

# Week Report 3

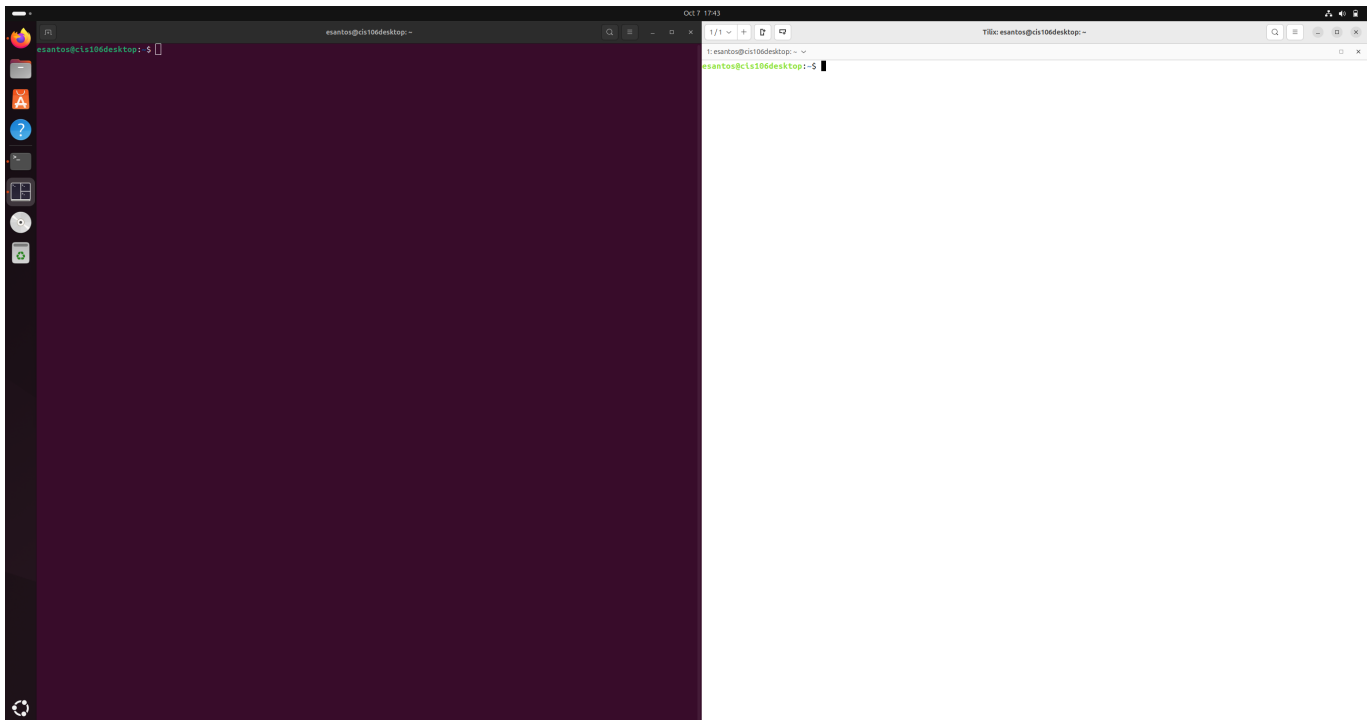
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## Completed work Week 3

- [Lab3](#)
- [Notes3](#)
- [Managing Software Cheat Sheet](#)

## Practice

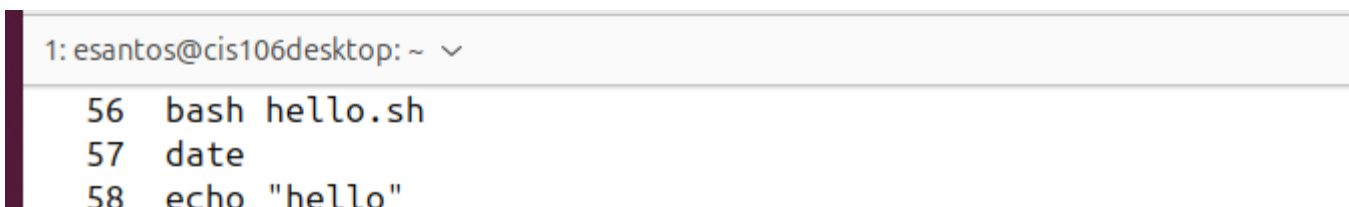
### Practice 1



### Practice 2



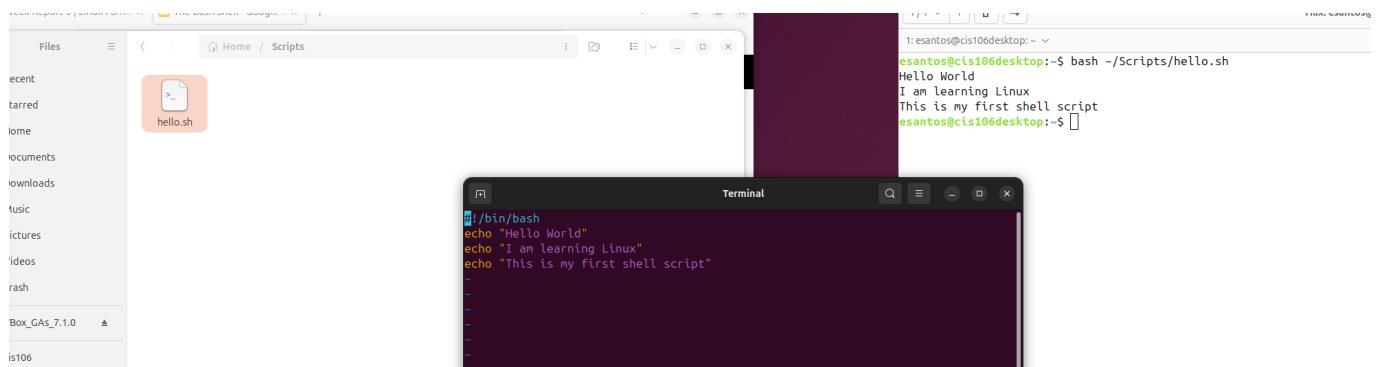
### Practice 3



```
59  ls
60  cd Music
61  df
62  free
63  fortune | cowsay -tux
64  fortune | cowsay -tux | lolcat | pv -qL 20
65  date
66  date +"%D"
67  date +"%d - %m - %y : %A - %Z"
68  bash hello.sh
69  clear
70  man echo
71  man password
72  man echo
73  man Passwd
74  passwd --help
75  whatis passwd
76  man echo
77  echo "I like Linux\nI Like Windows\nI like Ubuntu
78  echo "I like Linux\nI Like Windows\nI like Ubuntu"
79  z
80  z
81  echo "I like Linux\nI Like Windows\nI like Ubuntu
82  echo "I like Linux\nI Like Windows\nI like Ubuntu"
83  z
84  zclear
85  echo "I like Linux\nI like Windows\nI like Ubuntu"
86  clear
87  echo -e "I like Linux\nI like Windows\nI like Ubuntu"
88  man -f
89  man -f passwd
90  man 5 Passwd
91  uname --help
92  whatis passwd
93  whatis passwd
94  clear
95  cd /etc/apt/sources.list.d/
96  ls
97  cd
98  sudo apt update
99  apt list --upgradable
100 bash --version
101 date
102 echo "hello world"
103 uname -a
104 history
105 clear
```

```
105 clear
106 date
107 echo "hello world"
108 uname -a
109 history
esantos@cis106desktop:~$ !107
echo "hello world"
hello world
esantos@cis106desktop:~$ echo "hello"
hello
esantos@cis106desktop:~$ !! world
echo "hello" world
hello world
esantos@cis106desktop:~$
```

## Practice 4



## Practice 5

1/1

+

Tilix: esantos@cis106desktop: ~

Q

1: esantos@cis106desktop: ~

2: esantos@cis106desktop: ~

esantos@cis106desktop:~\$ uname -s

Linux

esantos@cis106desktop:~\$ uname -n

cis106desktop

esantos@cis106desktop:~\$ uname -io

x86\_64 GNU/Linux

esantos@cis106desktop:~\$ man date

esantos@cis106desktop:~\$ man df

esantos@cis106desktop:~\$ man free

esantos@cis106desktop:~\$ man clear

esantos@cis106desktop:~\$ man history

esantos@cis106desktop:~\$ free --giga

	total	used	free	shared	buff/cache	available
Mem:	4	2	0	0	1	1
Swap:	4	0	4			

esantos@cis106desktop:~\$

UNAME(1)

User Commands

UNAME(1)

NAME

uname - print system information

SYNOPSIS

uname [OPTION]...

DESCRIPTION

Print certain system information. With no OPTION, same as -s.

-a, --all

print all information, in the following order, except omit -p and -i if unknown:

-s, --kernel-name

print the kernel name

-n, --nodename

print the network node hostname

-r, --kernel-release

print the kernel release

-v, --kernel-version

print the kernel version

-m, --machine

print the machine hardware name

-p, --processor

print the processor type (non-portable)

-i, --hardware-platform

print the hardware platform (non-portable)

-o, --operating-system

print the operating system

--help

display this help and exit

--version

output version information and exit

AUTHOR

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REPORTING BUGS

GNU coreutils online help: <<https://www.gnu.org/software/coreutils/>>  
Report any translation bugs to <<https://translationproject.org/team/>>

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SEE ALSO

arch(1), uname(2)

Full documentation <<https://www.gnu.org/software/coreutils/uname>> or available locally via: info '(coreutils) uname invocation'

GNU coreutils 9.4

April 2024

UNAME(1)

Manual page uname(1) line 1/64 (END) (press h for help or q to quit)

Practice 6

```

1/1 v + [ ] [ ]
Tilix: esantos@cis106desktop: ~
1: esantos@cis106desktop: ~
2: esantos@cis106desktop: ~

-t, --total          show total for RAM + swap
-v, --committed      show committed memory and commit limit
-s N, --seconds N     repeat printing every N seconds
-c N, --count N       repeat printing N times, then exit
-w, --wide            wide output

--help              display this help and exit
-V, --version         output version information and exit

For more details see free(1).
esantos@cis106desktop:~$ man --help
Usage: man [OPTION...] [SECTION] PAGE...

-C, --config-file=FILE  use this user configuration file
-d, --debug             emit debugging messages
-D, --default           reset all options to their default values
--warnings[=WARNINGS]  enable warnings from groff

Main modes of operation:
-f, --whatis            equivalent to whatis
-k, --apropos           equivalent to apropos
-K, --global-apropos    search for text in all pages
-l, --local-file        interpret PAGE argument(s) as local filename(s)
-w, --where, --path, --location
                        print physical location of man page(s)
-W, --where-cat, --location-cat
                        print physical location of cat file(s)

-C, --catman            used by catman to reformat out of date cat pages
-R, --recode=ENCODING   output source page encoded in ENCODING

Finding manual pages:
-L, --locale=LOCALE     define the locale for this particular man search
-m, --systems=SYSTEM    use manual pages from other systems
-M, --manpath=PATH      set search path for manual pages to PATH

-S, -s, --sections=LIST use colon separated section list

-e, --extension=EXTENSION limit search to extension type EXTENSION

-i, --ignore-case        look for pages case-insensitively (default)
-I, --match-case         look for pages case-sensitively

--regex                 show all pages matching regex
--wildcard               show all pages matching wildcard

--names-only            make --regex and --wildcard match page names only,
                        not descriptions

-a, --all               find all matching manual pages
-u, --update             force a cache consistency check

--no-subpages            don't try subpages, e.g. 'man foo bar' => 'man
                        foo-bar'

Controlling formatted output:
-P, --pager=PAGER       use program PAGER to display output
-r, --prompt=STRING     provide the 'less' pager with a prompt

-7, --ascii             display ASCII translation of certain latin1 chars
-E, --encoding=ENCODING use selected output encoding
--no-hyphenation, --nh  turn off hyphenation
--no-justification, --nj turn off justification

-p, --preprocessor=STRING STRING indicates which preprocessors to run:
                        e - [n]eqn, p - pic, t - tbl,
g - grap, r - refer, v - vgrind

-t, --troff             use groff to format pages
-T, --troff-device[=DEVICE] use groff with selected device

-H, --html[=BROWSER]    use www-browser or BROWSER to display HTML output
-X, --gxditview[=RESOLUTION] use groff and display through gxditview
                        (X11):
                        -X = -TX75, -X100 = -TX100, -X100-12 = -TX100-12
-Z, --ditroff           use groff and force it to produce ditroff

-?, --help              give this help list
--usage                 give a short usage message
-V, --version           print program version

Mandatory or optional arguments to long options are also mandatory or optional
for any corresponding short options.

Report bugs to cjwatson@debian.org.
esantos@cis106desktop:~$ date --help
Usage: date [OPTION]... [+FORMAT]
      or: date [-u|--utc|--universal] [MMDDhhmm[[CC]YY][.ss]]
Display date and time in the given FORMAT.

esantos@cis106desktop:~$ whatis ls
ls (1) - list directory contents
esantos@cis106desktop:~$ whatis pwd
pwd (1) - print name of current/working directory
esantos@cis106desktop:~$ whatis apt
apt (8) - command-line interface
esantos@cis106desktop:~$ whatis sudo
sudo (8) - execute a command as another user
esantos@cis106desktop:~$

```

## Practice 7

```

1/1 v + T M Tilix: esantos@cis106desktop: ~
1: esantos@cis106desktop: ~
# To revert a commit and keep the history of the reverted change as a separate revert commit:
git revert <commit SHA>

# To pick a commit from a branch to current branch. This is different than
# merge as this just applies a single commit from a branch to current branch:
git cherry-pick <commit SHA1>

# Change author of a commit:
git commit --amend --author="Author Name <email@address.com>"

# The GPG key used for signing your commits
git config --global user.signingkey 0A46826A

# Sign new tags:
git tag -s v1.5 -m 'my signed 1.5 tag'

# Sign a commit:
git commit -a -s -m 'Signed commit'

# check any signatures it finds and list them in its output:
git log --pretty="format:%h %G? %aN %s"

# Defined the key to use for signing commits:
git config user.signingkey [KEYID]

# Set signing of commits globally:
git config --global commit.gpgsign true

# To list untracked files:
git ls-files --others --exclude-standard
esantos@cis106desktop:~$ cheat ssh
# To ssh via pem file (which normally needs 0600 permissions):
ssh -i <pemfile> <user>@<host>

# To connect on a non-standard port:
ssh -p <port> <user>@<host>

# To connect and forward the authentication agent:
ssh -A <user>@<host>

# To execute a command on a remote server:
ssh -t <user>@<host> 'the-remote-command'

# To connect to a host with a specific key exchange algorithm:
# Full list of available algorithms : man ssh_config
ssh -oKexAlgorithms=+diffie-hellman-group-exchange-sha1 <user>@<server>

# To tunnel an x session over SSH:
ssh -X <user>@<host>

# Redirect traffic with a tunnel between local host (port 8080) and a remote
# host (remote.example.com:5000) through a proxy (personal.server.com):
ssh -f -L 8080:remote.example.com:5000 user@personal.server.com -N

# To launch a specific x application over SSH:
ssh -X -t <user>@<host> 'chromium-browser'

# To create a SOCKS proxy on localhost and <port>:
ssh -qND <port> <user>@<host>

# To tunnel an ssh session over the SOCKS proxy on localhost and port 9999:
ssh -o "ProxyCommand nc -x 127.0.0.1:9999 -X 4 %h %p" <user>@<host>

# -X use an xsession, -C compress data, "-c blowfish" use the encryption blowfish:
ssh <user>@<host> -C -c blowfish -X

# For more information, see:
# http://unix.stackexchange.com/q/12755/44856

# To copy files and folders through ssh from remote host to pwd with tar.gz
# compression when there is no rsync command available:
ssh <user>@<host> "cd /var/www/Shared/; tar zcf - asset1 asset2" | tar xzf -

# To mount folder/filesystem through SSH
# Install SSHFS from https://github.com/libfuse/sshfs
# Will allow you to mount a folder securely over a network.
sshfs <user>@<host>:/path/to/folder /path/to/mount/point

# Emacs can read file through SSH
# Doc: http://www.gnu.org/software/emacs/manual/html_node/emacs/Remote-Files.html
emacs /ssh:<user>@<host>:<file>
esantos@cis106desktop:~$ cheat tar
# To extract an uncompressed archive:
tar -xvf /path/to/foo.tar

esantos@cis106desktop:~$ sudo snap install cheat
cheat 4.4.0.build.2 from Michael (bernermic) installed
esantos@cis106desktop:~$ sudo apt install python3-pip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
python3-pip is already the newest version (24.0+dfsg-1ubuntu1).
0 upgraded, 0 newly installed, 0 to remove and 56 not upgraded.
esantos@cis106desktop:~$ 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>
esantos@cis106desktop:~$

```

## Practice 1 - Managing Software

```
Tilix: esantos@cis106desktop: ~ -
1: esantos@cis106desktop: ~
esantos@cis106desktop:~$ bastet
esantos@cis106desktop:~$ sudo apt remove bastet
[sudo] password for esantos:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libboost-program-options1.83.0
Use 'sudo apt autoremove' to remove it.
The following packages will be REMOVED:
  bastet
0 upgraded, 0 newly installed, 1 to remove and 56 not upgraded.
After this operation, 214 kB disk space will be freed.
Do you want to continue? [Y/n] y
(Reading database ... 166573 files and directories currently installed.)
Removing bastet (0.43-7build1) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1.1ubuntu3) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for desktop-file-utils (0.27-2build1) ...
esantos@cis106desktop:~$ 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 required:
  libboost-program-options1.83.0
Use 'sudo apt autoremove' to remove it.
The following packages will be REMOVED:
  bastet*
0 upgraded, 0 newly installed, 1 to remove and 56 not upgraded.
After this operation, 0 B of additional disk space will be used.
Do you want to continue? [Y/n] y
(Reading database ... 166563 files and directories currently installed.)
Purging configuration files for bastet (0.43-7build1) ...
esantos@cis106desktop:~$

2: esantos@cis106desktop: ~
esantos@cis106desktop:~$ apt search "tetris clone"
Sorting... Done
Full Text Search... Done
bastet/noble 0.43-7build1 amd64
  ncurses Tetris clone with a bastard algorithm

ltris/noble 1.2.8-1 amd64
  very polished Tetris clone with CPU opponents

tint/noble 0.07 amd64
  Tetris clone for text based terminal

esantos@cis106desktop:~$ sudo apt install bastet -y
[sudo] password for esantos:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libboost-program-options1.83.0
The following NEW packages will be installed:
  bastet libboost-program-options1.83.0
0 upgraded, 2 newly installed, 0 to remove and 56 not upgraded.
Need to get 395 kB of archives.
After this operation, 2,675 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu noble/main amd64 libboost-program-opt
1.83.0 amd64 1.83.0-2.1ubuntu3 [320 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu noble/universe amd64 bastet amd64 0.4
build1 [75.1 kB]
Fetched 395 kB in 0s (1,403 kB/s)
Preconfiguring packages ...
Selecting previously unselected package libboost-program-options1.83.0:amd64.
(Reading database ... 166557 files and directories currently installed.)
Preparing to unpack .../libboost-program-options1.83.0_1.83.0-2.1ubuntu3_amd64.
...
Unpacking libboost-program-options1.83.0:amd64 (1.83.0-2.1ubuntu3) ...
Selecting previously unselected package bastet.
Preparing to unpack .../bastet-0.43-7build1_amd64.deb ...
Unpacking bastet (0.43-7build1) ...
Setting up libboost-program-options1.83.0:amd64 (1.83.0-2.1ubuntu3) ...
Setting up bastet (0.43-7build1) ...
Processing triggers for desktop-file-utils (0.27-2build1) ...
Processing triggers for hicolor-icon-theme (0.17-2) ...
Processing triggers for gnome-menus (3.36.0-1.1ubuntu3) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
esantos@cis106desktop:~$ man bastet
esantos@cis106desktop:~$
```

## Practice 3 - Managing Software

[illegible]