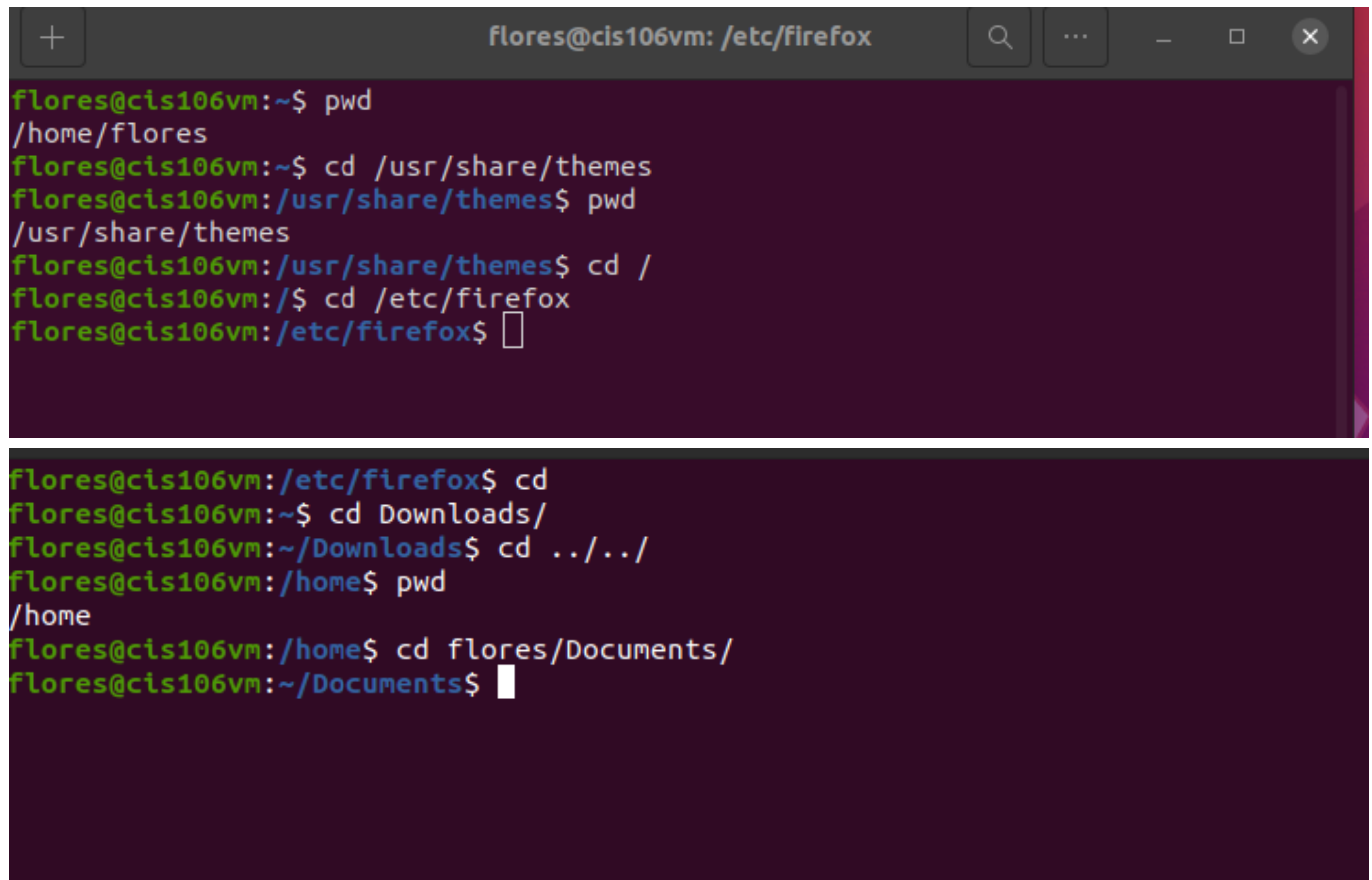


Lab 4: The Linux Filesystem

Question 1

Command	What it does	Syntax	Example
Bin	Essential Commands	/ + bin	/bin
dev	device Files	/ + dev	/dev
etc	System configuration Files	/ + etc	/etc/
home	User home directories	/ + home + name of the user	/home/flores
media	Mount point for removable media, such as DVDs and floppy disk	/ + media + / + name of user + either flash drive or external drive	/media/flores/flashdrive
opt	Add-on software packages	/ + opt + name of software	/opt/google/chrome
proc	kernel information process control, system hardware information	/ + proc	/proc
srv	Information relating to services that run on the system	/ + srv	/ srv
usr	Software not essential for system operation, such as applications	/ + usr + / + share + name of application	/usr/share/font/

Question 2



```
flores@cis106vm: /etc/firefox
flores@cis106vm:~$ pwd
/home/flores
flores@cis106vm:~$ cd /usr/share/themes
flores@cis106vm:/usr/share/themes$ pwd
/usr/share/themes
flores@cis106vm:/usr/share/themes$ cd /
flores@cis106vm:/$ cd /etc/firefox
flores@cis106vm:/etc/firefox$ 
flores@cis106vm:/etc/firefox$ cd
flores@cis106vm:~$ cd Downloads/
flores@cis106vm:~/Downloads$ cd ../../
flores@cis106vm:/home$ pwd
/home
flores@cis106vm:/home$ cd flores/Documents/
flores@cis106vm:~/Documents$
```

Question 3

```

+
flores@cis106vm: ~/lab4files
flores@cis106vm:~$ cd /usr/share
flores@cis106vm:/usr/share$ ls /home/flores/lab4files/
countries.json  document.docx  helloWorld.c  sample.xls  Ubuntu.pdf
csvfile.csv    globe.avi      Linux.pdf     Tux.png     website.html
flores@cis106vm:/usr/share$ cd ~/lab4files/
flores@cis106vm:~/lab4files$ ls -lh
total 6.5M
-rw-rw-r-- 1 flores flores 20K Feb 22 14:16 countries.json
-rw-rw-r-- 1 flores flores 278K Feb 22 14:15 csvfile.csv
-rw-rw-r-- 1 flores flores 747K Feb 22 14:13 document.docx
-rw-rw-r-- 1 flores flores 726K Feb 22 14:12 globe.avi
-rw-rw-r-- 1 flores flores 76 Feb 22 14:18 helloWorld.c
-rw-rw-r-- 1 flores flores 2.5M Feb 22 14:10 Linux.pdf
-rw-rw-r-- 1 flores flores 8.5K Feb 22 14:12 sample.xls
-rw-rw-r-- 1 flores flores 42K Feb 22 14:10 Tux.png
-rw-rw-r-- 1 flores flores 2.1M Feb 22 14:11 Ubuntu.pdf
-rw-rw-r-- 1 flores flores 135K Feb 22 14:16 website.html
flores@cis106vm:~/lab4files$ ls -lhs
total 6.5M
-rw-rw-r-- 1 flores flores 2.5M Feb 22 14:10 Linux.pdf
-rw-rw-r-- 1 flores flores 2.1M Feb 22 14:11 Ubuntu.pdf
-rw-rw-r-- 1 flores flores 747K Feb 22 14:13 document.docx
-rw-rw-r-- 1 flores flores 726K Feb 22 14:12 globe.avi
-rw-rw-r-- 1 flores flores 278K Feb 22 14:15 csvfile.csv
-rw-rw-r-- 1 flores flores 135K Feb 22 14:16 website.html
-rw-rw-r-- 1 flores flores 42K Feb 22 14:10 Tux.png
-rw-rw-r-- 1 flores flores 20K Feb 22 14:16 countries.json
-rw-rw-r-- 1 flores flores 8.5K Feb 22 14:12 sample.xls
-rw-rw-r-- 1 flores flores 76 Feb 22 14:18 helloWorld.c
flores@cis106vm:~/lab4files$

flores@cis106vm: ~/lab4files
flores@cis106vm: ~/lab4files
flores@cis106vm:~/lab4files$ ls -lhSgGi
total 6.5M
930728 -rw-rw-r-- 1 2.5M Feb 22 14:10 Linux.pdf
930730 -rw-rw-r-- 1 2.1M Feb 22 14:11 Ubuntu.pdf
930734 -rw-rw-r-- 1 747K Feb 22 14:13 document.docx
930735 -rw-rw-r-- 1 726K Feb 22 14:12 globe.avi
930733 -rw-rw-r-- 1 278K Feb 22 14:15 csvfile.csv
930738 -rw-rw-r-- 1 135K Feb 22 14:16 website.html
930729 -rw-rw-r-- 1 42K Feb 22 14:10 Tux.png
930731 -rw-rw-r-- 1 20K Feb 22 14:16 countries.json
930737 -rw-rw-r-- 1 8.5K Feb 22 14:12 sample.xls
930736 -rw-rw-r-- 1 76 Feb 22 14:18 helloWorld.c
flores@cis106vm:~/lab4files$ ls -Xr
sample.xls  Ubuntu.pdf  countries.json  document.docx  helloWorld.c
Tux.png    Linux.pdf   website.html   csvfile.csv    globe.avi
flores@cis106vm:~/lab4files$

```

Question 4

```
flores@cis106vm:~/lab4files$ cd /etc/
flores@cis106vm:/etc$ tree ~/lab4files/
/home/flores/lab4files/
├── countries.json
├── csvfile.csv
├── document.docx
├── globe.avi
├── helloWorld.c
├── Linux.pdf
├── sample.xls
├── Tux.png
├── Ubuntu.pdf
└── website.html

0 directories, 10 files
flores@cis106vm:/etc$
```

```
flores@cis106vm:~/Downloads$ tree ../lab4files/ -fph
../lab4files
├── [-rw-rw-r-- 20K] ../lab4files/countries.json
├── [-rw-rw-r-- 277K] ../lab4files/csvfile.csv
├── [-rw-rw-r-- 746K] ../lab4files/document.docx
├── [-rw-rw-r-- 725K] ../lab4files/globe.avi
├── [-rw-rw-r-- 76] ../lab4files/helloWorld.c
├── [-rw-rw-r-- 2.5M] ../lab4files/Linux.pdf
├── [-rw-rw-r-- 8.5K] ../lab4files/sample.xls
├── [-rw-rw-r-- 42K] ../lab4files/Tux.png
├── [-rw-rw-r-- 2.0M] ../lab4files/Ubuntu.pdf
└── [-rw-rw-r-- 134K] ../lab4files/website.html

0 directories, 10 files
```

```
Flores@cis106vm:~/Downloads$ tree ../lab4files/ -tug
../lab4files/
├── [flores  flores  ] Linux.pdf
├── [flores  flores  ] Tux.png
├── [flores  flores  ] Ubuntu.pdf
├── [flores  flores  ] sample.xls
├── [flores  flores  ] globe.avi
├── [flores  flores  ] document.docx
├── [flores  flores  ] csvfile.csv
├── [flores  flores  ] countries.json
├── [flores  flores  ] website.html
└── [flores  flores  ] helloWorld.c

0 directories, 10 files
```

```
Flores@cis106vm:~/Downloads$ tree ../lab4files/ -X
<?xml version="1.0" encoding="UTF-8"?>
<tree>
  <directory name="../lab4files/">
    <file name="countries.json"></file>
    <file name="csvfile.csv"></file>
    <file name="document.docx"></file>
    <file name="globe.avi"></file>
    <file name="helloWorld.c"></file>
    <file name="Linux.pdf"></file>
    <file name="sample.xls"></file>
    <file name="Tux.png"></file>
    <file name="Ubuntu.pdf"></file>
    <file name="website.html"></file>
  </directory>
  <report>
    <directories>0</directories>
    <files>10</files>
  </report>
</tree>
```

![[question 4.5]](q4.5.png)

Question 5

```

flores@cis106vm:~/lab4files$ exa --help
Usage:
  exa [options] [files...]

META OPTIONS
  -?, --help          show list of command-line options
  -v, --version        show version of exa

DISPLAY OPTIONS
  -l, --oneline        display one entry per line
  -l, --long           display extended file metadata as a table
  -G, --grid           display entries as a grid (default)
  -x, --across         sort the grid across, rather than downwards
  -R, --recurse        recurse into directories
  -T, --tree           recurse into directories as a tree
  -F, --classify       display type indicator by file names
  --colo[u]r=WHEN      when to use terminal colours (always, auto, never)
  --colo[u]r-scale      highlight levels of file sizes distinctly
  --icons              display icons
  --no-icons           don't display icons (always overrides --icons)

FILTERING AND SORTING OPTIONS
  -a, --all            show hidden and 'dot' files
  -d, --list-dirs      list directories as files; don't list their contents
  -L, --level DEPTH    limit the depth of recursion
  -r, --reverse        reverse the sort order
  -s, --sort SORT_FIELD which field to sort by
  --group-directories-first list directories before other files
  -D, --only-dirs      list only directories
  -I, --ignore-glob GLOBS glob patterns (pipe-separated) of files to ignore
  --git-ignore         ignore files mentioned in '.gitignore'
Valid sort fields:
  name, Name, extension, Extension, size, type,
  modified, accessed, created, inode, and none.
  date, time, old, and new all refer to modified.

LONG VIEW OPTIONS
  -b, --binary         list file sizes with binary prefixes
  -B, --bytes          list file sizes in bytes, without any prefixes
  -g, --group          list each file's group
  -h, --header         add a header row to each column
  -H, --links          list each file's number of hard links
  -i, --inode          list each file's inode number
  -m, --modified       use the modified timestamp field
  -n, --numeric        list numeric user and group IDs
  -S, --blocks         show number of file system blocks
  -t, --time FIELD     which timestamp field to list (modified, accessed, created)
  -u, --accessed       use the accessed timestamp field
  -U, --created        use the created timestamp field
  --changed            use the changed timestamp field
  --time-style         how to format timestamps (default, iso, long-iso, full-iso)
  --no-permissions     suppress the permissions field
  --octal-permissions  list each file's permission in octal format
  --no-filesize        suppress the filesize field
  --no-user            suppress the user field
  --no-time            suppress the time field
  --git               list each file's Git status, if tracked or ignored
  -@, --extended       list each file's extended attributes and sizes

```

```

Flores@cis106vm:~$ exa -l lab4files/
-rw-rw-r-- 20k flores 22 Feb 14:16 countries.json
-rw-rw-r-- 284k flores 22 Feb 14:15 csvfile.csv
-rw-rw-r-- 764k flores 22 Feb 14:13 document.docx
-rw-rw-r-- 742k flores 22 Feb 14:12 globe.avi
-rw-rw-r-- 76 flores 22 Feb 14:18 helloWorld.c
-rw-rw-r-- 2.6M flores 22 Feb 14:10 Linux.pdf
-rw-rw-r-- 8.7k flores 22 Feb 14:12 sample.xls
-rw-rw-r-- 43k flores 22 Feb 14:10 Tux.png
-rw-rw-r-- 2.1M flores 22 Feb 14:11 Ubuntu.pdf
-rw-rw-r-- 137k flores 22 Feb 14:16 website.html

```

```

Flores@cis106vm:~$ exa -T lab4files/
lab4files
├── countries.json
├── csvfile.csv
├── document.docx
├── globe.avi
├── helloWorld.c
├── Linux.pdf
├── sample.xls
├── Tux.png
├── Ubuntu.pdf
└── website.html

```

```

Flores@cis106vm: ~
Flores@cis106vm: ~/lab4files
Flores@cis106vm:~$ exa -h lab4files/
countries.json  document.docx  helloWorld.c  sample.xls  Ubuntu.pdf
csvfile.csv     globe.avi      Linux.pdf     Tux.png     website.html
Flores@cis106vm:~$ exa -s lab4files/

```