

**Vanier College**  
**Faculty of Careers and Technical Programs**  
**Department of Computer Science Technology**

# **Advanced UNIX**

**Title: Final Lab Exam (Chapters 5-11)**

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## Chapter 7 ~ Discovery Exercise 7 (p. 348)

```
[root@server13 ~]# vi grades_
```

```
# Chapter 7 - Discovery Question 7
#
# This program calculates the corresponding letter for the grade
# and prompts the user for grades until the user chooses to exit.

flag=1

while test $flag -eq 1
do

echo -n "Enter a grade between 0 and 100: "
read grade

if [ $grade -ge 0 -a $grade -le 49 ]
then
echo "You have received a Letter Grade of F."

elif [ $grade -ge 50 -a $grade -le 59 ]
then
echo "You have received a Letter Grade of D."

elif [ $grade -ge 60 -a $grade -le 69 ]
then
echo "You have received a Letter Grade of C."

elif [ $grade -ge 70 -a $grade -le 79 ]
then
echo "You have received a Letter Grade of B."

elif [ $grade -ge 80 -a $grade -le 100 ]
then
echo "You have received a Letter Grade of A."

else
echo "Invalid Grade."
fi
"grades" 40L, 843C
```

```
else
echo "Invalid Grade."
fi

echo -n "Do you want to continue? (Please enter 1 to continue or 0 to exit): "
read flag
done
```

```
[root@server13 ~]# chmod a+x grades
[root@server13 ~]#
```

```
[root@server13 ~]# ./grades
Enter a grade between 0 and 100: 10
You have received a Letter Grade of F.
Do you want to continue? (Please enter 1 to continue or 0 to exit): 1
Enter a grade between 0 and 100: 56
You have received a Letter Grade of D.
Do you want to continue? (Please enter 1 to continue or 0 to exit): 1
Enter a grade between 0 and 100: 63
You have received a Letter Grade of C.
Do you want to continue? (Please enter 1 to continue or 0 to exit): 1
Enter a grade between 0 and 100: 78
You have received a Letter Grade of B.
Do you want to continue? (Please enter 1 to continue or 0 to exit): 1
Enter a grade between 0 and 100: 100
You have received a Letter Grade of A.
Do you want to continue? (Please enter 1 to continue or 0 to exit): 1
Enter a grade between 0 and 100: 450
Invalid Grade.
Do you want to continue? (Please enter 1 to continue or 0 to exit): 0
[root@server13 ~]# _
```

### Chapter 10 ~ Discovery Exercise 6 (p. 472)

- f) `[root@server13 ~]# usermod -g managers -l artbanks tbanks`
- g) `[root@server13 ~]# useradd -u 0 -g root -o wjones`
- h) `[root@server13 ~]# useradd -p he789R -M jdoe`
- i) `[root@server13 ~]# usermod -g root wsmith`
- j) `[root@server13 ~]# useradd -g acctg tbanks ; useradd -g acctg jdoe`

## Chapter 11 ~ Project 11-6 (p.522-523)

1.

```
Ubuntu 14.04.1 LTS ubuntu tty1

ubuntu login: root
Password:
Last login: Thu Dec 10 08:03:02 EST 2020 on tty2
Welcome to Ubuntu 14.04.1 LTS (GNU/Linux 3.13.0-32-generic x86_64)

* Documentation:  https://help.ubuntu.com/

System information as of Thu Dec 10 08:03:03 EST 2020

System load:  0.0                       Processes:            80
Usage of /:   7.5% of 17.38GB           Users logged in:     0
Memory usage: 5%                       IP address for eth0: 192.168.2.103
Swap usage:   0%

Graph this data and manage this system at:
  https://landscape.canonical.com/

New release '16.04.7 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

root@ubuntu:~#
```

2. Yes, there are many DPM packages installed on my computer.

```
root@ubuntu:~# dpkg -l | less
Desired=Unknown/Install/Remove/Purge/Hold
! Status=Not/Inst/Conf-files/Unpacked/halF-conf/Half-inst/trig-aWait/Trig-pend
!/- Err?=(none)/Reinst-required (Status,Err: uppercase=bad)
!!/ Name                               Version                               Architecture Description
+++-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
ii accountsservice                     0.6.35-0ubuntu7                     amd64         query and manipu
ate user account information
ii acpid                               1:2.0.21-1ubuntu2                   amd64         Advanced Configur
ation and Power Interface event daemon
ii adduser                             3.113+nmu3ubuntu3                   all           add and remove us
ers and groups
ii apparmor                             2.8.95~2430-0ubuntu5                amd64         User-space parser
utility for AppArmor
ii appport                             2.14.1-0ubuntu3.2                   all           automatically gen
erate crash reports for debugging
ii appport-symptoms                    0.20                                 all           symptom scripts f
or appport
ii apt                                 1.0.1ubuntu2.1                      amd64         commandline packa
ge manager
ii apt-transport-https                 1.0.1ubuntu2.1                      amd64         https download tr
ansport for APT
ii apt-utils                           1.0.1ubuntu2.1                      amd64         package managemen
t related utility programs
ii apt-xapian-index                    0.45ubuntu4                         all           maintenance and s
earch tools for a Xapian index of Debian packages
ii aptitude                            0.6.8.2-1ubuntu4                    amd64         terminal-based pa
ckage manager
ii aptitude-common                     0.6.8.2-1ubuntu4                    all           architecture inde
pendent files for the aptitude package manager
ii at                                   3.1.14-1ubuntu1                     amd64         Delayed job execu
tion and batch processing
ii base-files                           7.2ubuntu5.1                        amd64         Debian base syste
m miscellaneous files
ii base-passwd                         3.5.33                               amd64         Debian base syste
m master password and group files

ii libbsd0:amd64                       0.6.0-2ubuntu1                      amd64         utility functions
from BSD systems - shared library
ii libbz2-1.0:amd64                    1.0.6-5                              amd64         high-quality bloc
k-sorting file compressor library - runtime
root@ubuntu:~# _
```

3. No, the “ncompress” DPM package is not installed on my computer.

```
root@ubuntu:~# dpkg -L ncompress
dpkg-query: package 'ncompress' is not installed
Use dpkg --info (= dpkg-deb --info) to examine archive files,
and dpkg --contents (= dpkg-deb --contents) to list their contents.
root@ubuntu:~# _
```

4. Yes, the “ncompress” package is listed.

```
root@ubuntu:~# apt-cache search compress | less _
```

```
advancecomp - collection of recompression utilities
backuppc - high-performance, enterprise-grade system for backing up PCs
bzip2 - high-quality block-sorting file compressor - utilities
bzip2-doc - high-quality block-sorting file compressor - documentation
cloop-utils - Tools for handling with cloop compressed volumes
cramfsprogs - Tools for CramFs (Compressed ROM File System)
debhelper - helper programs for debian/rules
deja-dup - Back up your files
dictzip - compression utility for dictionary databases
doxygen - Documentation system for C, C++, Java, Python and other languages
doxygen-dbg - Debug symbols for doxygen
doxygen-doc - Documentation for doxygen
file-roller - archive manager for GNOME
foomatic-db-compressed-ppds - OpenPrinting printer support - Compressed PPDs derived
se
genisoimage - Creates ISO-9660 CD-ROM filesystem images
gzip - GNU compression utilities
lib32bz2-1.0 - high-quality block-sorting file compressor library - 32bit runtime
lib32bz2-dev - high-quality block-sorting file compressor library - 32bit development
lib32z1 - compression library - 32 bit runtime
lib32z1-dev - compression library - 32 bit development
libarchive-dev - Multi-format archive and compression library (development files)
libarchive-zip-perl - Perl module for manipulation of ZIP archives
libarchive13 - Multi-format archive and compression library (shared library)
libbz2-1.0 - high-quality block-sorting file compressor library - runtime
libbz2-dev - high-quality block-sorting file compressor library - development
libcommons-compress-java - Java API for working with compression and archive formats
libconvert-binx-perl - Perl5 module for extracting data from macintosh BinHex files
libdbd-mysql-perl - Perl5 database interface to the MySQL database
libdjvulibre-dev - Development files for the DjVu image format
libdpkg-perl - Dpkg perl modules
libjbig-dev - JBIGkit development files
libjbig0 - JBIGkit libraries
libjbig2dec0 - JBIG2 decoder library - shared libraries
libjbig2dec0-dev - JBIG2 decoder library - development files
libjs-yui3-full - Yahoo User Interface Library v3 (full, uncompressed files)
:
```

```
uncompress - original Lempel-Ziv compress/uncompress programs
```

```
php-net-ipv6 - Check and validate IPv6 addresses
pigz - Parallel Implementation of GZip
pike7.8-bzip2 - Bzip2 module for Pike
root@ubuntu:~# _
```

5.

```
root@ubuntu:~# apt-get install ncompress
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  ncompress
0 upgraded, 1 newly installed, 0 to remove and 215 not upgraded.
Need to get 21.5 kB of archives.
After this operation, 71.7 kB of additional disk space will be used.
Get:1 http://ca.archive.ubuntu.com/ubuntu/ trusty/universe ncompress amd64 4.2.4.4-7
Fetched 21.5 kB in 0s (116 kB/s)
Selecting previously unselected package ncompress.
(Reading database ... 56799 files and directories currently installed.)
Preparing to unpack .../ncompress_4.2.4.4-7_amd64.deb ...
Unpacking ncompress (4.2.4.4-7) ...
Processing triggers for man-db (2.6.7.1-1) ...
Setting up ncompress (4.2.4.4-7) ...
root@ubuntu:~# _
```

6.

```
root@ubuntu:~# dpkg -L ncompress
/.
/usr
/usr/share
/usr/share/doc
/usr/share/doc/ncompress
/usr/share/doc/ncompress/README
/usr/share/doc/ncompress/Acknowledgs
/usr/share/doc/ncompress/README.Debian.gz
/usr/share/doc/ncompress/changelog.Debian.gz
/usr/share/doc/ncompress/copyright
/usr/share/man
/usr/share/man/man1
/usr/share/man/man1/compress.1.gz
/usr/bin
/usr/bin/compress
/usr/share/man/man1/uncompress.real.1.gz
/usr/bin/uncompress.real
root@ubuntu:~#
```

```

root@ubuntu:~# dpkg -p ncompress
Package: ncompress
Priority: optional
Section: utils
Installed-Size: 70
Maintainer: Ubuntu Developers <ubuntu-devel-discuss@lists.ubuntu.com>
Architecture: amd64
Version: 4.2.4.4-7
Depends: libc6 (>= 2.14)
Size: 21530
Description: original Lempel-Ziv compress/uncompress programs
 This package provides the original compress and uncompress programs that used
 to be the de facto UNIX standard for compressing and uncompressing files.
 These programs implement a fast, simple Lempel-Ziv (LZW) file compression
 algorithm.
.
 For Debian, the standard uncompress program is installed as uncompress.real,
 to avoid conflicting with other packages.
.
 This package also contains a copyright notice and a brief discussion of the
 LZW patent history (written by one of the original authors) in the file
 /usr/share/doc/ncompress/README.Debian.
Original-Maintainer: Kenneth J. Pronovici <pronovici@debian.org>
Homepage: http://ncompress.sourceforge.net/
root@ubuntu:~#

```

7. Basically, the purge option removes the “ncompress” package from my system, as well as all “ncompress” configuration files.

```

root@ubuntu:~# apt-get purge ncompress
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages will be REMOVED:
  ncompress*
0 upgraded, 0 newly installed, 1 to remove and 215 not upgraded.
After this operation, 71.7 kB disk space will be freed.
Do you want to continue? [Y/n] Y
(Reading database ... 56809 files and directories currently installed.)
Removing ncompress (4.2.4.4-7) ...
Processing triggers for man-db (2.6.7.1-1) ...
root@ubuntu:~#

```



8. This command starts the **Aptitude** utility and uses the utility to install the “ncompress” DPM package from an Internet repository to my computer.

```
root@ubuntu:~# aptitude install ncompress
The following NEW packages will be installed:
  ncompress
0 packages upgraded, 1 newly installed, 0 to remove and 215 not upgraded.
Need to get 0 B/21.5 kB of archives. After unpacking 71.7 kB will be used.
Selecting previously unselected package ncompress.
(Reading database ... 56799 files and directories currently installed.)
Preparing to unpack .../ncompress_4.2.4.4-7_amd64.deb ...
Unpacking ncompress (4.2.4.4-7) ...
Processing triggers for man-db (2.6.7.1-1) ...
Setting up ncompress (4.2.4.4-7) ...

root@ubuntu:~# _
```

- 9.

```
root@ubuntu:~# exit_
```

```
Ubuntu 14.04.1 LTS ubuntu tty1
ubuntu login:
```