

## **CHAPTER 4 HANDS-ON PROJECTS (4-1 -> 4-18)**

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### **Project 4-1**

```
[student@COS-047 ~]$ vi testfile
```

```
This is line 1.
```

```
This is line 2.
```

```
This is line 3.
```

```
This is line 4.
```

```
~
```

```
~
```

```
:x
```

```
[student@COS-047 ~]$ cat testfile
```

```
This is line 1.
```

```
This is line 2.
```

```
This is line 3.
```

```
This is line 4.
```

```
[student@COS-047 ~]$ vi commands
```

```
2GddGp:x
```

```
~
```

```
~
```

```
:x
```

```
[student@COS-047 ~]$ cat commands
```

```
2GddGp:x
```

```
[student@COS-047 ~]$ vi testfile < commands
```

```
Vim: Warning: Input is not from a terminal
```

```
[student@COS-047 ~]$ cat testfile
```

```
This is line 1.
```

```
This is line 3.
```

```
This is line 4.
```

```
This is line 2.
```

---

### **Project 4-2**

```
[student@COS-047 ~]$ ls oops
```

```
ls: cannot access oops: No such file or directory
```

```
[student@COS-047 ~]$ ls oops 2> errfile
```

```
[student@COS-047 ~]$ cat errfile
```

```
ls: cannot access oops: No such file or directory
```

---

### Project 4-3

```
[student@COS-047 ~]$ > newfile1
```

```
[student@COS-047 ~]$ ls -l newfile1
```

```
-rw-rw-r--. 1 student student 0 Feb 27 19:09 newfile1
```

```
[student@COS-047 ~]$ type > newfile2
```

---

### Project 4-4

```
[student@COS-047 ~]$ touch newfile3
```

```
[student@COS-047 ~]$ ls -l newfile3
```

```
-rw-rw-r--. 1 student student 0 Feb 27 19:11 newfile3
```

```
[student@COS-047 ~]$ touch newfile3
```

```
[student@COS-047 ~]$ ls -l newfile3
```

```
-rw-rw-r--. 1 student student 0 Feb 27 19:14 newfile3
```

---

### Project 4-5

```
[student@COS-047 ~]$ rm newfile1
```

```
[student@COS-047 ~]$ rm -i newfile2
```

```
rm: remove regular empty file 'newfile2'? y
```

```
[student@COS-047 ~]$ touch file1 file2 file3 filegood filebad
```

```
[student@COS-047 ~]$ ls file*
```

```
file1 file2 file3 filebad filegood
```

```
[student@COS-047 ~]$ rm file*
```

```
[student@COS-047 ~]$ ls file*
```

```
ls: cannot access file*: No such file or directory
```

---

## Project 4-6

```
[student@COS-047 ~]$ mkdir newdir
```

```
[student@COS-047 ~]$ touch newdir/newfile
```

```
[student@COS-047 ~]$ ls newdir
```

```
newfile
```

```
[student@COS-047 ~]$ rmdir newdir
```

```
rmdir: failed to remove 'newdir': Directory not empty
```

```
[student@COS-047 ~]$ rm newdir/newfile
```

```
[student@COS-047 ~]$ rmdir newdir
```

```
[student@COS-047 ~]$ ls
```

```
12lines  Desktop  first_name  Music  Public  testfile
```

```
commands  disco  full_name1.txt  newfile3  second  textfiles
```

```
corp_db  Downloads  full_name22.txt  notes  secure  third
```

```
dept_4540  errfile  last_name  Pictures  sonnet  Videos
```

```
dept_4550  first  middle_name  practice  Templates
```

```
[student@COS-047 ~]$ mkdir company
```

```
[student@COS-047 ~]$ mkdir company/sales; mkdir company/marketing; mkdir company/accounting;
```

```
[student@COS-047 ~]$ ls company
```

```
accounting  marketing  sales
```

```
[student@COS-047 ~]$ touch company/file1 company/file2 company/file3
```

```
[student@COS-047 ~]$ cp company/file1 company/file2 company/file3 company/sales
```

```
[student@COS-047 ~]$ cp company/file1 company/file2 company/file3 company/ marketing
```

cp: target 'marketing' is not a directory

```
[student@COS-047 ~]$ cp company/file1 company/file2 company/file3 company/marketing
```

```
[student@COS-047 ~]$ cp company/file1 company/file2 company/file3 company/accounting
```

```
[student@COS-047 ~]$ ls company
```

accounting file1 file2 file3 marketing sales

```
[student@COS-047 ~]$ rm -ri company
```

rm: descend into directory 'company'? y

rm: descend into directory 'company/sales'? y

rm: remove regular empty file 'company/sales/file1'? y

rm: remove regular empty file 'company/sales/file2'? y

rm: remove regular empty file 'company/sales/file3'? y

rm: remove directory 'company/sales'? y

rm: descend into directory 'company/marketing'? y

rm: remove regular empty file 'company/marketing/file1'? y

rm: remove regular empty file 'company/marketing/file2'? y

rm: remove regular empty file 'company/marketing/file3'? y

rm: remove directory 'company/marketing'? y

rm: descend into directory 'company/accounting'? y

rm: remove regular empty file 'company/accounting/file1'? y

rm: remove regular empty file 'company/accounting/file2'? y

rm: remove regular empty file 'company/accounting/file3'? y

rm: remove directory 'company/accounting'? y

rm: remove regular empty file 'company/file1'? y

rm: remove regular empty file 'company/file2'? y

rm: remove regular empty file 'company/file3'? y

rm: remove directory 'company'? y

```
[student@COS-047 ~]$ ls
```

```
12lines  Desktop  first_name  Music  Public  testfile
commands disco  full_name1.txt newfile3 second  textfiles
corp_db  Downloads full_name22.txt notes  secure  third
dept_4540 errfile last_name  Pictures sonnet  Videos
dept_4550 first  middle_name  practice Templates
```

---

## Project 4-7

```
[student@COS-047 ~]$ cd
```

```
[student@COS-047 ~]$ ls
```

```
12lines  Desktop  first_name  Music  Public  testfile
commands disco  full_name1.txt newfile3 second  textfiles
corp_db  Downloads full_name22.txt notes  secure  third
dept_4540 errfile last_name  Pictures sonnet  Videos
dept_4550 first  middle_name  practice Templates
```

```
[student@COS-047 ~]$ mkdir source
```

```
[student@COS-047 ~]$ > file1
```

```
[student@COS-047 ~]$ > file2
```

```
[student@COS-047 ~]$ > file3
```

```
[student@COS-047 ~]$ cp file1 file2 file3 source
```

```
[student@COS-047 ~]$ cp file1 file1.bak
```

```
[student@COS-047 ~]$ pwd
```

```
/home/student
```

```
[student@COS-047 ~]$ ls
```

```
12lines  disco  file3  middle_name Public  testfile
commands Downloads first  Music  second  textfiles
```

```
corp_db  errfile  first_name  newfile3  secure  third

dept_4540 file1    full_name1.txt notes    sonnet  Videos

dept_4550 file1.bak full_name22.txt Pictures  source

Desktop  file2    last_name  practice  Templates

[student@COS-047 ~]$ ls -l source

total 0
```

```
-rw-rw-r--. 1 student student 0 Feb 27 19:44 file1

-rw-rw-r--. 1 student student 0 Feb 27 19:44 file2

-rw-rw-r--. 1 student student 0 Feb 27 19:44 file3
```

---

## Project 4-8

```
[student@COS-047 ~]$ > thisfile
```

```
[student@COS-047 ~]$ mv thisfile source
```

```
[student@COS-047 ~]$ ls
```

```
12lines  disco  file3      middle_name Public  testfile

commands Downloads first      Music    second  textfiles

corp_db  errfile  first_name  newfile3  secure  third

dept_4540 file1    full_name1.txt notes    sonnet  Videos

dept_4550 file1.bak full_name22.txt Pictures  source

Desktop  file2    last_name  practice  Templates
```

```
[student@COS-047 ~]$ ls source
```

```
file1 file2 file3 thisfile
```

```
[student@COS-047 ~]$ mv file1 file1.bak source
```

```
[student@COS-047 ~]$ > my_file
```

```
[student@COS-047 ~]$ mv my_file your_file
```

```
[student@COS-047 ~]$ ls
```

```
12lines  disco  first_name  newfile3  secure  third
```

commands	Downloads	full_name1.txt	notes	sonnet	Videos
corp_db	errfile	full_name22.txt	Pictures	source	your_file
dept_4540	file2	last_name	practice	Templates	
dept_4550	file3	middle_name	Public	testfile	
Desktop	first	Music	second	textfiles	

---

## Project 4-9

```
[student@COS-047 ~]$ find /home -name file1
```

```
find: ‘/home/viewuser’: Permission denied
```

```
/home/student/source/file1
```

No, you cannot view them, the permission is denied.

---

## Project 4-10

```
[student@COS-047 ~]$ cat > product1
```

```
Lobby Furniture:1201
```

```
Ballroom Specialties:1221
```

```
Poolside Carts:1320
```

```
Formal Dining Specials:1340
```

```
Reservation Logs:1410
```

```
[student@COS-047 ~]$ cat > product2
```

```
Plumbing Supplies:1423
```

```
Office Equipment:1361
```

```
Carpeting Services:1395
```

```
Auto Maintenance:1544
```

```
Pianos and Violins:1416
```

```
[student@COS-047 ~]$ cat product1 product2 > products3
```

[student@COS-047 ~]\$ more products3

- Lobby Furniture:1201
- Ballroom Specialties:1221
- Poolside Carts:1320
- Formal Dining Specials:1340
- Reservation Logs:1410
- Plumbing Supplies:1423
- Office Equipment:1361
- Carpeting Services:1395
- Auto Maintenance:1544
- Pianos and Violins:1416

Project 4-11

[student@COS-047 ~]\$ paste product1 product2

Lobby Furniture:1201 Supplies:1423	Plumbing
Ballroom Specialties:1221 Equipment:1361	Office
Poolside Carts:1320 Services:1395	Carpeting
Formal Dining Specials:1340 Maintenance:1544	Auto
Reservation Logs:1410 Violins:1416	Pianos and

paste product1 product2 > exmpfile

Project 4-12



```
[student@COS-047 ~]$ vi corp_phones1
```

```
219:432:4567:Harrison:Joel:M:4540:Accountant:09-12-1985
```

```
219:432:4587:Mitchell:Barbara:C:4541:Admin Asst:12-14-1995
```

```
219:432:4589:Olson:Timothy:H:4544:Supervisor:06-30-1983
```

```
219:432:4591:Moore:Sarah:H:4500:Dept Manager:08-01-1978
```

```
219:432:4527:Polk:John:S:4520:Accountant:09-22-1998
```

```
~
```

```
~
```

```
:x
```

```
[student@COS-047 ~]$ vi corp_phones2
```

```
219 432 4567 Harrison  Joel   M 4540 Accountant    09-12-1985
```

```
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 4591 Moore      Sarah   H 4500 Dept Manager    08-01-1978
```

```
219 432 4527 Polk       John    S 4520 Accountant    09-22-1998
```

```
~
```

```
~
```

```
:x
```

```
[student@COS-047 ~]$ cut -f4-6 -d: corp_phones1
```

```
Harrison:Joel:M
```

```
Mitchell:Barbara:C
```

```
Olson:Timothy:H
```

```
Moore:Sarah:H
```

```
Polk:John:S
```

```
[student@COS-047 ~]$ cut -c14-25,26-35,36 corp_phones2
```

```
Harrison  Joel   M 45
```

```
Mitchell
```

```
Olson
```

```
Su
```

```
Barbara C 4541
```

```
Timothy H 4544
```

Moore  
Dept  
Polk  
Acc

Sarah H 4500  
John S 4520

---

## Project 4-13

```
[student@COS-047 ~]$ sort -t: -k 4 corp_phones1
219:432:4567:Harrison:Joel:M:4540:Accountant:09-12-1985
219:432:4587:Mitchell:Barbara:C:4541:Admin Asst:12-14-1995
219:432:4591:Moore:Sarah:H:4500:Dept Manager:08-01-1978
219:432:4589:Olson:Timothy:H:4544:Supervisor:06-30-1983
219:432:4527:Polk:John:S:4520:Accountant:09-22-1998
```

```
[student@COS-047 ~]$ sort -t: -k 5 corp_phones1
219:432:4587:Mitchell:Barbara:C:4541:Admin Asst:12-14-1995
219:432:4567:Harrison:Joel:M:4540:Accountant:09-12-1985
219:432:4527:Polk:John:S:4520:Accountant:09-22-1998
219:432:4591:Moore:Sarah:H:4500:Dept Manager:08-01-1978
219:432:4589:Olson:Timothy:H:4544:Supervisor:06-30-1983
```

```
[student@COS-047 ~]$ sort -k 4 corp_phones2
```

```
219 432 4567 Harrison Joel M 4540 Accountant 09-12-1985
219 432 4587 Mitchell
Admin Asst 12-14-1995
219 432 4591 Moore
Dept Manager 08-01-1978
219 432 4589 Olson
Supervisor 06-30-1983
219 432 4527 Polk
Accountant 09-22-1998
```

Barbara C 4541  
Sarah H 4500  
Timothy H 4544  
John S 4520

```
[student@COS-047 ~]$ sort -k 5 corp_phones2
```

```
219 432 4587 Mitchell
Admin Asst 12-14-1995
219 432 4567 Harrison Joel M 4540 Accountant 09-12-1985
219 432 4527 Polk
Accountant 09-22-1998
219 432 4591 Moore
Dept Manager 08-01-1978
219 432 4589 Olson
Supervisor 06-30-1983
```

Barbara C 4541  
John S 4520  
Sarah H 4500  
Timothy H 4544

```
[student@COS-047 ~]$ clear
```

```
[student@COS-047 ~]$ sort -t: -k 5 -o sorted_phones corp_phones1
```

```
[student@COS-047 ~]$ cat sorted_phones
```

219:432:4587:Mitchell:Barbara:C:4541:Admin Asst:12-14-1995  
219:432:4567:Harrison:Joel:M:4540:Accountant:09-12-1985  
219:432:4527:Polk:John:S:4520:Accountant:09-22-1998  
219:432:4591:Moore:Sarah:H:4500:Dept Manager:08-01-1978  
219:432:4589:Olson:Timothy:H:4544:Supervisor:06-30-1983

---

## Project 4-14

[student@COS-047 ~]\$ cat > vendors  
1201:Cromwell Interiors  
1221:Design Extras Inc.  
1320:Piedmont Plastics Inc.  
1340:Morgan Catering Service Ltd.  
1350:Pullman Elevators  
1360:Johnson Office Products

[student@COS-047 ~]\$ cat > products  
S0107:Lobby Furniture:1201  
S0109:Ballroom Specialties:1221  
S0110:Poolside Carts:1320  
S0130:Formal Dining Specials:1340  
S0201:Reservation Logs:1410

[student@COS-047 ~]\$ cut -f2 -d: products > p1

[student@COS-047 ~]\$ cut -f3 -d: products > p2

[student@COS-047 ~]\$ cut -f1 -d: vendors > v1

[student@COS-047 ~]\$ cut -f2 -d: vendors > v2

[student@COS-047 ~]\$ paste v1 v2 > v3

[student@COS-047 ~]\$ paste p2 p1 > p3

[student@COS-047 ~]\$ sort -o vrep -m v3 p3

[student@COS-047 ~]\$ cat vrep

1201	Cromwell
Interiors	
1201	Lobby Furniture
1221	Ballroom
Specialties	
1221	Design Extras
Inc.	
1320	Piedmont
Plastics Inc.	
1320	Poolside Carts
1340	Formal Dining
Specials	
1340	Morgan Catering
Service Ltd.	
1350	Pullman
Elevators	

## Project 4-15

```
[student@COS-047 ~]$ vi ven_report
```

```
cut -f2 -d: products > p1
cut -f3 -d: products > p2
cut -f1 -d: vendors > v1
cut -f2 -d: vendors > v2
paste v1 v2 > v3
paste p2 p1 > p3
sort -o vrep -m v3 p3
```

```
~
~
:x
```

```
[student@COS-047 ~]$ chmod ugo+x ven_report
```

```
[student@COS-047 ~]$ rm vrep
```

```
[student@COS-047 ~]$ ./ven_report
```

```
[student@COS-047 ~]$ cat vrep
```

1201  
Interiors

Cromwell

1201

Lobby Furniture

1221  
Specialties

Ballroom

1221  
Inc.

Design Extras

1320  
Plastics Inc.

Piedmont

1320

Poolside Carts

1340  
Specials

Formal Dining

1340  
Service Ltd.

Morgan Catering

1350  
Elevators

Pullman

1360  
Products

Johnson Office

1410

Reservation Logs

---

### Project 4-16 (NOTE: I could not get the command to run, due to the join command.)

```
[student@COS-047 ~]$ join -a1 -e "No Products" -1 1 -2 3 -o '1.2 2.2' -t: vendors products > vreport ; cat  
vreport
```

join: extra operand 'products'

Try 'join --help' for more information.

```
[student@COS-047 ~]$ join -a1 -e "No Products" -1 1 -2 3 -o '1.2 2.2' -t: vendors products > vreport ; cat  
vreport
```

join: extra operand 'products'

Try 'join --help' for more information.

```
[student@COS-047 ~]$ join -a1 -e "No Products" -1 1 -2 3 -o '1.2 2.2' -t: vendors products > vreport ; cat  
vreport
```

join: extra operand 'products'

Try 'join --help' for more information.

```
[student@COS-047 ~]$ join -a1 -e "No Products" -1 1 -2 3 -o '1.2 2.2' -t: vendors products > vreport ; cat  
vreport
```

join: extra operand 'products'

Try 'join --help' for more information.

```
[student@COS-047 ~]$ cat vreport
```

```
[student@COS-047 ~]$ ls
```

12lines    errfile    newfile3   products3    third

```

commands    file2      notes    Public      v1

corp_db      file3        p1       second     v2

corp_phones1 first      p2       secure     v3

corp_phones2 first_name  p3       sonnet     vendors

dept_4540    full_name1.txt Pictures sorted_phones ven_report

dept_4550    full_name22.txt practice source      Videos

Desktop      last_name    product1 Templates vrep

disco        middle_name  product2 testfile  vreport

Downloads    Music        products textfiles  your_file

```

```
[student@COS-047 ~]$ join -a1 -e "No Products" -1 1 -2 3 -o '1.2 2.2' -t: vendors products > vreport ; cat vreport
```

join: extra operand 'products'

Try 'join --help' for more information.

```
[student@COS-047 ~]$ join -a1 -e -1 1 -2 3 -o '1.2 2.2' -t: vendors products > vreport ; cat vreport
```

join: extra operand 'products'

Try 'join --help' for more information.

## Project 4-17 (NOTE: There was no error message, but no screen printed)

```
[student@COS-047 ~]$ awk -F: '{printf "%-28s\t %s\n", $1, $2}' vreport
```

## Project 4-18

```

BEGIN {
{ FS = ":" }
{ print "\t\tVendors and Products\n" }
{ "date" | getline d }
{ printf "\t %s\n", d }
{ print "Vendor Name\t\t Product Names\n" }
{ print "===== \n" }
}

```

```
}  
{ printf "%-28s\t%s\n",$1, $2 }
```

```
~  
~  
:x
```

```
[student@COS-047 ~]$ vi awrp
```

```
[student@COS-047 ~]$ awk -f awrp vreport > v_report
```

```
[student@COS-047 ~]$ cat v_report
```

Products

Vendors and

00:06:40 MST 2018

Wed Feb 28

Vendor Name

Product Names

=====

```
[student@COS-047 ~]$ lpr v_report
```

```
lpr: Error - no default destination available.
```

---