Barbara       C 4541 Admin Asst      01-14-1995
219:432:4587:Mitchell:Barbara:C:4541:Admin Asst:12-14-1995
219 432 4589 Olson        Timothy       H 4544 Supervisor      06-30-1983
219:432:4589:Olson:Timothy:H:4544:Supervisor:06-30-1983
219:432:4591:Moore:Sarah:H:4500:Dept Manager:08-01-1978
219 432 4591 Moore         Sarah         H 4500 Dept Manager    09-22-1998
```

```
[balbachl@cisunix ~]$ cut -d: -f4-5 corp_phones1 | sort | tee
sortedphone1
Harrison:Joel
Mitchell:Barbara
Moore:Sarah
Olson:Timothy
Polk:John
```

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## Hands on #2

### Project 5-3

#### Part 1 To display lines in a file containing a particular word or phrase

1. Don't need to turn in command or output from this
2. [balbachl@cisunix ~]\$ grep IBM /etc/termcap | more  
# The IBM PC alternate character set. Plug this into any Intel console entry.  
# Define IBM PC keypad keys for vi as per MS-Kermit while using ANSI.SYS.

```

# ":kh=\E[Y:". Added IBM-PC forms characters and highlights, they
match
ibmpcx|xenix|ibmx|IBM PC xenix console display:\
origpc3|origibmpc3|IBM PC 386BSD Console:\
oldpc3|oldibmpc3|old IBM PC BSD/386 Console:\
bsdos-pc|IBM PC BSD/OS Console:\
# with little snowflake or star characters (IBM PC ROM character \017
= ^O)
# IBMPC Kermit 1.2.
pckermi|pckermi12|UCB IBMPC Kermit 1.2:\
      :is=K2 UCB IBMPC Kermit 1.2 8-30-84\n:tc=kermit:
# IBMPC Kermit 1.20
pckermi120|UCB IBMPC Kermit 1.20:\
      :is=\EO\Eq\EJ\EY7 K3 UCB IBMPC Kermit 1.20 12-19-84\n:\
# MS-DOS Kermit 2.27 for the IBMPC
msk227|mskermi227|MS-DOS Kermit 2.27 for the IBMPC:\
      :is=\EO\Eq\EG\Ew\EJ\EY7 K4 MS Kermit 2.27 for the IBMPC 3-17-
85\n:\
# MS-DOS Kermit 2.27 UCB 227.14 for the IBM PC
msk22714|mskermi22714|UCB MS-DOS Kermit 2.27 UCB 227.14 IBM PC:\
      :is=\EO\Eq\EG\Ev\EJ\EY7 K6 MS Kermit 2.27 UCB 227.14 IBM PC 3-
17-85\n:\
# low 7 bits of the IBM-PC display-memory attribute. Bletch.
rbcomm|IBM PC with RBcomm and EMACS keybindings:\

```

3 & 4 You don't need to turn in any output from these steps.

```

5. [[balbachl@cisunix ~]$ grep IBM /etc/termcap |head
# The IBM PC alternate character set. Plug this into any Intel console
entry.
# Define IBM PC keypad keys for vi as per MS-Kermit while using
ANSI.SYS.
# ":kh=\E[Y:". Added IBM-PC forms characters and highlights, they
match
ibmpcx|xenix|ibmx|IBM PC xenix console display:\
origpc3|origibmpc3|IBM PC 386BSD Console:\
oldpc3|oldibmpc3|old IBM PC BSD/386 Console:\
bsdos-pc|IBM PC BSD/OS Console:\
# with little snowflake or star characters (IBM PC ROM character \017
= ^O)
# IBMPC Kermit 1.2.
pckermi|pckermi12|UCB IBMPC Kermit 1.2:\
[balbachl@cisunix ~]$

```

## Part 2 To expand the grep command's search capabilities through its options and regular expression support

1. [balbachl@cisunix ~]\$ grep linux /etc/termcap
2. [balbachl@cisunix ~]\$ grep -i linux /etc/termcap
3. You don't need to turn in any output from this.

4.

```
[balbachl@cisunix ~]$ grep -i "^lin" /etc/termcap
linux-basic|linux console:\
linux-m|Linux console no color:\
linux-c-nc|linux console with color-change:\
linux-c|linux console 1.3.6+ for older ncurses:\
linux|console|linux console:\
linux-nic|linux with ich/ichl suppressed for non-curses programs:\
linux-koi8|linux with koi8 alternate character set:\
linux-koi8r|linux with koi8-r alternate character set:\
linux-lat|linux with latin1 or latin2 alternate character set:\
linux-vt|linux console using VT codes for graphics:\
[balbachl@cisunix ~]$
```

5. [balbachl@cisunix ~]\$ grep linux /etc/\*

6. You don't need output from this.

7. [balbachl@cisunix ~]\$ grep -l linux /etc/\*

8. You don't need output from this.

### Part 3 To search a file for a phrase

1.

```
[balbachl@cisunix ~]$ grep "IBM PC" /etc/termcap
# The IBM PC alternate character set. Plug this into any Intel console
entry.
# Define IBM PC keypad keys for vi as per MS-Kermit while using
ANSI.SYS.
ibmpcx|xenix|ibmx|IBM PC xenix console display:\
origpc3|origibmpc3|IBM PC 386BSD Console:\
oldpc3|oldibmpc3|old IBM PC BSD/386 Console:\
bsdos-pc|IBM PC BSD/OS Console:\
# with little snowflake or star characters (IBM PC ROM character \017
= ^O)
# MS-DOS Kermit 2.27 UCB 227.14 for the IBM PC
msk22714|mskermit22714|UCB MS-DOS Kermit 2.27 UCB 227.14 IBM PC:\
      :is=\EO\Eq\EG\Ev\EJ\EY7 K6 MS Kermit 2.27 UCB 227.14 IBM PC 3-
17-85\n:\
rbcomm|IBM PC with RBcomm and EMACS keybindings:\
rbcomm-nam|IBM PC with RBcomm without autowrap:\
rbcomm-w|IBM PC with RBcomm in 132 column mode:\
#### IBM PC and clones
ibmpc|wy60-PC|wyse60-PC|IBM PC/XT running PC/IX:\
pc-coherent|pcz19|coherent|IBM PC console running Coherent:\
pc-venix|venix|IBM PC console running Venix:\
# the advent of the IBM PC. They run, for example, the UCSD Pascal
xtalk|IBM PC with xtalk communication program (versions up to 3.4):\
# These were invented to take advantage of the IBM PC ROM character
set. One
#      * Added vt102-nsgr to cope with stupid IBM PC `VT100'
emulators.
```

2. You don't need output from this.

## Part 4 To redirect the output of a command to the grep command

1.

```
[balbachl@cisunix ~]$ ls /etc|grep magic
gnome-vfs-mime-magic
```

2. You don't need output from this.

## More Grep

```
[balbachl@cisunix ~]$ ls -l | grep ^d | tee mydirectories
drwxr-xr-x 2 balbachl balbachl 4096 Jan 13 12:45 assignments
drwx----- 2 balbachl balbachl 4096 Jan 20 08:17 ch1Files
drwx----- 2 balbachl balbachl 4096 Jan 13 12:17 ch2Files
drwx----- 2 balbachl balbachl 4096 Jan 13 12:16 ch3Files
drwxr-xr-x 2 balbachl balbachl 4096 Jan 20 10:51 ch4
drwx----- 3 balbachl balbachl 4096 Jan 20 11:09 ch4Files
drwx----- 2 balbachl balbachl 4096 Jan 11 21:10 corp_db
drwx----- 2 balbachl balbachl 4096 Jan 11 14:27 dept_4540
drwx----- 2 balbachl balbachl 4096 Jan 29 18:46 dept_4550
drwx----- 3 balbachl balbachl 4096 Jan 11 14:33 fitness
drwx----- 2 balbachl balbachl 4096 Jan 11 21:49 secure
drwxr-xr-x 2 balbachl balbachl 4096 Jan 20 10:51 supp4
drwxr-xr-x 2 balbachl balbachl 4096 Jan 27 10:45 test2
```

---

## Hands on #3

## Project 5-4

1 & 2. You can either create zoo1 in the vi editor or copy it from /balbachl/ch5

```
[balbachl@cisunix ~]$ cp /home/balbachl/ch5/zoo1 .
```

3.

```
[balbachl@cisunix ~]$ uniq zoo1 > zoo2
```

4.

```
[balbachl@cisunix ~]$ cat zoo2
Monkeys:Bananas:2000:850.00
Lions:Raw Meat:4000:1245.50
Camels:Vegetables:2300:564.75
Elephants:Hay:120000:1105.75
```

---

## Hands on #4

### Project 5-5

1, 2 & 3.

```
[balbachl@cisunix ~]$ cat > my_list
Football
Basketball
Skates
Soccer ball
```

4.

```
[balbachl@cisunix ~]$ cp my_list your_list
```

5 & 6.

```
[balbachl@cisunix ~]$ comm my_list your_list
      Football
      Basketball
      Skates
      Soccer ball
```

7, 8, 9

```
[balbachl@cisunix ~]$ cat >> my_list
Golf ball
```

10 & 11.

```
[balbachl@cisunix ~]$ comm my_list your_list
      Football
      Basketball
      Skates
      Soccer ball
```

Golf ball

12, 13, 14

```
[balbachl@cisunix ~]$ cat >> your_list
Tennis ball
```

15.

```
[balbachl@cisunix ~]$ comm my_list your_list
      Football
      Basketball
      Skates
      Soccer ball
```

Golf ball

Tennis ball



---

## Hands On #6

### Project 5-7

1,2,3

```
[balbachl@cisunix ~]$ cat > counters
Linux is a full featured UNIX clone.
Linux is available in free and commercial versions.
```

4.

```
[balbachl@cisunix ~]$ wc -l counters
  2 counters
```

5.

```
[balbachl@cisunix ~]$ wc -c counters
 89 counters
```

6.

```
[balbachl@cisunix ~]$ wc -w counters
 15 counters
```

7.

```
[balbachl@cisunix ~]$ wc -lwc counters
  2      15      89 counters
```

---

## Hands On #7

### Project 5-8

1. [balbachl@cisunix ~]\$ cat unix\_stuff  
Although UNIX supports other database systems,  
UNIX has never abandoned the idea of working with  
flat files. Flat files are those that are based on pure  
text with standard ACSII codes. Flat files  
can be read by any operating system.

2.

```
[balbachl@cisunix ~]$ sed -n 3,4p unix_stuff
flat files. Flat files are those that are based on pure
text with standard ACSII codes. Flat files
```

3.

```
[balbachl@cisunix ~]$ sed -n -e 3,4d -e p unix_stuff
Although UNIX supports other database systems,
UNIX has never abandoned the idea of working with
can be read by any operating system.
```

4.

```
[balbachl@cisunix ~]$ sed -n /Flat/p unix_stuff
flat files. Flat files are those that are based on pure
text with standard ACSII codes. Flat files
```

5.

```
[balbachl@cisunix ~]$ sed -n s/Flat/Text/p unix_stuff
flat files. Text files are those that are based on pure
text with standard ACSII codes. Text files
```

## Project 5-9

1 & 2.

```
[balbachl@cisunix ~]$ cat more_stuff
$a\
Informix and Oracle, two major relational database\
companies ahve installed their RDBMS packages on UNIX\
systems for many years.
```

3.

```
[balbachl@cisunix ~]$ sed -f more_stuff unix_stuff
Although UNIX supports other database systems,
UNIX has never abandoned the idea of working with
flat files. Flat files are those that are based on pure
text with standard ACSII codes. Flat files
can be read by any operating system.
Informix and Oracle, two major relational database
companies ahve installed their RDBMS packages on UNIX
systems for many years.
```

4.

```
[balbachl@cisunix ~]$ cat stuff_replace
s/UNIX/Linux/
s/abandoned/given up/
s/standard/regular/
```

5. Don't need to do anything for this.

6.

```
[balbachl@cisunix ~]$ sed -f stuff_replace unix_stuff > unix_stuff2
```

7.

```
[balbachl@cisunix ~]$ cat unix_stuff2
Although Linux supports other database systems,
Linux has never given up the idea of working with
flat files. Flat files are those that are based on pure
text with regular ACSII codes. Flat files
can be read by any operating system.
```

---

## Hands On #8

### Project 5-10

#### Part 1

1.  
[balbachl@cisunix ~]\$ tr [a-z] [A-Z] < counters  
LINUX IS A FULL FEATURED UNIX CLONE.  
LINUX IS AVAILABLE IN FREE AND COMMERCIAL VERSIONS.  
[balbachl@cisunix ~]\$

#### Part 2

1. [balbachl@cisunix ~]\$ tr -d "full" < counters  
Linx is a eatred UNIX cone.  
Linx is avaiabe in ree and commercia versions.

#### Part 3

1.  
balbachl@cisunix ~]\$ cat zoo2  
Monkeys:Bananas:2000:850.00  
Lions:Raw Meat:4000:1245.50  
Camels:Vegetables:2300:564.75  
Elephants:Hay:120000:1105.75

2.  
[balbachl@cisunix ~]\$ tr -s ":" " " < zoo2  
Monkeys Bananas 2000 850.00  
Lions Raw Meat 4000 1245.50  
Camels Vegetables 2300 564.75  
Elephants Hay 120000 1105.75

---

## Hands On #9

### Project 5-11

1.  
[balbachl@cisunix ~]\$ pr -h "UNIX Files & Databases" < unix\_stuff |  
more

2006-01-31 16:36  
1

UNIX Files & Databases

Page

Although UNIX supports other database systems, UNIX has never abandoned the idea of working with flat files. Flat files are those that are based on pure text with standard ACSII codes. Flat files can be read by any operating system.

2.

```
[balbach1@cisunix ~]$ pr -l 23 -h "UNIX Files & databases" < unix_stuff
```

2006-01-31 16:38

UNIX Files & databases

Page

1

Although UNIX supports other database systems, UNIX has never abandoned the idea of working with flat files. Flat files are those that are based on pure text with standard ACSII codes. Flat files can be read by any operating system.