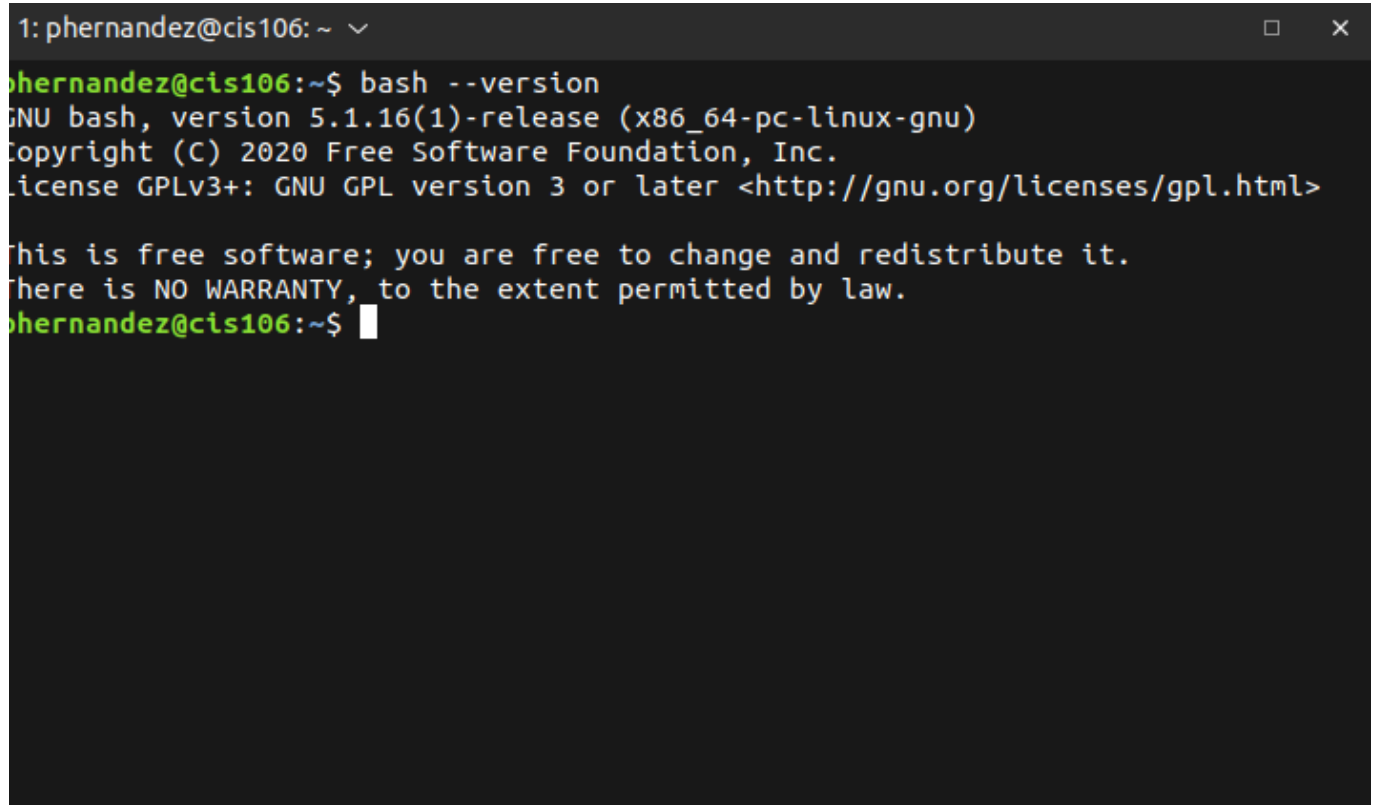


Week Report 3

Completed work for week 3

- [Lab 3](#)
- [Notes 1](#)

Practice 2: Accessing the bash shell

A terminal window with a dark background and light green text. The window title is '1: phernandez@cis106: ~'. The user has entered the command 'bash --version'. The output shows the GNU bash version 5.1.16(1)-release for x86_64-pc-linux-gnu, copyright (C) 2020 Free Software Foundation, Inc., and the GPL license information. It also includes a disclaimer: 'This is free software; you are free to change and redistribute it. There is NO WARRANTY, to the extent permitted by law.' The prompt 'phernandez@cis106:~\$' is visible at the bottom.

```
1: phernandez@cis106: ~  
phernandez@cis106:~$ bash --version  
GNU bash, version 5.1.16(1)-release (x86_64-pc-linux-gnu)  
Copyright (C) 2020 Free Software Foundation, Inc.  
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>  
  
This is free software; you are free to change and redistribute it.  
There is NO WARRANTY, to the extent permitted by law.  
phernandez@cis106:~$
```

Practice 3: Using the Command history

```
1: phernandez@cis106: ~
121 clear
122 bash ~/cis106/labs/lab3/challenge_lab3.sh
123 git pull
124 git add .
125 git commit -m "lab 3 finished"
126 git push
127 bash --version
128 clear
129 date
130 echo "hello world"
131 uname -a
132 history
phernandez@cis106:~$ !130
echo "hello world"
hello world
phernandez@cis106:~$ !!
echo "hello world"
hello world
phernandez@cis106:~$ echo "hello"
hello
phernandez@cis106:~$ !!world
echo "hello"world
helloworld
phernandez@cis106:~$
```

Practice 4: Writing a shell script

```
Tilix: phernandez@cis106: ~
1: phernandez@cis106: ~
phernandez@cis106:~$ bash ~/scripts/hello.sh
hello world
I am learning linux
this is my first shell script
phernandez@cis106:~$
```

Practice 5: Using man

FREE(1)

NAME

free - Display amount of free and used memory in the system

SYNOPSIS

free [options]

DESCRIPTION

free displays the total amount of free and used physical and swap memory in the system, as well as the buffers and caches used by the kernel. The information is gathered by parsing /proc/meminfo. The displayed columns are:

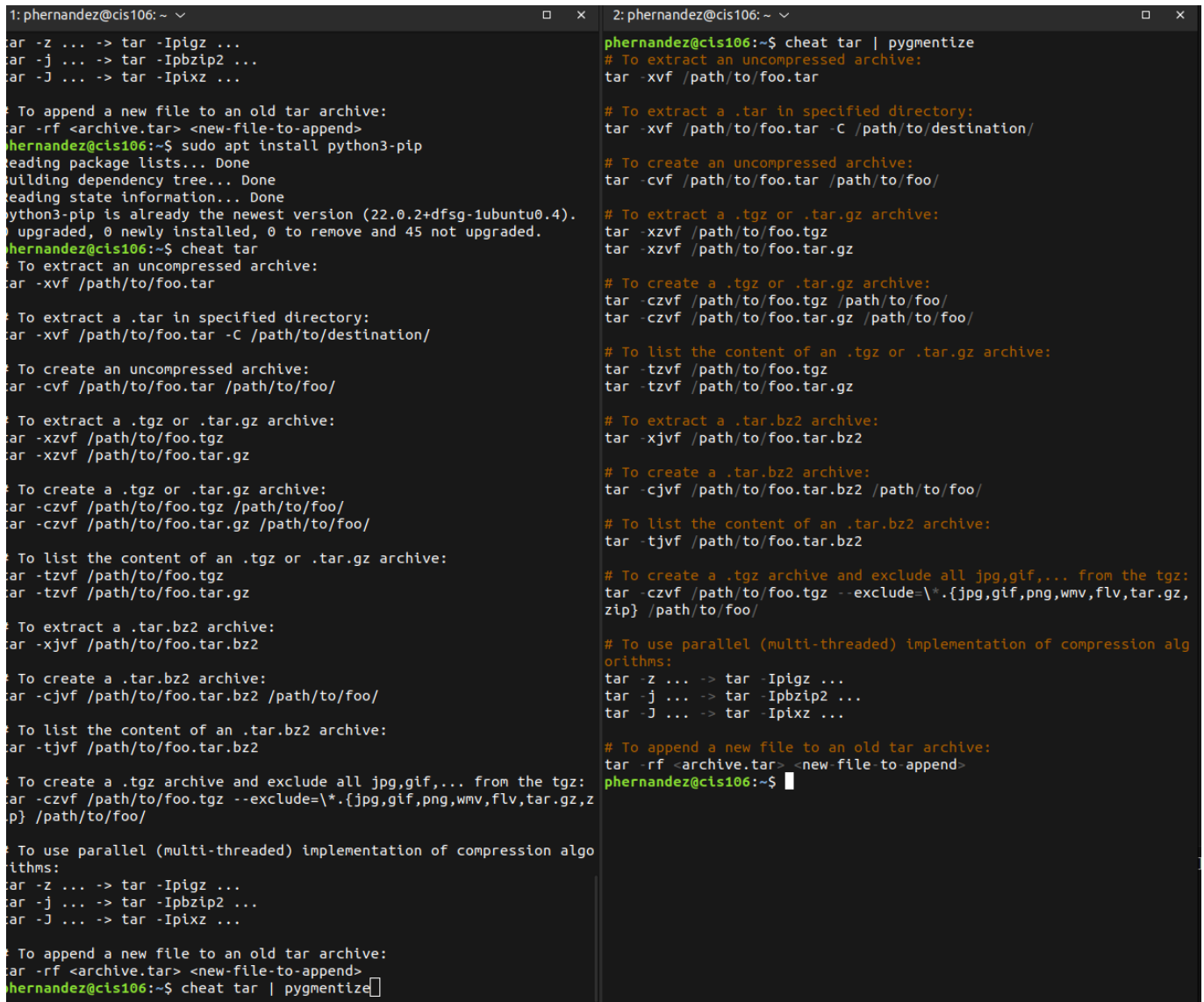
total	Total installed memory (MemTotal and SwapTotal in /proc/meminfo)
used	Used memory (calculated as total - free - buffers - cache)
free	Unused memory (MemFree and SwapFree in /proc/meminfo)
shared	Memory used (mostly) by tmpfs (Shmem in /proc/meminfo)

```
phernandez@cis106:~$ uname -s
Linux
phernandez@cis106:~$ uname -n
cis106
phernandez@cis106:~$ uname -l
x86_64
phernandez@cis106:~$ uname -o
GNU/Linux
phernandez@cis106:~$ man date
phernandez@cis106:~$ man df
phernandez@cis106:~$ man free
phernandez@cis106:~$ man clear
phernandez@cis106:~$ man history
phernandez@cis106:~$ free -g
              total      used      free      shared  buff/cache
Mem:           1          1          0          0          0
Swap:          4          1          3
phernandez@cis106:~$
```

Practice 6: Using help

```
phernandez@cis106:~$ whatis ls
ls (1)             - list directory contents
phernandez@cis106:~$ whatis pwd
pwd (1)            - print name of current/working directory
phernandez@cis106:~$ whatis apt
apt (8)            - command-line interface
phernandez@cis106:~$ whatis sudo
sudo (8)           - execute a command as another user
phernandez@cis106:~$
```

Practice 7: Using cheat



```
1: phernandez@cis106: ~
tar -z ... -> tar -Ipigz ...
tar -j ... -> tar -Ipbzip2 ...
tar -J ... -> tar -Ipixz ...

# To append a new file to an old tar archive:
tar -rf <archive.tar> <new-file-to-append>
phernandez@cis106:~$ sudo apt install python3-pip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
python3-pip is already the newest version (22.0.2+dfsg-1ubuntu0.4).
0 upgraded, 0 newly installed, 0 to remove and 45 not upgraded.
phernandez@cis106:~$ cheat tar
# To extract an uncompressed archive:
tar -xvf /path/to/foo.tar

# To extract a .tar in specified directory:
tar -xvf /path/to/foo.tar -C /path/to/destination/

# To create an uncompressed archive:
tar -cvf /path/to/foo.tar /path/to/foo/

# To extract a .tgz or .tar.gz archive:
tar -xzvf /path/to/foo.tgz
tar -xzvf /path/to/foo.tar.gz

# To create a .tgz or .tar.gz archive:
tar -czvf /path/to/foo.tgz /path/to/foo/
tar -czvf /path/to/foo.tar.gz /path/to/foo/

# To list the content of an .tgz or .tar.gz archive:
tar -tzvf /path/to/foo.tgz
tar -tzvf /path/to/foo.tar.gz

# To extract a .tar.bz2 archive:
tar -xjvf /path/to/foo.tar.bz2

# To create a .tar.bz2 archive:
tar -cjvf /path/to/foo.tar.bz2 /path/to/foo/

# To list the content of an .tar.bz2 archive:
tar -tjvf /path/to/foo.tar.bz2

# To create a .tgz archive and exclude all jpg,gif,... from the tgz:
tar -czvf /path/to/foo.tgz --exclude='*.{jpg,gif,png,wmv,flv,tar.gz,zip}' /path/to/foo/

# To use parallel (multi-threaded) implementation of compression algorithms:
tar -z ... -> tar -Ipigz ...
tar -j ... -> tar -Ipbzip2 ...
tar -J ... -> tar -Ipixz ...

# To append a new file to an old tar archive:
tar -rf <archive.tar> <new-file-to-append>
phernandez@cis106:~$

2: phernandez@cis106: ~
phernandez@cis106:~$ cheat tar | pygmentize
# To extract an uncompressed archive:
tar -xvf /path/to/foo.tar

# To extract a .tar in specified directory:
tar -xvf /path/to/foo.tar -C /path/to/destination/

# To create an uncompressed archive:
tar -cvf /path/to/foo.tar /path/to/foo/

# To extract a .tgz or .tar.gz archive:
tar -xzvf /path/to/foo.tgz
tar -xzvf /path/to/foo.tar.gz

# To create a .tgz or .tar.gz archive:
tar -czvf /path/to/foo.tgz /path/to/foo/
tar -czvf /path/to/foo.tar.gz /path/to/foo/

# To list the content of an .tgz or .tar.gz archive:
tar -tzvf /path/to/foo.tgz
tar -tzvf /path/to/foo.tar.gz

# To extract a .tar.bz2 archive:
tar -xjvf /path/to/foo.tar.bz2

# To create a .tar.bz2 archive:
tar -cjvf /path/to/foo.tar.bz2 /path/to/foo/

# To list the content of an .tar.bz2 archive:
tar -tjvf /path/to/foo.tar.bz2

# To create a .tgz archive and exclude all jpg,gif,... from the tgz:
tar -czvf /path/to/foo.tgz --exclude='*.{jpg,gif,png,wmv,flv,tar.gz,zip}' /path/to/foo/

# To use parallel (multi-threaded) implementation of compression algorithms:
tar -z ... -> tar -Ipigz ...
tar -j ... -> tar -Ipbzip2 ...
tar -J ... -> tar -Ipixz ...

# To append a new file to an old tar archive:
tar -rf <archive.tar> <new-file-to-append>
phernandez@cis106:~$
```

Practice 1: Managing software

```

1: phernandez@cis106: ~
phernandez@cis106:~$ sudo apt install bastet -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
bastet is already the newest version (0.43-7).
0 upgraded, 0 newly installed, 0 to remove and 45 not upgraded.
phernandez@cis106:~$ man bastet
phernandez@cis106:~$ sudo apt remove bastet
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer re
quired:
  libboost-program-options1.74.0
Use 'sudo apt autoremove' to remove it.
The following packages will be REMOVED:
  bastet
0 upgraded, 0 newly installed, 1 to remove and 45 not upgraded.
After this operation, 212 kB disk space will be freed.
Do you want to continue? [Y/n] y
(Reading database ... 260614 files and directories currently install
ed.)
Removing bastet (0.43-7) ...
Processing triggers for desktop-file-utils (0.26-1ubuntu3) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu3) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...
Processing triggers for bamfdaemon (0.5.6+22.04.20220217-0ubuntu1) ..
.
Rebuilding /usr/share/applications/bamf-2.index...
phernandez@cis106:~$ sudo apt purge bastet
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer re
quired:
  libboost-program-options1.74.0
Use 'sudo apt autoremove' to remove it.
The following packages will be REMOVED:
  bastet*
0 upgraded, 0 newly installed, 1 to remove and 45 not upgraded.
After this operation, 0 B of additional disk space will be used.
Do you want to continue? [Y/n] y
(Reading database ... 260604 files and directories currently install
ed.)
Purging configuration files for bastet (0.43-7) ...
phernandez@cis106:~$

2: phernandez@cis106: ~
phernandez@cis106:~$ apt search "tetris clone"
Sorting... Done
Full Text Search... Done
bastet/jammy 0.43-7 amd64
  ncurses Tetris clone with a bastard algorithm

ltris/jammy 1.0.19-3build1 amd64
  very polished Tetris clone with CPU opponents

tint/jammy 0.07 amd64
  Tetris clone for text based terminal
phernandez@cis106:~$

```

Practice 3: Managing software

```

1: phernandez@cis106: ~
phernandez@cis106:~$ snap search "tetris clone"
Name      Version  Publisher  Notes  Summary
tetris-in-racket 1.2-2    brunonova  -      Tetris clone developed in Racket
vitetris   0.57     bladernr   -      Console based version of Tetris
fairtris   3.0.0.4  chronoscz  -      A fair implementation of Classic Tetris® video game.
pmtris     1.0      kz6fittycent -      Poor Man's Tetris Clone
ltris-windows 1.2.3    marisag1967 -      A free Tetris clone that follows the original rules but adds some extras
phernandez@cis106:~$ sudo snap install tetris-in-racket
tetris-in-racket 1.2-2 from Bruno Nova (brunonova) installed
phernandez@cis106:~$ sudo snap remove tetris-in-racket
tetris-in-racket removed
phernandez@cis106:~$

```