

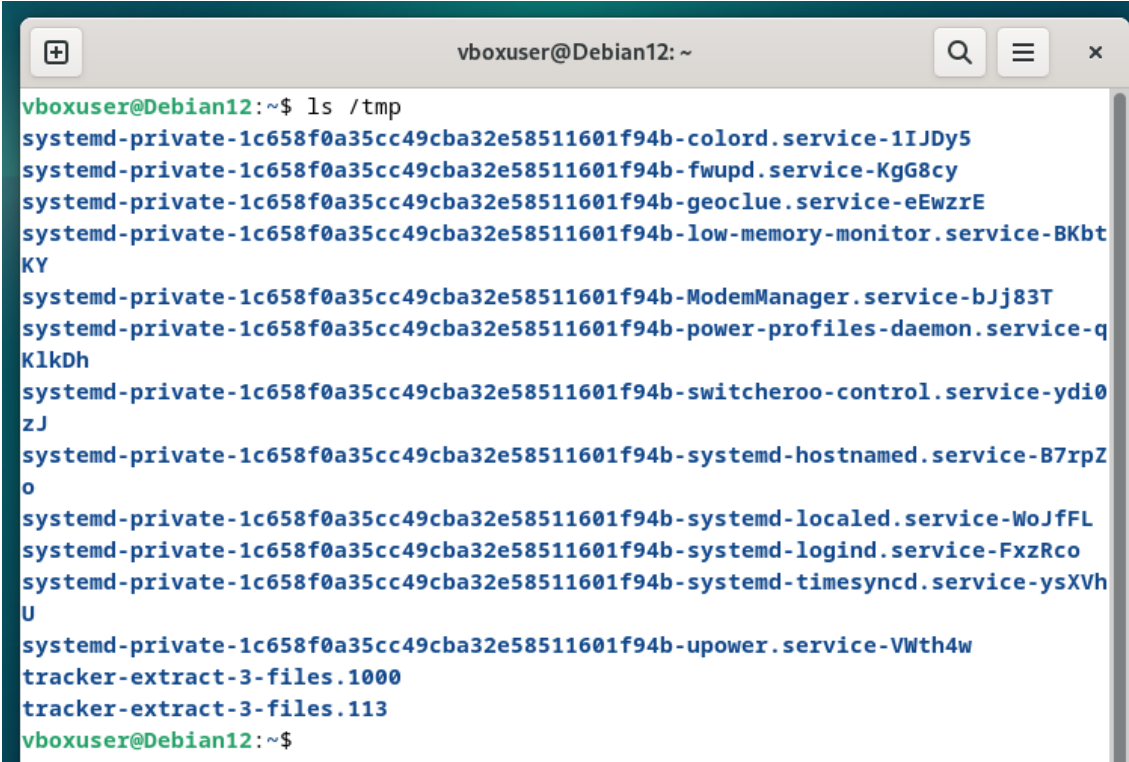
Laboratorio 1

PRIMERA PARTE

Nota: Para prevenir errores por acceso denegado ejecuta antes el comando **su -** y luego ingresar la **contraseña de root**.

Archivos

1. Listar los archivos del directorio /tmp



```
vboxuser@Debian12: ~  
vboxuser@Debian12:~$ ls /tmp  
systemd-private-1c658f0a35cc49cba32e58511601f94b-color.service-1IJdy5  
systemd-private-1c658f0a35cc49cba32e58511601f94b-fwupd.service-KgG8cy  
systemd-private-1c658f0a35cc49cba32e58511601f94b-geoclue.service-eEwzrE  
systemd-private-1c658f0a35cc49cba32e58511601f94b-low-memory-monitor.service-BKbt  
KY  
systemd-private-1c658f0a35cc49cba32e58511601f94b-ModemManager.service-bJj83T  
systemd-private-1c658f0a35cc49cba32e58511601f94b-power-profiles-daemon.service-q  
KlkDh  
systemd-private-1c658f0a35cc49cba32e58511601f94b-switcheroo-control.service-ydi0  
zJ  
systemd-private-1c658f0a35cc49cba32e58511601f94b-systemd-hostnamed.service-B7rpZ  
o  
systemd-private-1c658f0a35cc49cba32e58511601f94b-systemd-locale.service-WoJfFL  
systemd-private-1c658f0a35cc49cba32e58511601f94b-systemd-logind.service-FxzRco  
systemd-private-1c658f0a35cc49cba32e58511601f94b-systemd-timesyncd.service-ysXVh  
U  
systemd-private-1c658f0a35cc49cba32e58511601f94b-upower.service-VWth4w  
tracker-extract-3-files.1000  
tracker-extract-3-files.113  
vboxuser@Debian12:~$
```

2. Repetir el ejercicio anterior mostrando además: información detallada de cada archivo y ordenándolos desde los más viejos a los nuevos.

```
vboxuser@Debian12: ~  
vboxuser@Debian12:~$ ls -lt --time=creation /tmp  
total 48  
drwx----- 2 vboxuser  vboxuser  4096 Jan  3 13:44 tracker-extract-3-files.100  
0  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-fwupd.service-KgG8cy  
drwx----- 2 Debian-gdm Debian-gdm 4096 Jan  3 13:44 tracker-extract-3-files.113  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-colord.service-1IJdy5  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-geoclue.service-eEwzrE  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-upower.service-VWth4w  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-ModemManager.service-bJj83T  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-systemd-logind.service-FxzRco  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-switcheroo-control.service-ydi0zJ  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-power-profiles-daemon.service-qKlkDh  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35c  
c49cba32e58511601f94b-low-memory-monitor.service-BKbtKY  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35c
```

3. Repetir el ejercicio anterior mostrando además los archivos ocultos

```
vboxuser@Debian12: ~  
vboxuser@Debian12:~$ ls -alt --time=creation /tmp  
total 88  
drwx----- 2 vboxuser  vboxuser  4096 Jan  3 13:44 tracker-extract-3-files.10  
00  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-fwupd.service-KgG8cy  
-r--r--r-- 1 vboxuser  vboxuser   11 Jan  3 13:44 .X0-lock  
-r--r--r-- 1 vboxuser  vboxuser   11 Jan  3 13:44 .X1-lock  
drwx----- 2 Debian-gdm Debian-gdm 4096 Jan  3 13:44 tracker-extract-3-files.11  
3  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-colord.service-1IJdy5  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-geoclue.service-eEwzrE  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-upower.service-VWth4w  
-r--r--r-- 1 Debian-gdm Debian-gdm 11 Jan  3 13:44 .X1024-lock  
-r--r--r-- 1 Debian-gdm Debian-gdm 11 Jan  3 13:44 .X1025-lock  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-ModemManager.service-bJj83T  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-systemd-logind.service-FxzRco  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-switcheroo-control.service-vdi0zJ
```

```
vboxuser@Debian12: ~  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-geoclue.service-eEwzrE  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-upower.service-VWth4w  
-r--r--r-- 1 Debian-gdm Debian-gdm  11 Jan  3 13:44 .X1024-lock  
-r--r--r-- 1 Debian-gdm Debian-gdm  11 Jan  3 13:44 .X1025-lock  
drwx----- 3 root      root      4096 Jan  3 13:44 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-ModemManager.service-bJj83T  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-systemd-logind.service-FxzRco  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-switcheroo-control.service-ydi0zJ  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-power-profiles-daemon.service-qKlkDh  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-low-memory-monitor.service-BKbtKY  
drwx----- 3 root      root      4096 Jan  3 13:43 systemd-private-1c658f0a35  
cc49cba32e58511601f94b-systemd-timesyncd.service-ysXVhU  
drwxrwxrwt 2 root      root      4096 Jan  3 13:43 .font-unix  
drwxrwxrwt 2 root      root      4096 Jan  3 13:43 .ICE-unix  
drwxrwxrwt 2 root      root      4096 Jan  3 13:43 .XIM-unix  
drwxrwxrwt 2 root      root      4096 Jan  3 13:43 .X11-unix  
drwxrwxrwt 18 root      root      4096 Dec 27 11:51 .  
drwxr-xr-x 19 root      root      4096 Dec 27 11:51 ..
```

Primeros Pasos

1. Crear los siguientes archivos:
2. ab1.md ab2.md ab3.md ab4.md ac1.md ae1.md af1.md w1.md w2.md

```
vboxuser@Debian12: ~  
vboxuser@Debian12:~$ touch ab1.md ab2.md ab3.md ab4.md ac1.md ae1.md af1.md w1.m  
d w2.md  
vboxuser@Debian12:~$
```

```
vboxuser@Debian12: ~  
vboxuser@Debian12:~$ touch ab1.md ab2.md ab3.md ab4.md ac1.md ae1.md af1.md w1.m  
d w2.md  
vboxuser@Debian12:~$ ls  
ab1.md  ab3.md  ac1.md  af1.md  Documents  Music      Public      Videos  w2.md  
ab2.md  ab4.md  ae1.md  Desktop Downloads Pictures  Templates  w1.md  
vboxuser@Debian12:~$
```

3. Crear la siguiente estructura de directorios en /home/educacionit

notas

└─ casa

└─ estudio

└─ algebra

└─ fisica

└─ programacion

└─ trabajo

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# mkdir -p notas/{casa,trabajo,estudio/{algebra,fisica,programacion}}  
root@Debian12:/home/vboxuser# ls  
ab1.md  ab3.md  ac1.md  af1.md  Documents  Music  Pictures  Templates  w1.md  
ab2.md  ab4.md  ae1.md  Desktop  Downloads  notas  Public  Videos  w2.md
```

4. Mover todos los archivos creados a la carpeta notas

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# mkdir -p notas/{casa,trabajo,estudio/{algebra,fisica,programacion}}  
root@Debian12:/home/vboxuser# ls  
ab1.md  ab3.md  ac1.md  af1.md  Documents  Music  Pictures  Templates  w1.md  
ab2.md  ab4.md  ae1.md  Desktop  Downloads  notas  Public  Videos  w2.md  
root@Debian12:/home/vboxuser# cd notas  
root@Debian12:/home/vboxuser/notas# ls  
casa  estudio  trabajo  
root@Debian12:/home/vboxuser/notas# cd estudio  
root@Debian12:/home/vboxuser/notas/estudio# ls  
algebra  fisica  programacion  
root@Debian12:/home/vboxuser/notas/estudio#
```

5. Copiar todos los archivos cuyo nombre empieza con 'a' y tiene un '1' al directorio 'algebra'

```
root@Debian12:/home/vboxuser# cp /home/vboxuser/a*1.md /home/vboxuser/notas/estudio/algebra/
```

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# ls  
ab1.md  ab3.md  ac1.md  af1.md  Documents  Music  Pictures  Templates  w1.md  
ab2.md  ab4.md  ae1.md  Desktop  Downloads  notas  Public  Videos  w2.md  
root@Debian12:/home/vboxuser# cd notas  
root@Debian12:/home/vboxuser/notas# ls  
casa  estudio  trabajo  
root@Debian12:/home/vboxuser/notas# cd estudio  
root@Debian12:/home/vboxuser/notas/estudio# ls  
algebra  fisica  programacion  
root@Debian12:/home/vboxuser/notas/estudio# cd algebra  
root@Debian12:/home/vboxuser/notas/estudio/algebra# ls  
ab1.md  ac1.md  ae1.md  af1.md  
root@Debian12:/home/vboxuser/notas/estudio/algebra#
```

6. Copiar todos los archivos cuyo nombre comienza con 'w' al directorio 'trabajo'

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# cp /home/vboxuser/w*.md /home/vboxuser/notas/trabajo/  
root@Debian12:/home/vboxuser#
```

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# cp /home/vboxuser/w*.md /home/vboxuser/notas/trabajo/  
root@Debian12:/home/vboxuser# ls  
ab1.md ab3.md ac1.md af1.md Documents Music Pictures Templates w1.md  
ab2.md ab4.md ae1.md Desktop Downloads notas Public Videos w2.md  
root@Debian12:/home/vboxuser# cd notas  
root@Debian12:/home/vboxuser/notas# ls  
casa estudio trabajo  
root@Debian12:/home/vboxuser/notas# cd trabajo  
root@Debian12:/home/vboxuser/notas/trabajo# ls  
w1.md w2.md  
root@Debian12:/home/vboxuser/notas/trabajo#
```

7. Mover todos los archivos cuyo nombre tiene una ‘b’ o una ‘c’ a la carpeta ‘casa’

```
root@Debian12:/home/vboxuser# mv /home/vboxuser/*[bc]*.md /home/vboxuser/notas/casa/  
root@Debian12:/home/vboxuser#
```

```
root@Debian12:/home/vboxuser# mv /home/vboxuser/*[bc]*.md /home/vboxuser/notas/casa/  
root@Debian12:/home/vboxuser# ls  
ae1.md af1.md Desktop Documents Downloads Music notas Pictures Public Templates Videos w1.md w2.md  
root@Debian12:/home/vboxuser# cd notas  
root@Debian12:/home/vboxuser/notas# ls  
casa estudio trabajo  
root@Debian12:/home/vboxuser/notas# cd casa  
root@Debian12:/home/vboxuser/notas/casa# ls  
ab1.md ab2.md ab3.md ab4.md ac1.md  
root@Debian12:/home/vboxuser/notas/casa#
```

8. Borrar el resto de los archivos que terminan con .md en /home/educacionit

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser/notas/casa# rm /home/vboxuser/*.md  
root@Debian12:/home/vboxuser/notas/casa# cd ..  
root@Debian12:/home/vboxuser/notas# cd ..  
root@Debian12:/home/vboxuser# ls  
Desktop Documents Downloads Music notas Pictures Public Templates Videos  
root@Debian12:/home/vboxuser#
```

9. Cambiar el nombre del archivo ab1.md a ag1.md

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# ls  
Desktop Documents Downloads Music notas Pictures Public Templates Videos  
root@Debian12:/home/vboxuser# cd notas  
root@Debian12:/home/vboxuser/notas# ls  
casa estudio trabajo  
root@Debian12:/home/vboxuser/notas# cd casa  
root@Debian12:/home/vboxuser/notas/casa# ls  
ab1.md ab2.md ab3.md ab4.md ac1.md  
root@Debian12:/home/vboxuser/notas/casa# mv /home/vboxuser/notas/casa/ab1.md /home/vboxuser/notas/casa/ag1.md  
root@Debian12:/home/vboxuser/notas/casa# ls  
ab2.md ab3.md ab4.md ac1.md ag1.md  
root@Debian12:/home/vboxuser/notas/casa#
```

10. Crear un archivo que ocupe 50M con bytes nulos en el directorio ‘fisica’

```
root@Debian12:/home/vboxuser/notas/casa# dd if=/dev/zero of=/home/vboxuser/notas/estudio/fisica/file50M bs=1M count=50  
50+0 records in  
50+0 records out  
52428800 bytes (52 MB, 50 MiB) copied, 0.333462 s, 157 MB/s  
root@Debian12:/home/vboxuser/notas/casa# ls  
ab2.md ab3.md ab4.md ac1.md ag1.md  
root@Debian12:/home/vboxuser/notas/casa# cd ..  
root@Debian12:/home/vboxuser/notas# ls  
casa estudio trabajo  
root@Debian12:/home/vboxuser/notas# cd estudio  
root@Debian12:/home/vboxuser/notas/estudio# ls  
algebra fisica programacion  
root@Debian12:/home/vboxuser/notas/estudio# cd fisica  
root@Debian12:/home/vboxuser/notas/estudio/fisica# ls  
file50M  
root@Debian12:/home/vboxuser/notas/estudio/fisica#
```

11. Empaquetar y comprimir con xz el directorio ‘notas’ (es decir crear notas.tar.xz)

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# tar -cJf /home/vboxuser/notas.tar.xz -C /home/vboxuser notas  
root@Debian12:/home/vboxuser# ls  
Desktop Documents Downloads Music notas notas.tar.xz Pictures Public Templates Videos  
root@Debian12:/home/vboxuser#
```

12. Borrar el directorio 'notas'

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# rm -r /home/vboxuser/notas  
root@Debian12:/home/vboxuser# ls  
Desktop Documents Downloads Music notas.tar.xz Pictures Public Templates Videos  
root@Debian12:/home/vboxuser#
```

13. Extraer el contenido del paquete 'notas.tar.xz'

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# tar -xjf /home/vboxuser/notas.tar.xz -C /home/vboxuser  
root@Debian12:/home/vboxuser# ls  
Desktop Documents Downloads Music notas notas.tar.xz Pictures Public Templates Videos  
root@Debian12:/home/vboxuser#
```

14. Repetir el ejercicio 11 pero utilizar gzip para comprimir

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# tar -czf /home/vboxuser/notas.tar.gz -C /home/vboxuser notas  
root@Debian12:/home/vboxuser# ls  
Desktop Documents Downloads Music notas notas.tar.gz notas.tar.xz Pictures Public Templates Videos  
root@Debian12:/home/vboxuser#
```

15. Repetir el ejercicio 11 pero utilizar bzip2 para comprimir

```
vboxuser@Debian12: ~  
root@Debian12:/home/vboxuser# tar -cjf /home/vboxuser/notas.tar.bz2 -C /home/vboxuser notas  
root@Debian12:/home/vboxuser# ls  
Desktop Documents Downloads Music notas notas.tar.bz2 notas.tar.gz notas.tar.xz Pictures Public Templates Videos  
root@Debian12:/home/vboxuser#
```

16. Cambiarle el nombre al archivo 'notas.tar.xz' a 'notas.jpg'. Verificar el tipo de archivo con el comando file.

```
root@Debian12:/home/vboxuser# mv /home/vboxuser/notas.tar.xz /home/vboxuser/notas.jpg  
root@Debian12:/home/vboxuser# ls  
Desktop Documents Downloads Music notas notas.jpg notas.tar.bz2 notas.tar.gz Pictures Public Templates Videos  
root@Debian12:/home/vboxuser#
```

SEGUNDA PARTE

Manuales

1. Leer la página del manual del comando cp. Buscar la opción de dicho comando que copia solamente cuando el archivo de destino es más viejo o no existe.

```
vboxuser@Debian12: ~  
root@Debian12:/home# man cp
```

```
vboxuser@Debian12: ~
CP(1) User Commands CP(1)

NAME
    cp - copy files and directories

SYNOPSIS
    cp [OPTION]... [-I] SOURCE DEST
    cp [OPTION]... SOURCE... DIRECTORY
    cp [OPTION]... -t DIRECTORY SOURCE...

DESCRIPTION
    Copy SOURCE to DEST, or multiple SOURCE(s) to DIRECTORY.

    Mandatory arguments to long options are mandatory for short options too.

    -a, --archive
        same as -dR --preserve=all

    --attributes-only
        don't copy the file data, just the attributes

    --backup[=CONTROL]
        make a backup of each existing destination file

    -b
        like --backup but does not accept an argument

    --copy-contents
```

```
vboxuser@Debian12: ~
    -b
        like --backup but does not accept an argument

    --copy-contents
        copy contents of special files when recursive

    -d
        same as --no-dereference --preserve=links

    -f, --force
        if an existing destination file cannot be opened, remove it and try again (this option is ignored when the -n option is also used)

    -i, --interactive
        prompt before overwrite (overrides a previous -n option)

    -H
        follow command-line symbolic links in SOURCE

    -l, --link
        hard link files instead of copying

    -L, --dereference
        always follow symbolic links in SOURCE

    -n, --no-clobber
        do not overwrite an existing file (overrides a previous -i option)

    -P, --no-dereference
        never follow symbolic links in SOURCE
```

```
vboxuser@Debian12: ~
    do not overwrite an existing file (overrides a previous -i option)

    -P, --no-dereference
        never follow symbolic links in SOURCE

    -p
        same as --preserve=mode,ownership,timestamps

    --preserve[=ATTR_LIST]
        preserve the specified attributes (default: mode,ownership,timestamps), if possible additional attributes: context, links, xattr, all

    --no-preserve=ATTR_LIST
        don't preserve the specified attributes

    --parents
        use full source file name under DIRECTORY

    -R, -r, --recursive
        copy directories recursively

    --reflink[=WHEN]
        control clone/CoW copies. See below

    --remove-destination
        remove each existing destination file before attempting to open it (contrast with --force)

    --sparse=WHEN
```



```
vboxuser@Debian12: ~  
remove each existing destination file before attempting to open it (contrast with --force)  
  
--sparse=WHEN  
    control creation of sparse files. See below  
  
--strip-trailing-slashes  
    remove any trailing slashes from each SOURCE argument  
  
-s, --symbolic-link  
    make symbolic links instead of copying  
  
-S, --suffix=SUFFIX  
    override the usual backup suffix  
  
-t, --target-directory=DIRECTORY  
    copy all SOURCE arguments into DIRECTORY  
  
-T, --no-target-directory  
    treat DEST as a normal file  
  
-u, --update  
    copy only when the SOURCE file is newer than the destination file or when the destination file is missing  
  
-v, --verbose  
    explain what is being done  
  
-x, --one-file-system  
    stay on this file system
```

```
vboxuser@Debian12: ~  
explain what is being done  
  
-x, --one-file-system  
    stay on this file system  
  
-Z      set SELinux security context of destination file to default type  
  
--context[=CTX]  
    like -Z, or if CTX is specified then set the SELinux or SMACK security context to CTX  
  
--help display this help and exit  
  
--version  
    output version information and exit  
  
By default, sparse SOURCE files are detected by a crude heuristic and the corresponding DEST file is made sparse as well. That is the behavior selected by --sparse=auto. Specify --sparse=always to create a sparse DEST file whenever the SOURCE file contains a long enough sequence of zero bytes. Use --sparse=never to inhibit creation of sparse files.  
  
When --reflink[=always] is specified, perform a lightweight copy, where the data blocks are copied only when modified. If this is not possible the copy fails, or if --reflink=auto is specified, fall back to a standard copy. Use --reflink=never to ensure a standard copy is performed.  
  
The backup suffix is '~', unless set with --suffix or SIMPLE_BACKUP_SUFFIX. The version control method may be selected via the --backup option or through the VERSION_CONTROL environment variable. Here are the values:  
  
none, off
```

```
never make backups (even if --backup is given)  
  
numbered, t  
    make numbered backups  
  
existing, nil  
    numbered if numbered backups exist, simple otherwise  
  
simple, never  
    always make simple backups  
  
As a special case, cp makes a backup of SOURCE when the force and backup options are given and SOURCE and DEST are the same name for an existing, regular file.  
  
AUTHOR  
    Written by Torbjorn Granlund, David MacKenzie, and Jim Meyering.  
  
REPORTING BUGS  
    GNU coreutils online help: <https://www.gnu.org/software/coreutils/>  
    Report any translation bugs to <https://translationproject.org/team/>  
  
COPYRIGHT  
    Copyright © 2022 Free Software Foundation, Inc. License GPLv3+: GNU GPL version 3 or later <https://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.  
  
SEE ALSO  
    Full documentation <https://www.gnu.org/software/coreutils/cp>  
    or available locally via: info '(coreutils) cp invocation'  
  
GNU coreutils 9.1                               September 2022  
Manual page cp(1) line 120/152 (END) (press h for help or q to quit)
```

La opción es **cp -u destino**

2. Buscar la definición del comando dd.


```
vboxuser@Debian12: ~
DD(1) User Commands DD(1)

NAME
    dd - convert and copy a file

SYNOPSIS
    dd [OPERAND]...
    dd OPTION

DESCRIPTION
    Copy a file, converting and formatting according to the operands.

    bs=BYTES
        read and write up to BYTES bytes at a time (default: 512); overrides ibs and obs

    cbs=BYTES
        convert BYTES bytes at a time

    conv=CONVS
        convert the file as per the comma separated symbol list

    count=N
        copy only N input blocks

    ibs=BYTES
        read up to BYTES bytes at a time (default: 512)
```

```
    oflag=FLAGS
        write as per the comma separated symbol list

    seek=N (or oseek=N) skip N obs-sized output blocks

    skip=N (or isseek=N) skip N ibs-sized input blocks

    status=LEVEL
        The LEVEL of information to print to stderr; 'none' suppresses everything but error messages, 'noxfer' suppresses the final transfer statistics, 'progress' shows periodic transfer statistics

    N and BYTES may be followed by the following multiplicative suffixes: c=1, w=2, b=512, kB=1000, K=1024, MB=1000*1000, M=1024*1024, xM=M, GB=1000*1000*1000, G=1024*1024*1024, and so on for T, P, E, Z, Y. Binary prefixes can be used, too: KiB=K, MiB=M, and so on. If N ends in 'B', it counts bytes not blocks.

    Each CONV symbol may be:

    ascii from EBCDIC to ASCII
    ebcdic from ASCII to EBCDIC
    ibm from ASCII to alternate EBCDIC
Manual page dd(1) line 29/148 43% (press h for help or q to quit)
```

```
    ascii from EBCDIC to ASCII
    ebcdic from ASCII to EBCDIC
    ibm from ASCII to alternate EBCDIC

    block pad newline-terminated records with spaces to cbs-size

    unblock
        replace trailing spaces in cbs-size records with newline

    lcase change upper case to lower case
    ucase change lower case to upper case

    sparse try to seek rather than write all-NUL output blocks

    swab swap every pair of input bytes

    sync pad every input block with NULs to ibs-size; when used with block or unblock, pad with spaces rather than NULs

    excl fail if the output file already exists

    nocreat
        do not create the output file

    notrunc
        do not truncate the output file
Manual page dd(1) line 53/148 57% (press h for help or q to quit)
```

```

noctty do not assign controlling terminal from file

nofollow
    do not follow symlinks

Sending a USR1 signal to a running 'dd' process makes it print I/O statistics to standard error and then resume copying.

Options are:

--help display this help and exit

--version
    output version information and exit

AUTHOR
    Written by Paul Rubin, David MacKenzie, and Stuart Kemp.

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

COPYRIGHT
    Copyright © 2022 Free Software Foundation, Inc. License GPLv3+: GNU GPL version 3 or later <https://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.

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

GNU coreutils 9.1                               September 2022
Manual page dd(1) line 116/148 (END) (press h for help or q to quit)
DD(1)

```

3. Buscar las páginas del manual que contengan la cadena de texto 'ipv4'.

```

root@Debian12:/home# man -k ipv4
avahi-autoipd (8) - IPv4LL network address configuration daemon
icmp (7) - Linux IPv4 ICMP kernel module.
inet_ntop (3) - convert IPv4 and IPv6 addresses from binary to text form
inet_pton (3) - convert IPv4 and IPv6 addresses from text to binary form
ip (7) - Linux IPv4 protocol implementation
raw (7) - Linux IPv4 raw sockets
udp (7) - User Datagram Protocol for IPv4
root@Debian12:/home#

```

4. Consultar la página del manual que tenga un listado de las secciones del mismo.

```

vboxuser@Debian12: ~
root@Debian12:/home# man man

```

```

MAN(1)                               Manual pager utils                               MAN(1)

NAME
    man - an interface to the system reference manuals

SYNOPSIS
    man [man options] [[section] page ...] ...
    man -k [apropos options] regexp ...
    man -K [man options] [section] term ...
    man -f [whatis options] page ...
    man -l [man options] file ...
    man -w|-W [man options] page ...

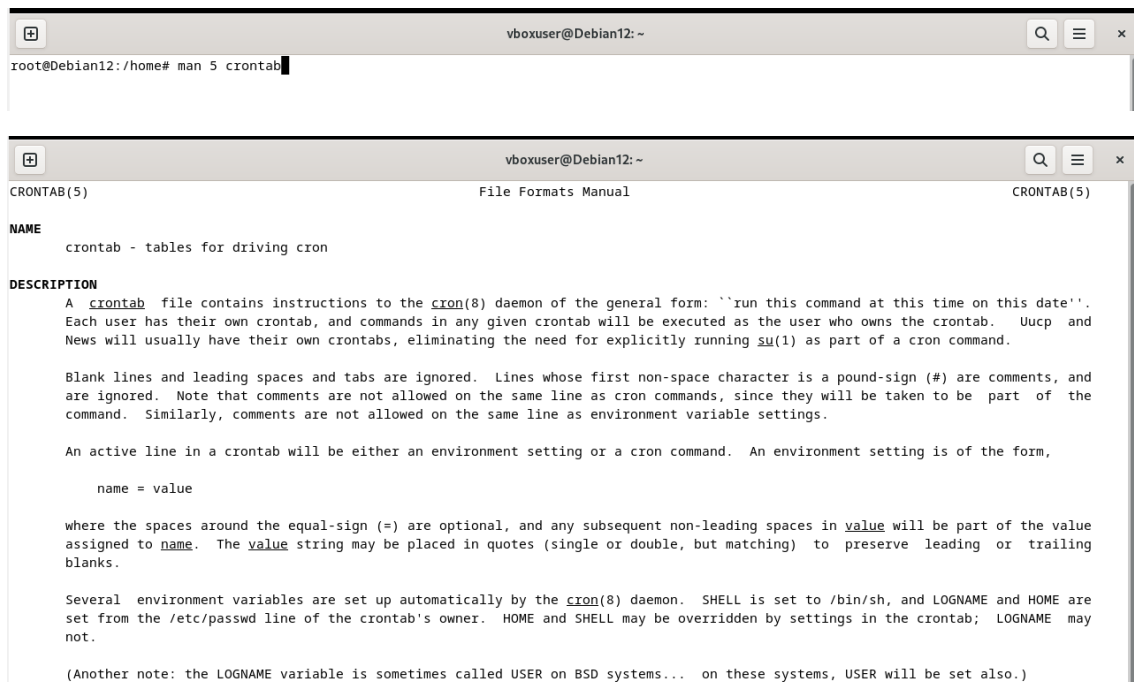
DESCRIPTION
    man is the system's manual pager. Each page argument given to man is normally the name of a program, utility or function. The manual page associated with each of these arguments is then found and displayed. A section, if provided, will direct man to look only in that section of the manual. The default action is to search in all of the available sections following a pre-defined order (see DEFAULTS), and to show only the first page found, even if page exists in several sections.

    The table below shows the section numbers of the manual followed by the types of pages they contain.

    1 Executable programs or shell commands
    2 System calls (functions provided by the kernel)
    3 Library calls (functions within program libraries)
    4 Special files (usually found in /dev)
    5 File formats and conventions, e.g. /etc/passwd
    6 Games
    7 Miscellaneous (including macro packages and conventions), e.g. man(7), tex(7), man-roff(7)

```

5. Buscar el manual del archivo de configuración crontab



```
vboxuser@Debian12: ~  
root@Debian12:/home# man 5 crontab
```

CRONTAB(5) File Formats Manual CRONTAB(5)

NAME

crontab - tables for driving cron

DESCRIPTION

A `crontab` file contains instructions to the `cron(8)` daemon of the general form: ``run this command at this time on this date''. Each user has their own crontab, and commands in any given crontab will be executed as the user who owns the crontab. Uucp and News will usually have their own crontabs, eliminating the need for explicitly running `su(1)` as part of a cron command.

Blank lines and leading spaces and tabs are ignored. Lines whose first non-space character is a pound-sign (#) are comments, and are ignored. Note that comments are not allowed on the same line as cron commands, since they will be taken to be part of the command. Similarly, comments are not allowed on the same line as environment variable settings.

An active line in a crontab will be either an environment setting or a cron command. An environment setting is of the form,

```
name = value
```

where the spaces around the equal-sign (=) are optional, and any subsequent non-leading spaces in `value` will be part of the value assigned to `name`. The `value` string may be placed in quotes (single or double, but matching) to preserve leading or trailing blanks.

Several environment variables are set up automatically by the `cron(8)` daemon. SHELL is set to `/bin/sh`, and LOGNAME and HOME are set from the `/etc/passwd` line of the crontab's owner. HOME and SHELL may be overridden by settings in the crontab; LOGNAME may not.

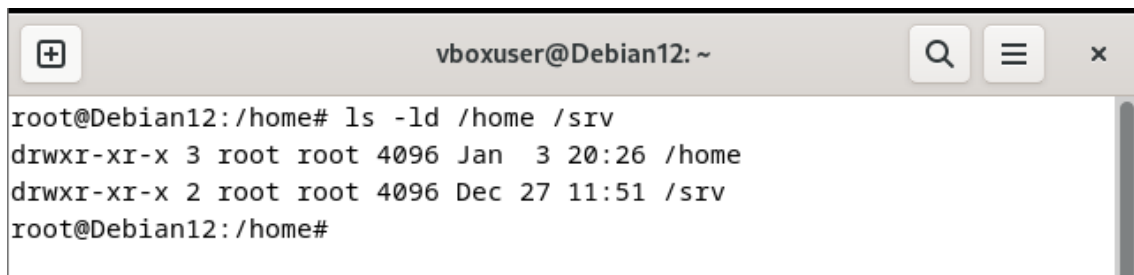
(Another note: the LOGNAME variable is sometimes called USER on BSD systems... on these systems, USER will be set also.)

TERCERA PARTE

FHS

1. Listar:

a. Dos directorios que se puedan compartir en una red

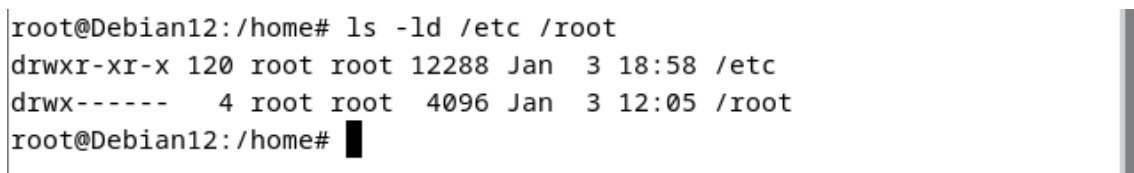


```
vboxuser@Debian12: ~  
root@Debian12:/home# ls -ld /home /srv  
drwxr-xr-x 3 root root 4096 Jan  3 20:26 /home  
drwxr-xr-x 2 root root 4096 Dec 27 11:51 /srv  
root@Debian12:/home#
```

/home – Contiene los directorios personales de los usuarios, útiles para compartir documentos.

/srv – Almacena datos para servicios como FTP, HTTP o NFS, adecuados para compartir en red.

b. Dos directorios que no se puedan compartir en una red



```
root@Debian12:/home# ls -ld /etc /root  
drwxr-xr-x 120 root root 12288 Jan  3 18:58 /etc  
drwx----- 4 root root 4096 Jan  3 12:05 /root  
root@Debian12:/home#
```

/etc – Contiene archivos de configuración del sistema.

/root – Directorio personal del superusuario (root), confidencial y crítico.

c. Dos directorios con contenido estático

```
root@Debian12:/home# ls -ld /usr/bin /usr/share
drwxr-xr-x  2 root root 36864 Dec 27 12:10 /usr/bin
drwxr-xr-x 254 root root 12288 Dec 27 12:10 /usr/share
root@Debian12:/home#
```

/usr/bin – Contiene programas ejecutables del sistema.

/usr/share – Almacena datos compartidos como íconos, documentos y páginas de manual.

d. Dos directorios con contenido variable

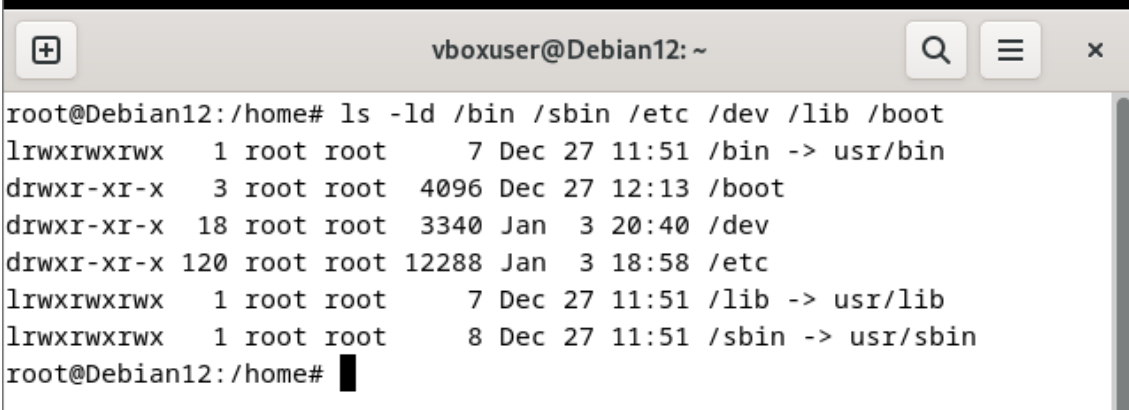


```
vboxuser@Debian12: ~
root@Debian12:/home# ls -ld /var/log /var/spool
drwxr-xr-x  9 root root 4096 Jan  4 11:33 /var/log
drwxr-xr-x  6 root root 4096 Dec 27 12:04 /var/spool
root@Debian12:/home#
```

/var/log – Contiene registros de actividad (logs) que cambian constantemente.

/var/spool – Almacena tareas en cola, como trabajos de impresión o correos electrónicos pendientes.

e. Listar todos los directorios de más alto nivel que son imprescindibles para que arranque el sistema



```
vboxuser@Debian12: ~
root@Debian12:/home# ls -ld /bin /sbin /etc /dev /lib /boot
lrwxrwxrwx  1 root root    7 Dec 27 11:51 /bin -> usr/bin
drwxr-xr-x  3 root root  4096 Dec 27 12:13 /boot
drwxr-xr-x 18 root root  3340 Jan  3 20:40 /dev
drwxr-xr-x 120 root root 12288 Jan  3 18:58 /etc
lrwxrwxrwx  1 root root    7 Dec 27 11:51 /lib -> usr/lib
lrwxrwxrwx  1 root root    8 Dec 27 11:51 /sbin -> usr/sbin
root@Debian12:/home#
```

/bin – Programas ejecutables básicos necesarios para el arranque.

/sbin – Programas administrativos esenciales.

/etc – Archivos de configuración críticos para el sistema.

/dev – Archivos de dispositivos requeridos para interactuar con el hardware.

/lib – Bibliotecas compartidas necesarias para los programas del sistema.

/boot – Contiene el kernel y archivos necesarios para iniciar el sistema.

2. Listar del directorio /usr

a. Directorio de página del manual

```
vboxuser@Debian12: ~  
root@Debian12:/home# ls -ld /usr/share/man  
drwxr-xr-x 37 root root 4096 Dec 27 12:06 /usr/share/man  
root@Debian12:/home#
```

b. Directorio de programas que solamente puede ejecutar root

```
root@Debian12:/home# ls -ld /usr/sbin  
drwxr-xr-x 2 root root 12288 Dec 27 12:13 /usr/sbin  
root@Debian12:/home#
```

c. Directorio de programas que todos los usuarios pueden ejecutar

```
root@Debian12:/home# ls -ld /usr/bin  
drwxr-xr-x 2 root root 36864 Dec 27 12:10 /usr/bin  
root@Debian12:/home#
```

d. Directorio de librerías

```
root@Debian12:/home# ls -ld /usr/lib  
drwxr-xr-x 84 root root 4096 Dec 27 12:10 /usr/lib  
root@Debian12:/home#
```

3. Listar del directorio /var

a. Directorio de logs

```
vboxuser@Debian12: ~  
root@Debian12:/home# ls -ld /var/log  
drwxr-xr-x 9 root root 4096 Jan  4 11:33 /var/log  
root@Debian12:/home#
```

b. Directorio de que contiene tareas a procesar

```
root@Debian12:/home# ls -ld /var/spool  
drwxr-xr-x 6 root root 4096 Dec 27 12:04 /var/spool  
root@Debian12:/home#
```

c. Directorio de casillas de correo

```
root@Debian12:/home# ls -ld /var/mail  
drwxrwsr-x 2 root mail 4096 Dec 27 11:51 /var/mail  
root@Debian12:/home#
```

4. Listar el directorio que contiene los archivos de configuración del sistema local

```
root@Debian12:/home# ls -ld /etc
drwxr-xr-x 120 root root 12288 Jan  3 18:58 /etc
root@Debian12:/home#
```

Localización de Archivos

Buscar Archivos

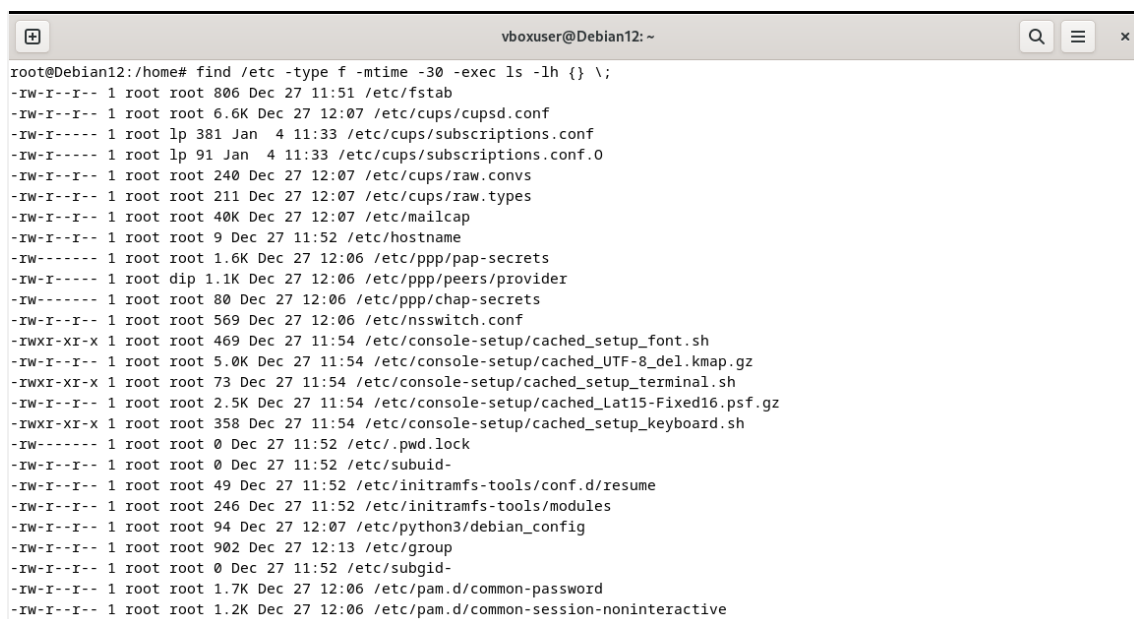
1. Utilizar el comando find para:

a. Buscar los archivos que comienzan con 'x' en todo el sistema



```
vboxuser@Debian12: ~
root@Debian12:/home# sudo find / -type f -name "x*"
/proc/sys/net/core/xfrm_acq_expires
/proc/sys/net/core/xfrm_aevent_etime
/proc/sys/net/core/xfrm_aevent_rseqth
/proc/sys/net/core/xfrm_larval_drop
/proc/sys/net/ipv4/xfrm4_gc_thresh
/proc/sys/net/ipv6/xfrm6_gc_thresh
/proc/1/task/1/net/xfrm_stat
/proc/1/net/xfrm_stat
/proc/2/task/2/net/xfrm_stat
/proc/2/net/xfrm_stat
/proc/3/task/3/net/xfrm_stat
/proc/3/net/xfrm_stat
/proc/4/task/4/net/xfrm_stat
/proc/4/net/xfrm_stat
/proc/5/task/5/net/xfrm_stat
/proc/5/net/xfrm_stat
/proc/6/task/6/net/xfrm_stat
/proc/6/net/xfrm_stat
/proc/8/task/8/net/xfrm_stat
/proc/8/net/xfrm_stat
/proc/10/task/10/net/xfrm_stat
/proc/10/net/xfrm_stat
/proc/11/task/11/net/xfrm_stat
/proc/11/net/xfrm_stat
/proc/12/task/12/net/xfrm_stat
/proc/12/net/xfrm_stat
```

b. Buscar los archivos dentro del directorio /etc cuya fecha de modificación sea menor a 1 mes



```
vboxuser@Debian12: ~
root@Debian12:/home# find /etc -type f -mtime -30 -exec ls -lh {} \;
-rw-r--r-- 1 root root 806 Dec 27 11:51 /etc/fstab
-rw-r--r-- 1 root root 6.6K Dec 27 12:07 /etc/cups/cupsd.conf
-rw-r----- 1 root lp 381 Jan  4 11:33 /etc/cups/subscriptions.conf
-rw-r----- 1 root lp 91 Jan  4 11:33 /etc/cups/subscriptions.conf.0
-rw-r--r-- 1 root root 240 Dec 27 12:07 /etc/cups/raw.convs
-rw-r--r-- 1 root root 211 Dec 27 12:07 /etc/cups/raw.types
-rw-r--r-- 1 root root 40K Dec 27 12:07 /etc/mailcap
-rw-r--r-- 1 root root 9 Dec 27 11:52 /etc/hostname
-rw----- 1 root root 1.6K Dec 27 12:06 /etc/ppp/pap-secrets
-rw-r----- 1 root dip 1.1K Dec 27 12:06 /etc/ppp/peers/provider
-rw----- 1 root root 80 Dec 27 12:06 /etc/ppp/chap-secrets
-rw-r--r-- 1 root root 569 Dec 27 12:06 /etc/nsswitch.conf
-rwxr-xr-x 1 root root 469 Dec 27 11:54 /etc/console-setup/cached_setup_font.sh
-rw-r--r-- 1 root root 5.0K Dec 27 11:54 /etc/console-setup/cached_UTF-8_del.kmap.gz
-rwxr-xr-x 1 root root 73 Dec 27 11:54 /etc/console-setup/cached_setup_terminal.sh
-rw-r--r-- 1 root root 2.5K Dec 27 11:54 /etc/console-setup/cached_Lat15-Fixed16.psf.gz
-rwxr-xr-x 1 root root 358 Dec 27 11:54 /etc/console-setup/cached_setup_keyboard.sh
-rw----- 1 root root 0 Dec 27 11:52 /etc/.pwd.lock
-rw-r--r-- 1 root root 0 Dec 27 11:52 /etc/subuid
-rw-r--r-- 1 root root 49 Dec 27 11:52 /etc/initramfs-tools/conf.d/resume
-rw-r--r-- 1 root root 246 Dec 27 11:52 /etc/initramfs-tools/modules
-rw-r--r-- 1 root root 94 Dec 27 12:07 /etc/python3/debian_config
-rw-r--r-- 1 root root 902 Dec 27 12:13 /etc/group
-rw-r--r-- 1 root root 0 Dec 27 11:52 /etc/subgid
-rw-r--r-- 1 root root 1.7K Dec 27 12:06 /etc/pam.d/common-password
-rw-r--r-- 1 root root 1.2K Dec 27 12:06 /etc/pam.d/common-session-noninteractive
```

c. Buscar los archivos dentro /var que ocupe más de 10MB

```
vboxuser@Debian12: ~
root@Debian12:/home# sudo find /var -type f -size +10M -exec ls -lh {} \;
-rw----- 1 root root 14M Dec 27 12:13 /var/log/installer/cdebconf/templates.dat
-rw-r--r-- 1 root root 32M Nov 9 06:39 /var/lib/apt/lists/deb.debian.org_debian_dists_bookworm_main_i18n_Translation-en
-rw-r--r-- 1 root root 49M Nov 9 06:39 /var/lib/apt/lists/deb.debian.org_debian_dists_bookworm_main_source_Sources
-rw-r--r-- 1 root root 48M Nov 9 06:39 /var/lib/apt/lists/deb.debian.org_debian_dists_bookworm_main_binary-amd64_Packages
-rw-r--r-- 1 root root 38M Jan 3 13:44 /var/cache/apt/srcpkgcache.bin
-rw-r--r-- 1 root root 38M Jan 3 13:44 /var/cache/apt/pkgcache.bin
root@Debian12:/home#
```

d. Imprimir usando tres herramientas distintas la ruta del comando tar.

```
vboxuser@Debian12: ~
root@Debian12:/home/vboxuser# which tar
/usr/bin/tar
root@Debian12:/home/vboxuser# ls -lh $(which tar)
-rwxr-xr-x 1 root root 520K Jan 20 2024 /usr/bin/tar
root@Debian12:/home/vboxuser#
```

```
vboxuser@Debian12: ~
root@Debian12:/home/vboxuser# whereis tar
tar: /usr/bin/tar /usr/share/man/man1/tar.1.gz
root@Debian12:/home/vboxuser# ls -lh $(whereis -b tar | awk '{print $2}')
-rwxr-xr-x 1 root root 520K Jan 20 2024 /usr/bin/tar
root@Debian12:/home/vboxuser#
```

```
vboxuser@Debian12: ~
root@Debian12:/home/vboxuser# whereis tar
tar: /usr/bin/tar /usr/share/man/man1/tar.1.gz
root@Debian12:/home/vboxuser# ls -lh $(whereis -b tar | awk '{print $2}')
-rwxr-xr-x 1 root root 520K Jan 20 2024 /usr/bin/tar
root@Debian12:/home/vboxuser# find / -type f -name "tar" -exec ls -lh {} \; 2>/dev/null
-rw-r--r-- 1 root root 19K Apr 3 2022 /usr/share/bash-completion/completions/tar
-rw-r--r-- 1 root root 321 Jan 20 2024 /usr/lib/mime/packages/tar
-rwxr-xr-x 1 root root 520K Jan 20 2024 /usr/bin/tar
root@Debian12:/home/vboxuser#
```

2. Crear un archivo llamado test123, ejecutar el comando que permita encontrarlo inmediatamente con la herramienta locate.

```
root@Debian12:/home/vboxuser# touch test123
root@Debian12:/home/vboxuser# sudo updatedb
sudo: updatedb: command not found
root@Debian12:/home/vboxuser# locate test123 | xargs ls -lh
bash: locate: command not found
total 100K
drwxr-xr-x 2 vboxuser vboxuser 4.0K Dec 27 12:17 Desktop
drwxr-xr-x 2 vboxuser vboxuser 4.0K Dec 27 12:17 Documents
drwxr-xr-x 2 vboxuser vboxuser 4.0K Dec 27 12:17 Downloads
drwxr-xr-x 2 vboxuser vboxuser 4.0K Dec 27 12:17 Music
drwxr-xr-x 5 root root 4.0K Jan 3 20:44 notas
-rw-r--r-- 1 root root 8.0K Jan 4 13:17 notas.jpg
-rw-r--r-- 1 root root 580 Jan 4 13:21 notas.tar.bz2
-rw-r--r-- 1 root root 51K Jan 4 13:20 notas.tar.gz
drwxr-xr-x 2 vboxuser vboxuser 4.0K Dec 27 12:17 Pictures
drwxr-xr-x 2 vboxuser vboxuser 4.0K Dec 27 12:17 Public
drwxr-xr-x 2 vboxuser vboxuser 4.0K Dec 27 12:17 Templates
-rw-r--r-- 1 root root 0 Jan 4 13:48 test123
drwxr-xr-x 2 vboxuser vboxuser 4.0K Dec 27 12:17 Videos
root@Debian12:/home/vboxuser#
```