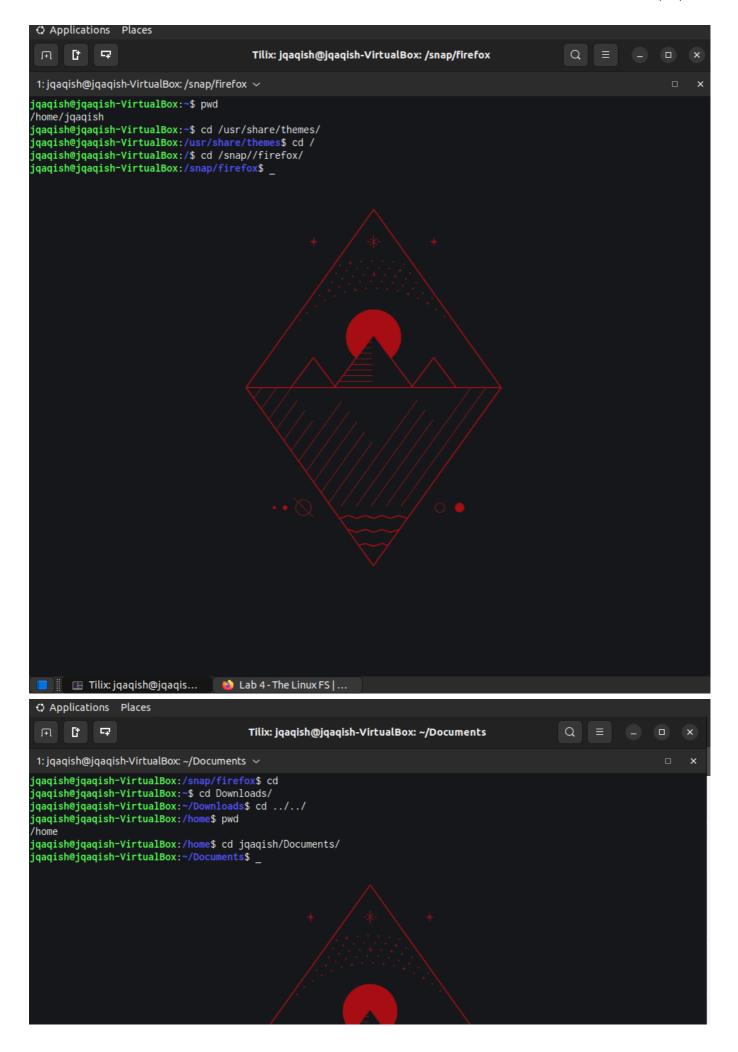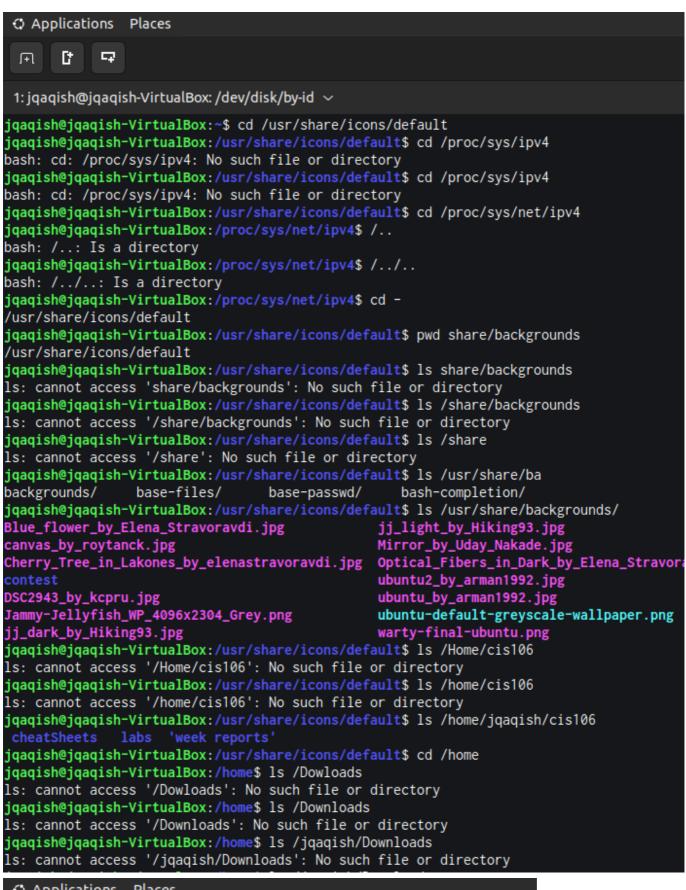# Lab4 The Linux FS

Question 1

Question 2

○ Applications   Places

⊞   ⏏   ⊒

1:jqaqish@jqaqish-VirtualBox: ~/lab4files ∨

```
jqaqish@jqaqish-VirtualBox:~/Documents$ cd /usr/share/
jqaqish@jqaqish-VirtualBox:/usr/share$ ls /home/jqaqish/lab4files/
countries.json   document.docx   helloWorld.c   sample.xls   Ubuntu.pdf
csvfile.csv      globe.avi        Linux.pdf      Tux.png      website.html
jqaqish@jqaqish-VirtualBox:/usr/share$ cd ~/lab4files/
jqaqish@jqaqish-VirtualBox:~/lab4files$ ls -l
total 6580
-rw-rw-r-- 1 jqaqish jqaqish   20471 Feb 22  2022 countries.json
-rw-rw-r-- 1 jqaqish jqaqish  284042 Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 jqaqish jqaqish  764176 Feb 22  2022 document.docx
-rw-rw-r-- 1 jqaqish jqaqish  742478 Feb 22  2022 globe.avi
-rw-rw-r-- 1 jqaqish jqaqish      76 Feb 22  2022 helloWorld.c
-rw-rw-r-- 1 jqaqish jqaqish 2600138 Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 jqaqish jqaqish    8704 Feb 22  2022 sample.xls
-rw-rw-r-- 1 jqaqish jqaqish   42777 Feb 22  2022 Tux.png
-rw-rw-r-- 1 jqaqish jqaqish 2114053 Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 jqaqish jqaqish  137453 Feb 22  2022 website.html
jqaqish@jqaqish-VirtualBox:~/lab4files$ ls -lh
total 6.5M
-rw-rw-r-- 1 jqaqish jqaqish  20K Feb 22  2022 countries.json
-rw-rw-r-- 1 jqaqish jqaqish 278K Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 jqaqish jqaqish 747K Feb 22  2022 document.docx
-rw-rw-r-- 1 jqaqish jqaqish 726K Feb 22  2022 globe.avi
-rw-rw-r-- 1 jqaqish jqaqish  76 Feb 22  2022 helloWorld.c
-rw-rw-r-- 1 jqaqish jqaqish 2.5M Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 jqaqish jqaqish 8.5K Feb 22  2022 sample.xls
-rw-rw-r-- 1 jqaqish jqaqish  42K Feb 22  2022 Tux.png
-rw-rw-r-- 1 jqaqish jqaqish 2.1M Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 jqaqish jqaqish 135K Feb 22  2022 website.html
jqaqish@jqaqish-VirtualBox:~/lab4files$ ls -lhS
total 6.5M
-rw-rw-r-- 1 jqaqish jqaqish 2.5M Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 jqaqish jqaqish 2.1M Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 jqaqish jqaqish 747K Feb 22  2022 document.docx
-rw-rw-r-- 1 jqaqish jqaqish 726K Feb 22  2022 globe.avi
-rw-rw-r-- 1 jqaqish jqaqish 278K Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 jqaqish jqaqish 135K Feb 22  2022 website.html
-rw-rw-r-- 1 jqaqish jqaqish  42K Feb 22  2022 Tux.png
-rw-rw-r-- 1 jqaqish jqaqish  20K Feb 22  2022 countries.json
-rw-rw-r-- 1 jqaqish jqaqish 8.5K Feb 22  2022 sample.xls
-rw-rw-r-- 1 jqaqish jqaqish  76 Feb 22  2022 helloWorld.c
```

```
jqaqish@jqaqish-VirtualBox:~/lab4files$ ls -lhSgG
total 6.5M
-rw-rw-r-- 1 2.5M Feb 22  2022 Linux.pdf
-rw-rw-r-- 1 2.1M Feb 22  2022 Ubuntu.pdf
-rw-rw-r-- 1 747K Feb 22  2022 document.docx
-rw-rw-r-- 1 726K Feb 22  2022 globe.avi
-rw-rw-r-- 1 278K Feb 22  2022 csvfile.csv
-rw-rw-r-- 1 135K Feb 22  2022 website.html
-rw-rw-r-- 1  42K Feb 22  2022 Tux.png
-rw-rw-r-- 1  20K Feb 22  2022 countries.json
```

```
-rw-rw-r-- 1 8.5K Feb 22  2022 sample.xls
-rw-rw-r-- 1   76 Feb 22  2022 helloWorld.c
jqaqish@jqaqish-VirtualBox:~/lab4files$ ls -lhSgGi
total 6.5M
2242227 -rw-rw-r-- 1 2.5M Feb 22  2022 Linux.pdf
2242229 -rw-rw-r-- 1 2.1M Feb 22  2022 Ubuntu.pdf
2242230 -rw-rw-r-- 1 747K Feb 22  2022 document.docx
2242356 -rw-rw-r-- 1 726K Feb 22  2022 globe.avi
2242329 -rw-rw-r-- 1 278K Feb 22  2022 csvfile.csv
2242516 -rw-rw-r-- 1 135K Feb 22  2022 website.html
2242228 -rw-rw-r-- 1  42K Feb 22  2022 Tux.png
2242273 -rw-rw-r-- 1  20K Feb 22  2022 countries.json
2242513 -rw-rw-r-- 1 8.5K Feb 22  2022 sample.xls
2242502 -rw-rw-r-- 1   76 Feb 22  2022 helloWorld.c
jqaqish@jqaqish-VirtualBox:~/lab4files$ ls -X
globe.avi       csvfile.csv    website.html   Linux.pdf   Tux.png
helloWorld.c  document.docx  countries.json  Ubuntu.pdf   sample.xls
jqaqish@jqaqish-VirtualBox:~/lab4files$ ls -Xr
sample.xls  Ubuntu.pdf  countries.json  document.docx  helloWorld.c
Tux.png       Linux.pdf    website.html    csvfile.csv    globe.avi
jqaqish@jqaqish-VirtualBox:~/lab4files$ ls -Xr1
sample.xls
Tux.png
Ubuntu.pdf
Linux.pdf
countries.json
website.html
document.docx
csvfile.csv
helloWorld.c
globe.avi
jqaqish@jqaqish-VirtualBox:~/lab4files$ _
```
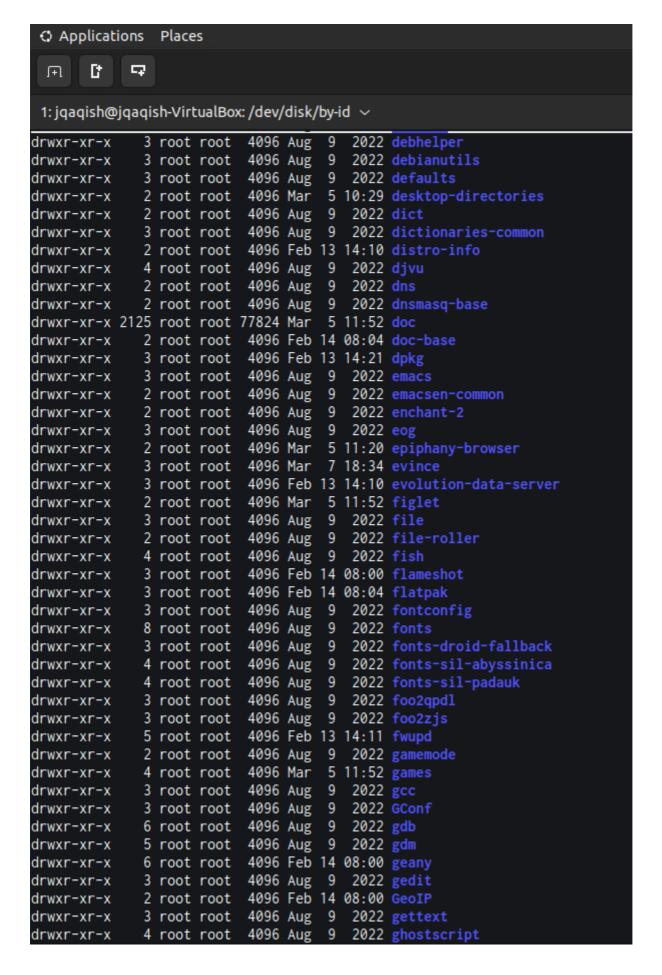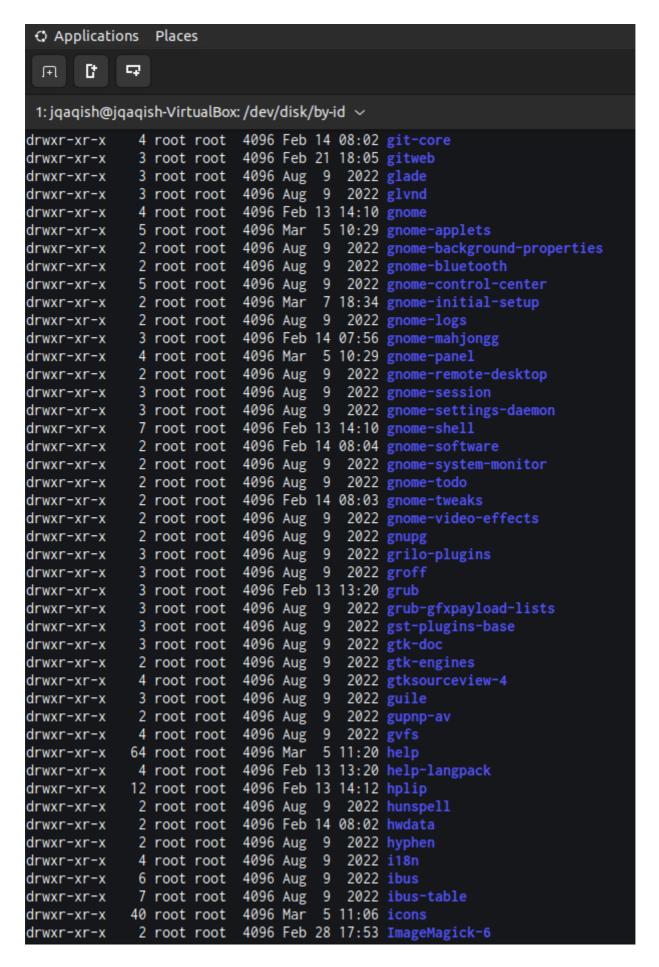
🔲 ▍ ▦ Tilix: jqaqish@jqaqis...   🦊 Lab 4 - The Linux FS | ...

Question 4

○ Applications   Places

[⊞] [⬓] [⬒]

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ∨

```
jqaqish@jqaqish-VirtualBox:~$ cd /usr/share/icons/default
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ cd /proc/sys/ipv4
bash: cd: /proc/sys/ipv4: No such file or directory
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ cd /proc/sys/ipv4
bash: cd: /proc/sys/ipv4: No such file or directory
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ cd /proc/sys/net/ipv4
jqaqish@jqaqish-VirtualBox:/proc/sys/net/ipv4$ /..
bash: /..: Is a directory
jqaqish@jqaqish-VirtualBox:/proc/sys/net/ipv4$ /../..
bash: /../..: Is a directory
jqaqish@jqaqish-VirtualBox:/proc/sys/net/ipv4$ cd -
/usr/share/icons/default
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ pwd share/backgrounds
/usr/share/icons/default
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ ls share/backgrounds
ls: cannot access 'share/backgrounds': No such file or directory
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ ls /share/backgrounds
ls: cannot access '/share/backgrounds': No such file or directory
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ ls /share
ls: cannot access '/share': No such file or directory
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ ls /usr/share/ba
backgrounds/      base-files/      base-passwd/      bash-completion/
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ ls /usr/share/backgrounds/
Blue_flower_by_Elena_Stravoravdi.jpg            jj_light_by_Hiking93.jpg
canvas_by_roytanck.jpg                          Mirror_by_Uday_Nakade.jpg
Cherry_Tree_in_Lakones_by_elenastravoravdi.jpg  Optical_Fibers_in_Dark_by_Elena_Stravora
contest                                         ubuntu2_by_arman1992.jpg
DSC2943_by_kcpru.jpg                            ubuntu_by_arman1992.jpg
Jammy-Jellyfish_WP_4096x2304_Grey.png           ubuntu-default-greyscale-wallpaper.png
jj_dark_by_Hiking93.jpg                         warty-final-ubuntu.png
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ ls /Home/cis106
ls: cannot access '/Home/cis106': No such file or directory
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ ls /home/cis106
ls: cannot access '/home/cis106': No such file or directory
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ ls /home/jqaqish/cis106
 cheatSheets   labs  'week reports'
jqaqish@jqaqish-VirtualBox:/usr/share/icons/default$ cd /home
jqaqish@jqaqish-VirtualBox:/home$ ls /Dowloads
ls: cannot access '/Dowloads': No such file or directory
jqaqish@jqaqish-VirtualBox:/home$ ls /Downloads
ls: cannot access '/Downloads': No such file or directory
jqaqish@jqaqish-VirtualBox:/home$ ls /jqaqish/Downloads
ls: cannot access '/jqaqish/Downloads': No such file or directory
```

○ Applications   Places

[⊞] [⬓] [⬒]

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ∨

```
jqaqish@jqaqish-VirtualBox:/home$ ls /home/jqaqish/Do
Documents/ Downloads/
jqaqish@jqaqish-VirtualBox:/home$ ls /home/jqaqish/Downloads/
```
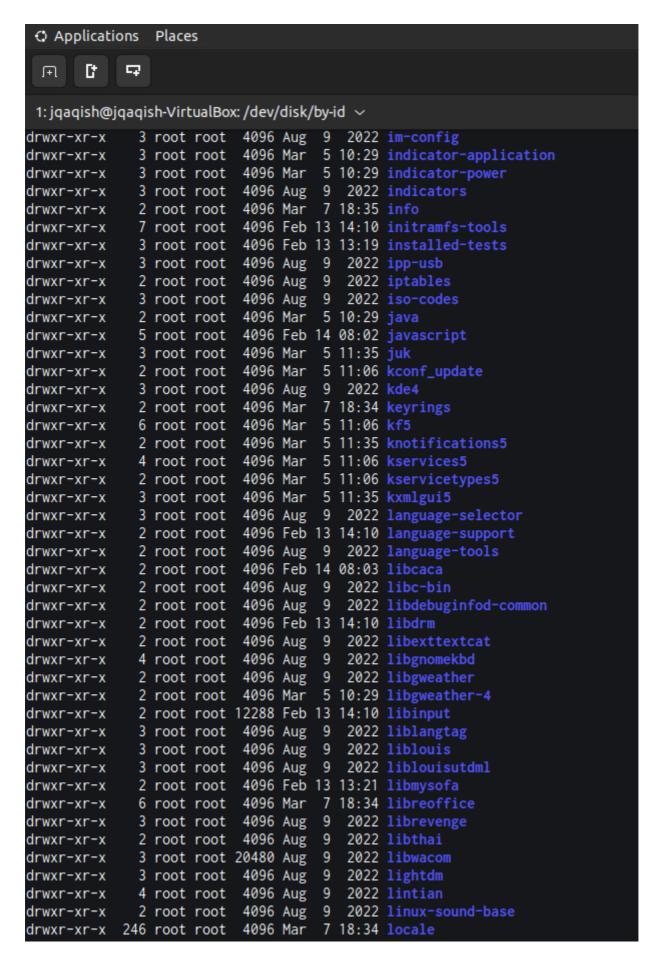
```
dog.jpeg  games  lab4files.zip
jqaqish@jqaqish-VirtualBox:/home$ cd /dev/disk/by-id
jqaqish@jqaqish-VirtualBox:/dev/disk/by-id$ ls -la /home
total 12
drwxr-xr-x  3 root     root     4096 Feb 13 13:18 .
drwxr-xr-x 20 root     root     4096 Feb 13 13:17 ..
drwxr-x--- 24 jqaqish jqaqish 4096 Mar 14 08:27 jqaqish
jqaqish@jqaqish-VirtualBox:/dev/disk/by-id$ ls -lt /usr/share/theme
total 120
drwxr-xr-x 7 root root 4096 Aug  9  2022 Yaru
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-bark
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-bark-dark
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-blue
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-blue-dark
drwxr-xr-x 7 root root 4096 Aug  9  2022 Yaru-dark
drwxr-xr-x 3 root root 4096 Aug  9  2022 Yaru-dark-hdpi
drwxr-xr-x 3 root root 4096 Aug  9  2022 Yaru-dark-xhdpi
drwxr-xr-x 3 root root 4096 Aug  9  2022 Yaru-hdpi
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-magenta
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-magenta-dark
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-olive
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-olive-dark
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-prussiangreen
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-prussiangreen-dark
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-purple
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-purple-dark
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-red
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-red-dark
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-sage
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-sage-dark
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-viridian
drwxr-xr-x 5 root root 4096 Aug  9  2022 Yaru-viridian-dark
drwxr-xr-x 3 root root 4096 Aug  9  2022 Yaru-xhdpi
drwxr-xr-x 4 root root 4096 Aug  9  2022 Default
drwxr-xr-x 4 root root 4096 Aug  9  2022 Emacs
drwxr-xr-x 3 root root 4096 Aug  9  2022 Raleigh
drwxr-xr-x 4 root root 4096 Aug  9  2022 Adwaita
drwxr-xr-x 4 root root 4096 Aug  9  2022 Adwaita-dark
drwxr-xr-x 4 root root 4096 Aug  9  2022 HighContrast
jqaqish@jqaqish-VirtualBox:/dev/disk/by-id$ ls -lX /usr/share/
total 1416
```

○ Applications   Places

⊞   ⊡   ⊟

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ∨

```
jqaqish@jqaqish-VirtualBox:/dev/disk/by-id$ ls -lX /usr/share/
total 1416
drwxr-xr-x     4 root root  4096 Mar  5 10:29 accountsservice
drwxr-xr-x     2 root root  4096 Feb 14 08:02 aclocal
drwxr-xr-x     2 root root  4096 Aug  9  2022 acpi-support
drwxr-xr-x     2 root root  4096 Aug  9  2022 adduser
drwxr-xr-x     4 root root  4096 Feb 14 07:56 aisleriot
drwxr-xr-x     3 root root  4096 Mar  5 10:29 alacarte
drwxr-xr-x    11 root root  4096 Feb 13 14:10 alsa
drwxr-xr-x     2 root root  4096 Aug  9  2022 alsa-base
drwxr-xr-x     3 root root  4096 Aug  9  2022 alsa-card-profile
drwxr-xr-x     2 root root  4096 Mar  7 18:34 appdata
drwxr-xr-x     3 root root  4096 Feb 14 08:04 app-info
drwxr-xr-x     2 root root 16384 Mar 13 10:50 applications
drwxr-xr-x     4 root root  4096 Feb 14 07:56 apport
drwxr-xr-x     4 root root  4096 Feb 14 08:04 apps
drwxr-xr-x     2 root root  4096 Aug  9  2022 apturl
drwxr-xr-x     2 root root  4096 Aug  9  2022 aspell
drwxr-xr-x     2 root root  4096 Aug  9  2022 avahi
drwxr-xr-x     3 root root  4096 Aug  9  2022 backgrounds
drwxr-xr-x     2 root root  4096 Mar  7 18:34 base-files
drwxr-xr-x     2 root root  4096 Aug  9  2022 base-passwd
drwxr-xr-x     4 root root  4096 Aug  9  2022 bash-completion
drwxr-xr-x     2 root root  4096 Feb 13 14:10 binfmts
drwxr-xr-x     4 root root  4096 Aug  9  2022 branding
drwxr-xr-x     3 root root  4096 Aug  9  2022 brltty
drwxr-xr-x   132 root root  4096 Feb 14 08:04 bug
drwxr-xr-x     2 root root  4096 Feb 13 14:21 build-essential
drwxr-xr-x     3 root root  4096 Aug  9  2022 ca-certificates
drwxr-xr-x     3 root root  4096 Feb 14 08:03 caffeine-indicator
drwxr-xr-x     2 root root  4096 Feb 14 08:01 catdoc
drwxr-xr-x     3 root root  4096 Aug  9  2022 cmake
drwxr-xr-x     5 root root  4096 Mar  7 18:34 code
drwxr-xr-x     3 root root  4096 Aug  9  2022 cogl
drwxr-xr-x     3 root root  4096 Aug  9  2022 color
drwxr-xr-x     7 root root  4096 Aug  9  2022 colord
drwxr-xr-x     2 root root  4096 Mar  7 18:34 common-licenses
drwxr-xr-x     2 root root 28672 Aug  9  2022 consolefonts
drwxr-xr-x     2 root root  4096 Aug  9  2022 console-setup
drwxr-xr-x     2 root root  4096 Aug  9  2022 consoletrans
drwxr-xr-x     3 root root  4096 Mar  5 11:52 cowsay
drwxr-xr-x    18 root root  4096 Aug  9  2022 cups
drwxr-xr-x     8 root root  4096 Feb 13 14:10 dbus-1
drwxr-xr-x     3 root root  4096 Aug  9  2022 dconf
drwxr-xr-x     2 root root  4096 Aug  9  2022 debconf
```

○ Applications   Places

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ∨

```
drwxr-xr-x    3 root root   4096 Aug   9  2022 debhelper
drwxr-xr-x    3 root root   4096 Aug   9  2022 debianutils
drwxr-xr-x    3 root root   4096 Aug   9  2022 defaults
drwxr-xr-x    2 root root   4096 Mar   5 10:29 desktop-directories
drwxr-xr-x    2 root root   4096 Aug   9  2022 dict
drwxr-xr-x    3 root root   4096 Aug   9  2022 dictionaries-common
drwxr-xr-x    2 root root   4096 Feb  13 14:10 distro-info
drwxr-xr-x    4 root root   4096 Aug   9  2022 djvu
drwxr-xr-x    2 root root   4096 Aug   9  2022 dns
drwxr-xr-x    2 root root   4096 Aug   9  2022 dnsmasq-base
drwxr-xr-x 2125 root root  77824 Mar   5 11:52 doc
drwxr-xr-x    2 root root   4096 Feb  14 08:04 doc-base
drwxr-xr-x    3 root root   4096 Feb  13 14:21 dpkg
drwxr-xr-x    3 root root   4096 Aug   9  2022 emacs
drwxr-xr-x    2 root root   4096 Aug   9  2022 emacsen-common
drwxr-xr-x    2 root root   4096 Aug   9  2022 enchant-2
drwxr-xr-x    3 root root   4096 Aug   9  2022 eog
drwxr-xr-x    2 root root   4096 Mar   5 11:20 epiphany-browser
drwxr-xr-x    3 root root   4096 Mar   7 18:34 evince
drwxr-xr-x    3 root root   4096 Feb  13 14:10 evolution-data-server
drwxr-xr-x    2 root root   4096 Mar   5 11:52 figlet
drwxr-xr-x    3 root root   4096 Aug   9  2022 file
drwxr-xr-x    2 root root   4096 Aug   9  2022 file-roller
drwxr-xr-x    4 root root   4096 Aug   9  2022 fish
drwxr-xr-x    3 root root   4096 Feb  14 08:00 flameshot
drwxr-xr-x    3 root root   4096 Feb  14 08:04 flatpak
drwxr-xr-x    3 root root   4096 Aug   9  2022 fontconfig
drwxr-xr-x    8 root root   4096 Aug   9  2022 fonts
drwxr-xr-x    3 root root   4096 Aug   9  2022 fonts-droid-fallback
drwxr-xr-x    4 root root   4096 Aug   9  2022 fonts-sil-abyssinica
drwxr-xr-x    4 root root   4096 Aug   9  2022 fonts-sil-padauk
drwxr-xr-x    3 root root   4096 Aug   9  2022 foo2qpdl
drwxr-xr-x    3 root root   4096 Aug   9  2022 foo2zjs
drwxr-xr-x    5 root root   4096 Feb  13 14:11 fwupd
drwxr-xr-x    2 root root   4096 Aug   9  2022 gamemode
drwxr-xr-x    4 root root   4096 Mar   5 11:52 games
drwxr-xr-x    3 root root   4096 Aug   9  2022 gcc
drwxr-xr-x    3 root root   4096 Aug   9  2022 GConf
drwxr-xr-x    6 root root   4096 Aug   9  2022 gdb
drwxr-xr-x    5 root root   4096 Aug   9  2022 gdm
drwxr-xr-x    6 root root   4096 Feb  14 08:00 geany
drwxr-xr-x    3 root root   4096 Aug   9  2022 gedit
drwxr-xr-x    2 root root   4096 Feb  14 08:00 GeoIP
drwxr-xr-x    3 root root   4096 Aug   9  2022 gettext
drwxr-xr-x    4 root root   4096 Aug   9  2022 ghostscript
```

⊙ Applications   Places

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ∨

```
drwxr-xr-x    4 root root   4096 Feb 14 08:02 git-core
drwxr-xr-x    3 root root   4096 Feb 21 18:05 gitweb
drwxr-xr-x    3 root root   4096 Aug  9  2022 glade
drwxr-xr-x    3 root root   4096 Aug  9  2022 glvnd
drwxr-xr-x    4 root root   4096 Feb 13 14:10 gnome
drwxr-xr-x    5 root root   4096 Mar  5 10:29 gnome-applets
drwxr-xr-x    2 root root   4096 Aug  9  2022 gnome-background-properties
drwxr-xr-x    2 root root   4096 Aug  9  2022 gnome-bluetooth
drwxr-xr-x    5 root root   4096 Aug  9  2022 gnome-control-center
drwxr-xr-x    2 root root   4096 Mar  7 18:34 gnome-initial-setup
drwxr-xr-x    2 root root   4096 Aug  9  2022 gnome-logs
drwxr-xr-x    3 root root   4096 Feb 14 07:56 gnome-mahjongg
drwxr-xr-x    4 root root   4096 Mar  5 10:29 gnome-panel
drwxr-xr-x    2 root root   4096 Aug  9  2022 gnome-remote-desktop
drwxr-xr-x    3 root root   4096 Aug  9  2022 gnome-session
drwxr-xr-x    3 root root   4096 Aug  9  2022 gnome-settings-daemon
drwxr-xr-x    7 root root   4096 Feb 13 14:10 gnome-shell
drwxr-xr-x    2 root root   4096 Feb 14 08:04 gnome-software
drwxr-xr-x    2 root root   4096 Aug  9  2022 gnome-system-monitor
drwxr-xr-x    2 root root   4096 Aug  9  2022 gnome-todo
drwxr-xr-x    2 root root   4096 Feb 14 08:03 gnome-tweaks
drwxr-xr-x    2 root root   4096 Aug  9  2022 gnome-video-effects
drwxr-xr-x    2 root root   4096 Aug  9  2022 gnupg
drwxr-xr-x    3 root root   4096 Aug  9  2022 grilo-plugins
drwxr-xr-x    3 root root   4096 Aug  9  2022 groff
drwxr-xr-x    3 root root   4096 Feb 13 13:20 grub
drwxr-xr-x    3 root root   4096 Aug  9  2022 grub-gfxpayload-lists
drwxr-xr-x    3 root root   4096 Aug  9  2022 gst-plugins-base
drwxr-xr-x    3 root root   4096 Aug  9  2022 gtk-doc
drwxr-xr-x    2 root root   4096 Aug  9  2022 gtk-engines
drwxr-xr-x    4 root root   4096 Aug  9  2022 gtksourceview-4
drwxr-xr-x    3 root root   4096 Aug  9  2022 guile
drwxr-xr-x    2 root root   4096 Aug  9  2022 gupnp-av
drwxr-xr-x    4 root root   4096 Aug  9  2022 gvfs
drwxr-xr-x   64 root root   4096 Mar  5 11:20 help
drwxr-xr-x    4 root root   4096 Feb 13 13:20 help-langpack
drwxr-xr-x   12 root root   4096 Feb 13 14:12 hplip
drwxr-xr-x    2 root root   4096 Aug  9  2022 hunspell
drwxr-xr-x    2 root root   4096 Feb 14 08:02 hwdata
drwxr-xr-x    2 root root   4096 Aug  9  2022 hyphen
drwxr-xr-x    4 root root   4096 Aug  9  2022 i18n
drwxr-xr-x    6 root root   4096 Aug  9  2022 ibus
drwxr-xr-x    7 root root   4096 Aug  9  2022 ibus-table
drwxr-xr-x   40 root root   4096 Mar  5 11:06 icons
drwxr-xr-x    2 root root   4096 Feb 28 17:53 ImageMagick-6
```

Applications   Places

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ⌄

```
drwxr-xr-x    3 root root   4096 Aug   9  2022 im-config
drwxr-xr-x    3 root root   4096 Mar   5 10:29 indicator-application
drwxr-xr-x    3 root root   4096 Mar   5 10:29 indicator-power
drwxr-xr-x    3 root root   4096 Aug   9  2022 indicators
drwxr-xr-x    2 root root   4096 Mar   7 18:35 info
drwxr-xr-x    7 root root   4096 Feb 13 14:10 initramfs-tools
drwxr-xr-x    3 root root   4096 Feb 13 13:19 installed-tests
drwxr-xr-x    3 root root   4096 Aug   9  2022 ipp-usb
drwxr-xr-x    2 root root   4096 Aug   9  2022 iptables
drwxr-xr-x    3 root root   4096 Aug   9  2022 iso-codes
drwxr-xr-x    2 root root   4096 Mar   5 10:29 java
drwxr-xr-x    5 root root   4096 Feb 14 08:02 javascript
drwxr-xr-x    3 root root   4096 Mar   5 11:35 juk
drwxr-xr-x    2 root root   4096 Mar   5 11:06 kconf_update
drwxr-xr-x    3 root root   4096 Aug   9  2022 kde4
drwxr-xr-x    2 root root   4096 Mar   7 18:34 keyrings
drwxr-xr-x    6 root root   4096 Mar   5 11:06 kf5
drwxr-xr-x    2 root root   4096 Mar   5 11:35 knotifications5
drwxr-xr-x    4 root root   4096 Mar   5 11:06 kservices5
drwxr-xr-x    2 root root   4096 Mar   5 11:06 kservicetypes5
drwxr-xr-x    3 root root   4096 Mar   5 11:35 kxmlgui5
drwxr-xr-x    3 root root   4096 Aug   9  2022 language-selector
drwxr-xr-x    2 root root   4096 Feb 13 14:10 language-support
drwxr-xr-x    2 root root   4096 Aug   9  2022 language-tools
drwxr-xr-x    2 root root   4096 Feb 14 08:03 libcaca
drwxr-xr-x    2 root root   4096 Aug   9  2022 libc-bin
drwxr-xr-x    2 root root   4096 Aug   9  2022 libdebuginfod-common
drwxr-xr-x    2 root root   4096 Feb 13 14:10 libdrm
drwxr-xr-x    2 root root   4096 Aug   9  2022 libexttextcat
drwxr-xr-x    4 root root   4096 Aug   9  2022 libgnomekbd
drwxr-xr-x    2 root root   4096 Aug   9  2022 libgweather
drwxr-xr-x    2 root root   4096 Mar   5 10:29 libgweather-4
drwxr-xr-x    2 root root  12288 Feb 13 14:10 libinput
drwxr-xr-x    3 root root   4096 Aug   9  2022 liblangtag
drwxr-xr-x    3 root root   4096 Aug   9  2022 liblouis
drwxr-xr-x    3 root root   4096 Aug   9  2022 liblouisutdml
drwxr-xr-x    2 root root   4096 Feb 13 13:21 libmysofa
drwxr-xr-x    6 root root   4096 Mar   7 18:34 libreoffice
drwxr-xr-x    3 root root   4096 Aug   9  2022 librevenge
drwxr-xr-x    2 root root   4096 Aug   9  2022 libthai
drwxr-xr-x    3 root root  20480 Aug   9  2022 libwacom
drwxr-xr-x    3 root root   4096 Aug   9  2022 lightdm
drwxr-xr-x    4 root root   4096 Aug   9  2022 lintian
drwxr-xr-x    2 root root   4096 Aug   9  2022 linux-sound-base
drwxr-xr-x  246 root root   4096 Mar   7 18:34 locale
```

Applications   Places

Browse and run installed applications

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ∨

```
drwxr-xr-x   10 root root  4096 Feb 13 13:20 locale-langpack
drwxr-xr-x    2 root root  4096 Aug  9  2022 locales
drwxr-xr-x    2 root root  4096 Feb 13 14:21 lto-disabled-list
drwxr-xr-x    3 root root  4096 Aug  9  2022 m2300w
drwxr-xr-x   38 root root  4096 Mar  5 11:06 man
drwxr-xr-x    2 root root  4096 Aug  9  2022 man-db
drwxr-xr-x    3 root root  4096 Feb 14 08:02 mate-panel
drwxr-xr-x    3 root root  4096 Aug  9  2022 maven-repo
drwxr-xr-x    2 root root 12288 Aug  9  2022 media-player-info
drwxr-xr-x    2 root root  4096 Mar  5 11:52 menu
drwxr-xr-x    2 root root  4096 Feb 14 08:02 mesa-demos
drwxr-xr-x    2 root root 12288 Mar  7 18:34 metainfo
drwxr-xr-x    2 root root  4096 Feb 13 13:20 mfx
drwxr-xr-x   15 root root  4096 Mar  7 18:35 mime
drwxr-xr-x    2 root root  4096 Aug  9  2022 misc
drwxr-xr-x    2 root root  4096 Aug  9  2022 mobile-broadband-provider-info
drwxr-xr-x    4 root root  4096 Mar  7 18:34 ModemManager
drwxr-xr-x    2 root root  4096 Aug  9  2022 mousetweaks
drwxr-xr-x    2 root root  4096 Aug  9  2022 mythes
drwxr-xr-x    4 root root  4096 Aug  9  2022 nano
drwxr-xr-x    3 root root  4096 Aug  9  2022 nautilus
drwxr-xr-x    3 root root  4096 Feb 14 08:00 nautilus-python
drwxr-xr-x    3 root root  4096 Aug  9  2022 nautilus-share
drwxr-xr-x    5 root root  4096 Feb 14 08:02 nemo
drwxr-xr-x    2 root root  4096 Feb 14 08:03 netpbm
drwxr-xr-x    3 root root  4096 Feb 13 14:10 netplan
drwxr-xr-x    2 root root  4096 Feb 14 08:00 numpy3
drwxr-xr-x    2 root root  4096 Feb 13 14:11 openvpn
drwxr-xr-x    3 root root  4096 Aug  9  2022 orca
drwxr-xr-x    2 root root  4096 Aug  9  2022 os-prober
drwxr-xr-x    3 root root  4096 Aug  9  2022 p11-kit
drwxr-xr-x    2 root root  4096 Feb 14 08:05 package-data-downloads
drwxr-xr-x    3 root root  4096 Aug  9  2022 PackageKit
drwxr-xr-x    2 root root  4096 Feb 13 14:10 pam
drwxr-xr-x    2 root root  4096 Mar 13 10:50 pam-configs
drwxr-xr-x    3 root root  4096 Aug  9  2022 perl
drwxr-xr-x   31 root root  4096 Feb 21 18:05 perl5
drwxr-xr-x    2 root root  4096 Aug  9  2022 perl-openssl-defaults
drwxr-xr-x    3 root root  4096 Feb 13 14:10 pipewire
drwxr-xr-x    4 root root  4096 Mar  7 18:34 pixmaps
drwxr-xr-x    2 root root  4096 Mar 13 10:51 pkgconfig
drwxr-xr-x    3 root root  4096 Aug  9  2022 plymouth
drwxr-xr-x    2 root root  4096 Aug  9  2022 pnm2ppa
drwxr-xr-x    3 root root  4096 Feb 13 13:21 pocketsphinx
drwxr-xr-x    4 root root  4096 Aug  9  2022 polkit-1
```

○ Applications   Places

Browse and run installed applications

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ∨

```
drwxr-xr-x    6 root root   4096 Aug  9  2022 poppler
drwxr-xr-x    5 root root   4096 Aug  9  2022 ppd
drwxr-xr-x    2 root root   4096 Aug  9  2022 ppp
drwxr-xr-x    2 root root   4096 Aug  9  2022 publicsuffix
drwxr-xr-x    3 root root   4096 Aug  9  2022 pulseaudio
drwxr-xr-x    2 root root   4096 Aug  9  2022 pyshared
drwxr-xr-x    6 root root   4096 Feb 13 14:10 python3
drwxr-xr-x    3 root root   4096 Aug  9  2022 python-apt
drwxr-xr-x    2 root root   4096 Mar  5 11:06 qlogging-categories5
drwxr-xr-x    3 root root   4096 Feb 14 08:00 qt5
drwxr-xr-x    2 root root   4096 Aug  9  2022 readline
drwxr-xr-x    5 root root   4096 Aug  9  2022 remmina
drwxr-xr-x    3 root root   4096 Aug  9  2022 rhythmbox
drwxr-xr-x    2 root root   4096 Mar  5 11:52 rig
drwxr-xr-x    3 root root   4096 Aug  9  2022 rsync
drwxr-xr-x    2 root root   4096 Aug  9  2022 rsyslog
drwxr-xr-x    4 root root   4096 Feb 14 08:02 rubygems-integration
drwxr-xr-x    5 root root   4096 Aug  9  2022 rygel
drwxr-xr-x    5 root root   4096 Feb 14 08:03 samba
drwxr-xr-x    3 root root   4096 Aug  9  2022 seahorse
drwxr-xr-x    3 root root   4096 Aug  9  2022 secureboot
drwxr-xr-x    3 root root   4096 Aug 29  2021 sensible-utils
drwxr-xr-x    3 root root   4096 Aug  9  2022 session-migration
drwxr-xr-x    9 root root   4096 Aug  9  2022 sgml
drwxr-xr-x    2 root root   4096 Aug  9  2022 sgml-base
drwxr-xr-x    2 root root   4096 Aug  9  2022 sgml-data
drwxr-xr-x    4 root root   4096 Aug  9  2022 snmp
drwxr-xr-x    3 root root   4096 Mar  7 18:34 software-properties
drwxr-xr-x    3 root root   4096 Feb 14 08:00 solid
drwxr-xr-x   11 root root   4096 Mar  5 10:29 sounds
drwxr-xr-x    2 root root  12288 Aug  9  2022 source-highlight
drwxr-xr-x    4 root root   4096 Aug  9  2022 speech-dispatcher
drwxr-xr-x    2 root root   4096 Aug  9  2022 ssl-cert
drwxr-xr-x    7 root root   4096 Aug  9  2022 system-config-printer
drwxr-xr-x    2 root root   4096 Mar 13 10:50 systemd
drwxr-xr-x    3 root root   4096 Feb 14 08:02 systemtap
drwxr-xr-x    2 root root   4096 Aug  9  2022 tabset
drwxr-xr-x    3 root root   4096 Aug  9  2022 tcltk
drwxr-xr-x    2 root root   4096 Jan 17  2022 terminfo
drwxr-xr-x    2 root root   4096 Feb 14 08:01 tex-common
drwxr-xr-x    7 root root   4096 Feb 14 08:02 texlive
drwxr-xr-x    6 root root   4096 Feb 14 08:02 texmf
drwxr-xr-x   32 root root   4096 Aug  9  2022 themes
drwxr-xr-x    2 root root   4096 Mar  7 18:34 thumbnailers
drwxr-xr-x    5 root root   4096 Feb 14 08:00 tilix
```

⚙ Applications   Places

Browse and run installed applications

1: jqaqish@jqaqish-VirtualBox: /dev/disk/by-id ⌄

```
drwxr-xr-x    2 root root   4096 Aug   9  2022 totem
drwxr-xr-x    5 root root   4096 Aug   9  2022 tracker3
drwxr-xr-x    5 root root   4096 Aug   9  2022 tracker3-miners
drwxr-xr-x    3 root root   4096 Aug   9  2022 transmission
drwxr-xr-x    3 root root   4096 Aug   9  2022 ubuntu
drwxr-xr-x    4 root root   4096 Aug   9  2022 ubuntu-drivers-common
drwxr-xr-x    3 root root   4096 Mar   7 18:34 ubuntu-release-upgrader
drwxr-xr-x    3 root root   4096 Aug   9  2022 ubuntu-wayland
drwxr-xr-x    2 root root   4096 Aug   9  2022 ucf
drwxr-xr-x    4 root root   4096 Aug   9  2022 ufw
drwxr-xr-x    2 root root   4096 Aug   9  2022 unattended-upgrades
drwxr-xr-x    3 root root   4096 Mar   5 10:29 unity
drwxr-xr-x    3 root root   4096 Aug   9  2022 update-manager
drwxr-xr-x    5 root root   4096 Mar   7 18:34 update-notifier
drwxr-xr-x    5 root root   4096 Mar   5 10:29 upstart
drwxr-xr-x    2 root root   4096 Aug   9  2022 usb-creator
drwxr-xr-x    2 root root   4096 Aug   9  2022 usb_modeswitch
drwxr-xr-x    3 root root   4096 Aug   9  2022 vala
drwxr-xr-x    5 root root   4096 Feb  13 14:10 vim
drwxr-xr-x    5 root root   4096 Feb  14 08:00 vlc
drwxr-xr-x    5 root root   4096 Aug   9  2022 vulkan
drwxr-xr-x    2 root root   4096 Feb  14 08:03 w3m
drwxr-xr-x    2 root root   4096 Aug   9  2022 wayland-sessions
drwxr-xr-x    5 root root   4096 Aug   9  2022 X11
drwxr-xr-x    3 root root   4096 Feb  14 08:02 xapps-common
drwxr-xr-x    3 root root   4096 Aug   9  2022 xdg-desktop-portal
drwxr-xr-x   11 root root   4096 Aug   9  2022 xml
drwxr-xr-x    2 root root   4096 Aug   9  2022 xml-core
drwxr-xr-x    2 root root   4096 Mar   5 10:29 xsessions
drwxr-xr-x    6 root root   4096 Aug   9  2022 yelp
drwxr-xr-x    4 root root   4096 Aug   9  2022 yelp-xsl
drwxr-xr-x    2 root root   4096 Aug   9  2022 zenity
drwxr-xr-x   20 root root   4096 Feb  13 14:10 zoneinfo
drwxr-xr-x    3 root root   4096 Aug   9  2022 zoneinfo-icu
drwxr-xr-x    4 root root   4096 Feb  14 08:00 zsh
drwxr-xr-x    2 root root   4096 Feb  13 13:20 gir-1.0
drwxr-xr-x    3 root root   4096 Feb  13 14:10 glib-2.0
drwxr-xr-x    2 root root   4096 Aug   9  2022 gnome-bluetooth-3.0
drwxr-xr-x    3 root root   4096 Aug   9  2022 goa-1.0
drwxr-xr-x    4 root root   4096 Feb  13 13:20 gstreamer-1.0
drwxr-xr-x    3 root root   4096 Aug   9  2022 gtk-4.0
drwxr-xr-x    4 root root   4096 Feb  14 08:02 gtksourceview-2.0
drwxr-xr-x    4 root root   4096 Feb  14 08:02 gtksourceview-3.0
drwxr-xr-x    3 root root   4096 Aug   9  2022 gupnp-dlna-2.0
drwxr-xr-x    3 root root   4096 Aug   9  2022 org.gnome.Characters
```

```
drwxr-xr-x    3 root root   4096 Aug   9  2022 org.gnome.Characters
drwxr-xr-x    2 root root   4096 Feb  13 14:11 drirc.d
jqaqish@jqaqish-VirtualBox:/dev/disk/by-id$ ls -lX /usr/share/_
```

Question 5

1: jqaqish@jqaqish-VirtualBox: ~/Downloads ⌄

```
jqaqish@jqaqish-VirtualBox:/$ cd /home
jqaqish@jqaqish-VirtualBox:/home$ cd /home/jqaqish/
jqaqish@jqaqish-VirtualBox:~$ cd /home/jqaqish/Downloads/
jqaqish@jqaqish-VirtualBox:~/Downloads$ _
```

◌ Applications   Places

⊞   ⎕   ⎗   Tilix: jqaqish@jqaqish-VirtualBox: ~/D

1: jqaqish@jqaqish-VirtualBox: ~/Documents ⌄

```
jqaqish@jqaqish-VirtualBox:/$ cd /home
jqaqish@jqaqish-VirtualBox:/home$ cd /home/jqaqish/
jqaqish@jqaqish-VirtualBox:~$ cd /home/jqaqish/Downloads/
jqaqish@jqaqish-VirtualBox:~/Downloads$ cd /usr/share//themes/Adwaita
jqaqish@jqaqish-VirtualBox:/usr/share/themes/Adwaita$ cd /../..
jqaqish@jqaqish-VirtualBox:/$ cd /home/jqaqish/
jqaqish@jqaqish-VirtualBox:~$ cd /home/jqaqish/Documents/
jqaqish@jqaqish-VirtualBox:~/Documents$ pwd
/home/jqaqish/Documents
jqaqish@jqaqish-VirtualBox:~/Documents$ _
```