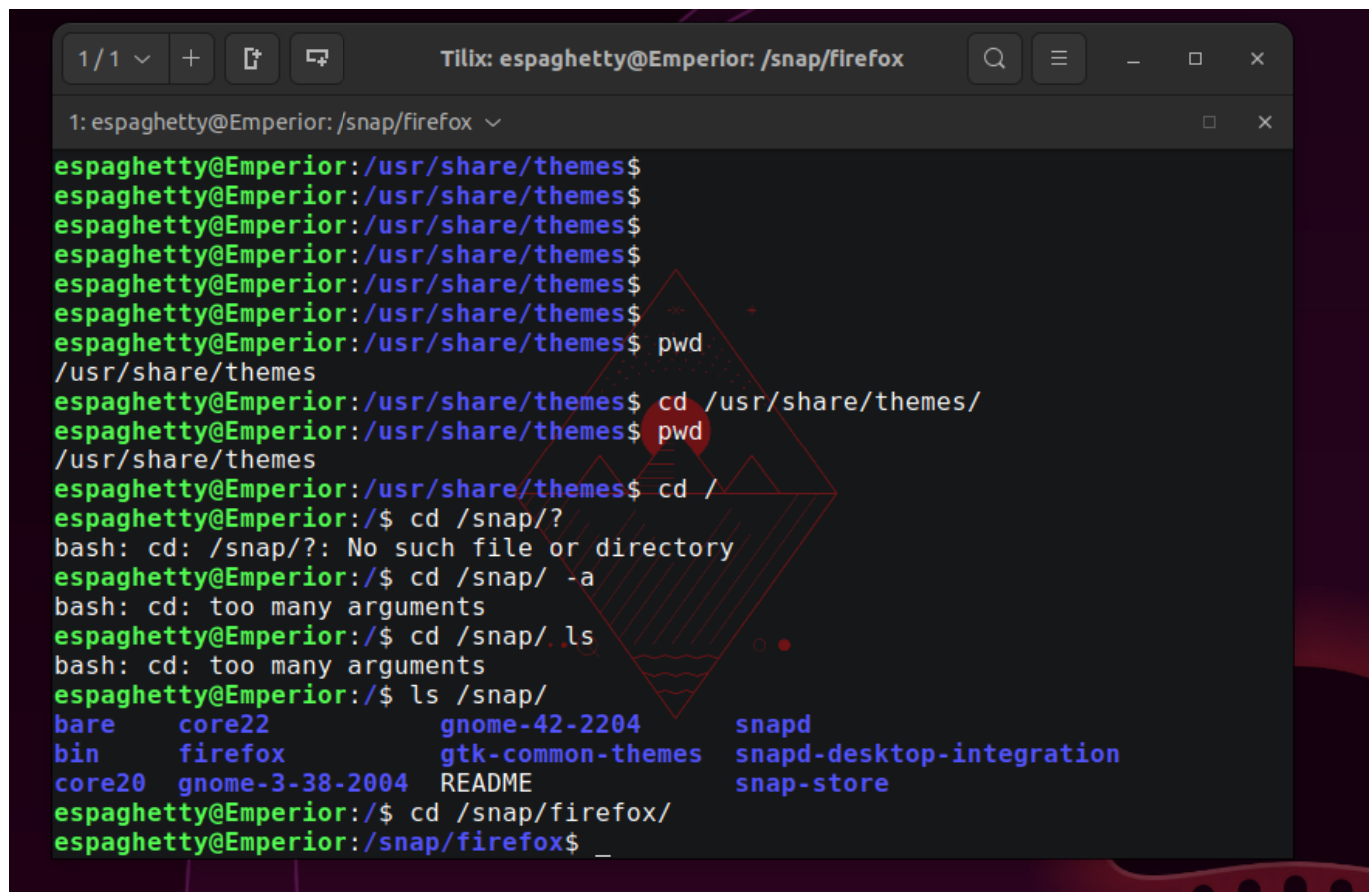


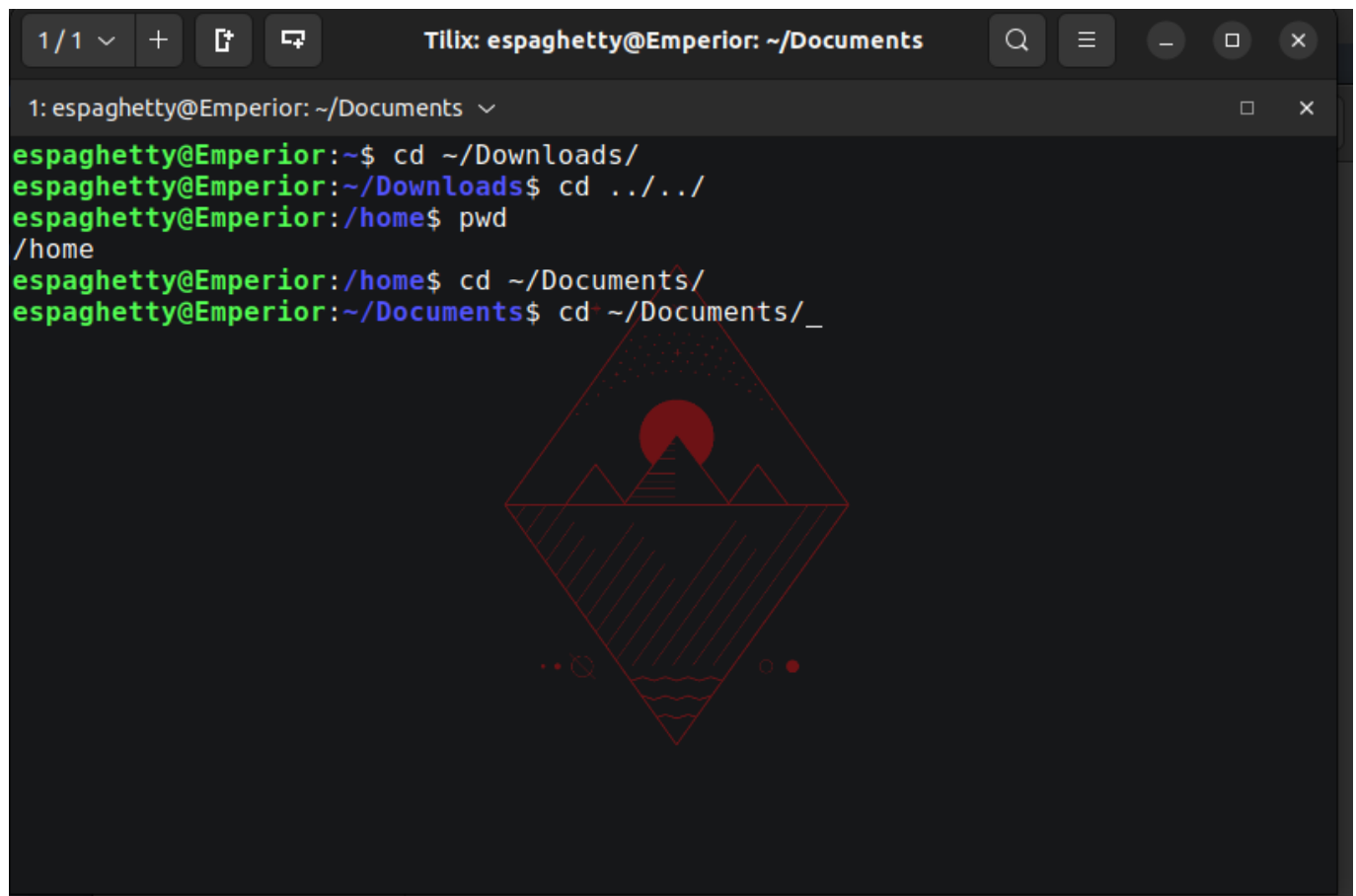
Lab 4 - The Linux FS

Question 1

Absolute path

A terminal window titled 'Tilix: espaghetty@Emperor: /snap/firefox' showing a series of commands and their outputs. The user starts in the directory /usr/share/themes and uses 'pwd' to confirm the current location. They then use 'cd /usr/share/themes/' to move to the same directory using an absolute path. Next, they use 'cd /' to move to the root directory. From the root, they attempt 'cd /snap/?' which results in an error 'bash: cd: /snap/?: No such file or directory'. They then try 'cd /snap/ -a' which results in 'bash: cd: too many arguments'. Finally, they use 'cd /snap/. ls' which also results in 'bash: cd: too many arguments'. They then list the contents of /snap/ using 'ls /snap/' and see a list of directories including 'bare', 'core22', 'gnome-42-2204', 'snapd', 'bin', 'firefox', 'gtk-common-themes', 'snapd-desktop-integration', 'core20', 'gnome-3-38-2004', 'README', and 'snap-store'. Finally, they navigate to the 'snap/firefox' directory using 'cd /snap/firefox/' and the prompt changes to 'espaghetty@Emperor:/snap/firefox\$'.

Relative path



```
1/1  +  [ ]  [ ]  Tilix: espaghetty@Emperor: ~/Documents  [ ]  [ ]  [ ]  [ ]  [ ]
1: espaghetty@Emperor: ~/Documents  [ ]  [ ]
espaghetty@Emperor:~$ cd ~/Downloads/
espaghetty@Emperor:~/Downloads$ cd ../../
espaghetty@Emperor:/home$ pwd
/home
espaghetty@Emperor:/home$ cd ~/Documents/
espaghetty@Emperor:~/Documents$ cd ~/Documents/_
```

A red ASCII art logo is displayed in the center of the terminal window. It features a diamond shape containing a stylized landscape with a sun or moon, mountains, and water. The logo is composed of various symbols like dots, lines, and geometric shapes.

Question 2

```
1: espaghetty@Emperor: ~/lab4files
espaghetty@Emperor:~$ cd /usr/share/
espaghetty@Emperor:/usr/share$ ls /home/espaghetty/lab4files/
countries.json  document.docx  helloWorld.c  sample.xls  Ubuntu.pdf
csvfile.csv    globe.avi      Linux.pdf     Tux.png     website.html
espaghetty@Emperor:/usr/share$ cd ~/lab4files
espaghetty@Emperor:~/lab4files$ ls -lh
total 6.5M
-rw-rw-r-- 1 espaghetty espaghetty 20K Feb 22 2022 countries.json
-rw-rw-r-- 1 espaghetty espaghetty 278K Feb 22 2022 csvfile.csv
-rw-rw-r-- 1 espaghetty espaghetty 747K Feb 22 2022 document.docx
-rw-rw-r-- 1 espaghetty espaghetty 726K Feb 22 2022 globe.avi
-rw-rw-r-- 1 espaghetty espaghetty 76 Feb 22 2022 helloWorld.c
-rw-rw-r-- 1 espaghetty espaghetty 2.5M Feb 22 2022 Linux.pdf
-rw-rw-r-- 1 espaghetty espaghetty 8.5K Feb 22 2022 sample.xls
-rw-rw-r-- 1 espaghetty espaghetty 42K Feb 22 2022 Tux.png
-rw-rw-r-- 1 espaghetty espaghetty 2.1M Feb 22 2022 Ubuntu.pdf
-rw-rw-r-- 1 espaghetty espaghetty 135K Feb 22 2022 website.html
espaghetty@Emperor:~/lab4files$ ls -lhS
total 6.5M
-rw-rw-r-- 1 espaghetty espaghetty 2.5M Feb 22 2022 Linux.pdf
-rw-rw-r-- 1 espaghetty espaghetty 2.1M Feb 22 2022 Ubuntu.pdf
-rw-rw-r-- 1 espaghetty espaghetty 747K Feb 22 2022 document.docx
-rw-rw-r-- 1 espaghetty espaghetty 726K Feb 22 2022 globe.avi
-rw-rw-r-- 1 espaghetty espaghetty 278K Feb 22 2022 csvfile.csv
-rw-rw-r-- 1 espaghetty espaghetty 135K Feb 22 2022 website.html
-rw-rw-r-- 1 espaghetty espaghetty 42K Feb 22 2022 Tux.png
-rw-rw-r-- 1 espaghetty espaghetty 20K Feb 22 2022 countries.json
-rw-rw-r-- 1 espaghetty espaghetty 8.5K Feb 22 2022 sample.xls
-rw-rw-r-- 1 espaghetty espaghetty 76 Feb 22 2022 helloWorld.c
espaghetty@Emperor:~/lab4files$ ls -lhSGgi
total 6.5M
1061449 -rw-rw-r-- 1 2.5M Feb 22 2022 Linux.pdf
1061451 -rw-rw-r-- 1 2.1M Feb 22 2022 Ubuntu.pdf
1061454 -rw-rw-r-- 1 747K Feb 22 2022 document.docx
1061455 -rw-rw-r-- 1 726K Feb 22 2022 globe.avi
1061453 -rw-rw-r-- 1 278K Feb 22 2022 csvfile.csv
1061458 -rw-rw-r-- 1 135K Feb 22 2022 website.html
1061450 -rw-rw-r-- 1 42K Feb 22 2022 Tux.png
1061452 -rw-rw-r-- 1 20K Feb 22 2022 countries.json
1061457 -rw-rw-r-- 1 8.5K Feb 22 2022 sample.xls
1061456 -rw-rw-r-- 1 76 Feb 22 2022 helloWorld.c
espaghetty@Emperor:~/lab4files$ ls -Xr
sample.xls  Ubuntu.pdf  countries.json  document.docx  helloWorld.c
Tux.png     Linux.pdf   website.html    csvfile.csv    globe.avi
espaghetty@Emperor:~/lab4files$ _
```

Challenge Question 1

CH 1 - Part 1

```
Activities  TiliX  Oct 25
1/1  +  [Icons]  TiliX: espaghetty@Emperor: /dev/disk/by-id  [Search] [Menu] [Close] [Fullscreen] [Zoom Out] [Zoom In]
1: espaghetty@Emperor: /dev/disk/by-id  AI [Close]
espaghetty@Emperor:~$ ls
cis106  Documents  Espaghetty  Music  Public  Templates
Desktop  Downloads  lab4files  Pictures  snap  Videos
espaghetty@Emperor:~$ pwd
/home/espaghetty
espaghetty@Emperor:~$ cd /usr/share/icons/default/
espaghetty@Emperor:/usr/share/icons/default$ cd /proc/sys/net/ipv4/
espaghetty@Emperor:/proc/sys/net/ipv4$ cd -
/usr/share/icons/default
espaghetty@Emperor:/usr/share/icons/default$ ls /usr/share/backgrounds/
Blue_flower_by_Elena_Stravoravdi.jpg
canvas_by_roytanck.jpg
Cherry_Tree_in_Lakones_by_elenastravoravdi.jpg
contest
DSC2943_by_kcpru.jpg
Jammy-Jellyfish_WP_4096x2304_Grey.png
jj_dark_by_Hiking93.jpg
jj_light_by_Hiking93.jpg
Mirror_by_Uday_Nakade.jpg
Optical_Fibers_in_Dark_by_Elena_Stravoravdi.jpg
ubuntu2_by_arman1992.jpg
ubuntu_by_arman1992.jpg
ubuntu-default-greyscale-wallpaper.png
warty-final-ubuntu.png
espaghetty@Emperor:/usr/share/icons/default$ ls ~/cis106/
Labs  ubuntu-desktop.png
espaghetty@Emperor:/usr/share/icons/default$ ls ~/Downloads/
code_1.83.1-1696982868_amd64.deb
espaghetty@Emperor:/usr/share/icons/default$ ls /home/
espaghetty
espaghetty@Emperor:/usr/share/icons/default$ ls ~/Downloads/
code_1.83.1-1696982868_amd64.deb
espaghetty@Emperor:/usr/share/icons/default$ cd /home/
espaghetty@Emperor:/home$ ls ~/Downloads/
code_1.83.1-1696982868_amd64.deb
espaghetty@Emperor:/home$ cd /dev/disk/by-id/
```

CH 1 - Part 2

```

Activities  Tilix  Oct 25
1/1  +  [Icons]  Tilix: espaghetty@Emperor: /dev/disk/by-id
1: espaghetty@Emperor: /dev/disk/by-id  AI  [Icons]  x

espaghetty@Emperor:/home$ cd /dev/disk/by-id/
espaghetty@Emperor:/dev/disk/by-id$ ls /home/espaghetty/ -la
total 180
drwxr-xrwx 25 espaghetty espaghetty 4096 Oct 25 14:33 .
drwxr-xr-x 3 root root 4096 Oct 18 21:20 ..
-rw-r--r-- 1 espaghetty espaghetty 5455 Oct 25 15:23 .bash_history
-rw-r--r-- 1 espaghetty espaghetty 220 Oct 18 21:20 .bash_logout
-rw-r--r-- 1 espaghetty espaghetty 3771 Oct 18 21:20 .bashrc
drwxr-xr-x 25 espaghetty espaghetty 4096 Oct 24 02:10 .cache
drwxrwxr-x 4 espaghetty espaghetty 4096 Oct 24 00:45 cis106
drwxr-xr-x 25 espaghetty espaghetty 4096 Oct 25 15:12 .config
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 24 00:55 Desktop
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 18 21:33 Documents
drwxrwxr-x 3 espaghetty espaghetty 4096 Oct 18 22:12 .dotnet
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 25 14:33 Downloads
drwxrwxr-x 2 espaghetty espaghetty 4096 Oct 24 00:45 Espaghetty
drwxrwxr-x 2 espaghetty espaghetty 20480 Oct 24 01:42 .fonts
-rw-rw-r-- 1 espaghetty espaghetty 61 Oct 24 00:36 .gitconfig
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 24 00:49 .gnupg
drwxrwxr-x 2 espaghetty espaghetty 4096 Feb 22 2022 lab4files
-rw-r--r-- 1 espaghetty espaghetty 20 Oct 24 02:47 .lessht
drwxr-xr-x 4 espaghetty espaghetty 4096 Oct 24 02:23 .local
drwxr-xr-x 3 espaghetty espaghetty 4096 Oct 24 00:59 .mozilla
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 18 21:33 Music
drwxr-xr-x 3 espaghetty espaghetty 4096 Oct 24 01:08 Pictures
drwxr-xr-x 3 espaghetty espaghetty 4096 Oct 18 22:12 .pki
-rw-r--r-- 1 espaghetty espaghetty 807 Oct 18 21:20 .profile
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 18 21:33 Public
drwxr-xr-x 5 espaghetty espaghetty 4096 Oct 18 22:08 snap
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 24 00:42 .ssh
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 18 21:33 Templates
drwxr-xr-x 6 espaghetty espaghetty 4096 Oct 24 00:59 .thunderbird
-rw-r--r-- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-clipboard-tty2-control.pid
-rw-r--r-- 1 espaghetty espaghetty 5 Oct 25 14:15 .vboxclient-clipboard-tty2-service.pid
-rw-r--r-- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-draganddrop-tty2-control.pid
-rw-r--r-- 1 espaghetty espaghetty 5 Oct 25 14:15 .vboxclient-draganddrop-tty2-service.pid
-rw-r--r-- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-hostversion-tty2-control.pid
-rw-r--r-- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-seamless-tty2-control.pid
-rw-r--r-- 1 espaghetty espaghetty 5 Oct 25 14:15 .vboxclient-seamless-tty2-service.pid
-rw-r--r-- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-vmvga-session-tty2-control.
pid
-rw-r--r-- 1 espaghetty espaghetty 5 Oct 25 14:15 .vboxclient-vmvga-session-tty2-service.
pid
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 18 21:33 Videos
drwxrwxr-x 4 espaghetty espaghetty 4096 Oct 18 22:12 .vscode
espaghetty@Emperor:/dev/disk/by-id$ ls -t /usr/share/themes/
Yaru  Yaru-dark-hdpi  Yaru-olive-dark  Yaru-red-dark  Default
Yaru-bark  Yaru-dark-xdpi  Yaru-prussiangreen  Yaru-sage  Emacs

```

CH 1 - Part 3


```

Activities  Tilix  Oct 25
1 / 1  +  [?]  [?]  Tilix: espaghetty@Emperor: /dev/disk/by-id  [Q]  [≡]  [—]  [□]  [×]
1: espaghetty@Emperor: /dev/disk/by-id  AI  [□]  [×]


drwx----- 5 espaghetty espaghetty 4096 Oct 18 22:08 snap
drwx----- 2 espaghetty espaghetty 4096 Oct 24 00:42 .ssh
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 18 21:33 Templates
drwx----- 6 espaghetty espaghetty 4096 Oct 24 00:59 .thunderbird
-rw-r----- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-clipboard-tty2-control.pid
-rw-r----- 1 espaghetty espaghetty 5 Oct 25 14:15 .vboxclient-clipboard-tty2-service.pid
-rw-r----- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-draganddrop-tty2-control.pid
-rw-r----- 1 espaghetty espaghetty 5 Oct 25 14:15 .vboxclient-draganddrop-tty2-service.pid
-rw-r----- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-hostversion-tty2-control.pid
-rw-r----- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-seamless-tty2-control.pid
-rw-r----- 1 espaghetty espaghetty 5 Oct 25 14:15 .vboxclient-seamless-tty2-service.pid
-rw-r----- 1 espaghetty espaghetty 6 Oct 25 14:15 .vboxclient-vmvga-session-tty2-control.
pid
-rw-r----- 1 espaghetty espaghetty 5 Oct 25 14:15 .vboxclient-vmvga-session-tty2-service.
pid
drwxr-xr-x 2 espaghetty espaghetty 4096 Oct 18 21:33 Videos
drwxrwxr-x 4 espaghetty espaghetty 4096 Oct 18 22:12 .vscode
espaghetty@Emperor:/dev/disk/by-id$ ls -t /usr/share/themes/
Yaru          Yaru-dark-hdpi      Yaru-olive-dark      Yaru-red-dark      Default
Yaru-bark      Yaru-dark-xhdpi     Yaru-prussiangreen   Yaru-sage          Emacs
Yaru-bark-dark Yaru-hdpi           Yaru-prussiangreen-dark Yaru-sage-dark     Raleigh
Yaru-blue      Yaru-magenta        Yaru-purple          Yaru-viridian      Adwaita
Yaru-blue-dark Yaru-magenta-dark   Yaru-purple-dark     Yaru-viridian-dark Adwaita-dark
Yaru-dark      Yaru-olive          Yaru-red             Yaru-xhdpi         HighContrast
espaghetty@Emperor:/dev/disk/by-id$ ls -x /usr/share/
accountsservice  aclocal          acpi-support
adduser          aisleriot        alacarte
alsa            alsa-base       alsa-card-profile
appdata         app-info        applications
appport         apps            apturl
aspell          avahi           backgrounds
base-files      base-passwd     bash-completion
binfmts         branding        brltty
bug             build-essential ca-certificates
caffeine-indicator catdoc          cmake
code            cogl            color
colord          common-licenses consolefonts
console-setup  consoletrans   cowsay
cups           dbus-1         dconf
debconf       debhelper     debianutils
defaults     desktop-directories dict
dictionaries-common distro-info   djvu
dns          dnsmasq-base  doc
doc-base     dpkg          drirc.d
emacs        emacs-common  enchant-2
eog          evince        evolution-data-server
figlet       file          file-roller
fish         flameshot     flatpak

```

Challenge Question 2

Challenge 2 - Part 1

```
Tilix: espaghetty@Emperor: ~/Downloads
1: espaghetty@Emperor: ~/Downloads
espaghetty@Emperor:~$ cd /
espaghetty@Emperor:/$ cd ~/Downloads/
espaghetty@Emperor:~/Downloads$ pwd
/home/espaghetty/Downloads
espaghetty@Emperor:~/Downloads$
```



Challenge 2 - Part 2

```
Tilix: espaghetty@Emperor: ~/Documents
1: espaghetty@Emperor: ~/Documents
espaghetty@Emperor:~/Downloads$ cd /usr/share/
espaghetty@Emperor:/usr/share$ cd themes/Adwaita
espaghetty@Emperor:/usr/share/themes/Adwaita$ cd
espaghetty@Emperor:~$ cd -
/usr/share/themes/Adwaita
espaghetty@Emperor:/usr/share/themes/Adwaita$ cd /home/espaghetty/
espaghetty@Emperor:~$ cd Documents/
espaghetty@Emperor:~/Documents$ pwd
/home/espaghetty/Documents
espaghetty@Emperor:~/Documents$
```

