1. List all files in the bin directory.

```
chris@DESKTOP-8LCLCKD /
                                                      lib
Cygwin-Terminal.ico
                                    cygdrive
                       Cygwin.ico
                                                etc
                                                             prueba1
                                                                             var
                                                                       tmp
Cygwin.bat
                       bin
                                     dev
                                                home
                                                      proc
                                                             sbin
                                                                       usr
hris@DESKTOP-8LCLCKD /
$ cd bin
chris@DESKTOP-8LCLCKD /bin
$ 1s
 [.exe'
                                getconf.exe
                                                     realpath.exe
addftinfo.exe
                                getent.exe
                                                     rebase-trigger
                                                     rebase.exe
                                getfacl.exe
apropos
                                                     rebaseall
rebaselst
                                getopt.exe
gkill.exe
arch.exe
ash.exe
                                                     refer.exe
awk
                                gmondump.exe
b2sum.exe
                                grap2graph
                                                     regtool.exe
                                grep.exe
base32.exe
                                                     rename.exe
base64.exe
                                                     renew-dummy-cert
                                grn.exe
basename.exe
                                grodvi.exe
                                                     renice.exe
 bash.exe
                                groff.exe
grolbp.exe
                                                     reset
bashbug
bunzip2.exe
                                                     rev.exe
                                grolj4.exe
                                                     rm.exe
bzcat.exe
                                grops.exe
                                                     rmdir.exe
bzcmp
                                grotty.exe
                                                     run.exe
bzdiff
                                groups.exe
                                                     runcon.exe
                                                     rvi
bzegrep
                                gunzip
bzfgrep
                                gzexe
                                                     rview
                                                     script.exe
scriptreplay.exe
                                gzip.exe
bzgrep
bzip2.exe
                                head.exe
                                                     sdiff.exe
                                hexdump.exe
bzip2recover.exe
bzless
                                hostid.exe
                                                     sed.exe
                                hostname.exe
bzmore
                                                     seq.exe
                                                     setfacl.exe
 ca-legacy
                                hpftodit.exe
 cal.exe
                                id.exe
                                                     setmetamode.exe
captoinfo
                                indxbib.exe
                                                     setsid.exe
cat.exe
                                info.exe
                                                     sh.exe
catman.exe
                                infocmp.exe
                                                     sha1sum.exe
                                                     sha224sum.exe
chattr.exe
                                infotocap
                                install-info.exe
                                                     sha256sum.exe
chcon.exe
chgrp.exe
chmod.exe
                                install.exe
                                                     sha384sum.exe
                                                     sha512sum.exe
                                ipcmk.exe
chown.exe
                                ipcrm.exe
                                                     shred.exe
chroot.exe
                                ipcs.exe
                                                     shuf.exe
chrt.exe
                                isosize.exe
                                                     sleep.exe
                                                     soelim.exe
cksum.exe
                                join.exe
                                ǩill.exe
lastlog.exe
                                                     sort.exe
split.exe
clear.exe
 cmp.exe
col.exe
                                ldd.exe
                                                     ssp.exe
colcrt.exe
                                ldh.exe
                                                     stat.exe
colrm.exe
                                less.exe
                                                     stdbuf.exe
                                lessecho.exe
column.exe
                                                     strace.exe
                                lesskey.exe
comm.exe
                                                     stty.exe
                                lexgrog.exe
link.exe
cp.exe
                                                     sum.exe
 csplit.exe
                                                     sync.exe
                                lkbib.exe
                                                     tabs.exe
cut.exe
cygargp-0.dll
                                ln.exe
                                                     tac.exe
                                locale.exe
                                                     tail.exe
 cygattr-1.dll
 cygblkid-1.dll
                                locate.exe
                                                     tar.exe
cygbz2-1.dll
                                logger.exe
                                                     taskset.exe
```

2. List all files in the etc directory beginning with s in reverse order.

```
hris@DESKTOP-8LCLCKD /etc
         find -iwholename "*/s*" | sort -r
    /ssl/certs
    /ss]
   /skel/.profile
/skel/.inputrc
/skel/.bashrc
     /skel/.bash_profile
    /skel
    /shells
   /snerrs
/setup/zstd.lst.gz
/setup/zlib0.lst.gz
/setup/xz.lst.gz
/setup/which.lst.gz
/setup/wim-minimal.lst.gz
     /setup/util-linux.lst.gz
  ./setup/tzdata.lst.gz
./setup/tzcode.lst.gz
./setup/timestamp
./setup/terminfo.lst.gz
./setup/terminfo-extra.lst.gz
   /setup/tar.lst.gz
 ./setup/tar.ist.gz
./setup/setup.rc
./setup/sed.lst.gz
./setup/run.lst.gz
./setup/rebase.lst.gz
./setup/p11-kit.lst.gz
./setup/p11-kit-trust.lst.gz
./setup/openssl.lst.gz
//setup/ncurses_lst.gz
./setup/openssl.lst.gz
./setup/ncurses.lst.gz
./setup/mintty.lst.gz
./setup/man-db.lst.gz
./setup/login.lst.gz
./setup/libuuid1.lst.gz
./setup/libtasn1_6.lst.gz
./setup/libstdc++6.lst.gz
./setup/libssl1.l.lst.gz
./setup/libsmartcols1.lst.gz
./setup/libsigsegv2.lst.gz
./setup/libreadline7.lst.gz
./setup/libreadline7.lst.gz
./setup/libpopt0.lst.gz
./setup/libpopt1.lst.gz
./setup/libpopt1.lst.gz
./setup/libpopt1.lst.gz
./setup/libpopt1.lst.gz
./setup/libpopto.ist.gz
./setup/libpopt-common.lst.gz
./setup/libpipeline1.lst.gz
./setup/libpcre2_8_0.lst.gz
./setup/libpcre1.lst.gz
./setup/libp11-kit0.lst.gz
./setup/libncursesw10.lst.gz
./setup/libmpfr6.lst.gz
./setup/liblzma5.lst.gz
./setup/liblz4_1.lst.gz
./setup/libint18.lst.gz
./setup/libiconv2.lst.gz
./setup/libgdbm6.lst.gz
./setup/libgdbm6.lst.gz
./setup/libffi6.lst.gz
./setup/libfdisk1.lst.gz
./setup/libbtz2_1.lst.gz
./setup/libblkid1.lst.gz
./setup/libattr1.lst.gz
./setup/libargp.lst.gz
./setup/libargp.lst.gz
./setup/libargp.lst.gz
./setup/less.lst.gz
./setup/less.lst.gz
./setup/less.lst.gz
./setup/lipc-utils.lst.gz
     /setup/ipc-utils.lst.gz
```

3. List all files in the etc directory that do not start with s.

```
chris@DESKTOP-8LCLCKD /etc
  find . -type f ! -path '*/s*'
 /alternatives/README
 /bash.bashrc
/bash.bash_logout
/crypto-policies/config
/defaults/Cygwin.bat
 /defaults/etc/bash.bashrc
/defaults/etc/bash.bash_logout
/defaults/etc/crypto-policies/config
/defaults/etc/cygserver.conf
/defaults/etc/DIR_COLORS
/defaults/etc/man_db.conf
/defaults/etc/pkcs11/pkcs11.conf
./defaults/etc/pkcs11/pkcs11.com
./defaults/etc/pki/ca-trust/ca-legacy.conf
./defaults/etc/pki/tls/ct_log_list.cnf
./defaults/etc/pki/tls/openssl.cnf
./defaults/etc/profile
./defaults/etc/profile.d/lang.csh
./defaults/etc/profile.d/tzset.csh
./defaults/etc/profile.d/tzset.csh
 /defaults/etc/profile.d/tzset.sh
 /DIR_COLORS
   fstab
 /man_db.conf
 /nsswitch.conf
 /pkcs11/pkcs11.conf
 /pki/ca-trust/ca-legacy.conf
 /pki/ca-trust/extracted/edk2/cacerts.bin
   pki/ca-trust/extracted/edk2/README
 /pki/ca-trust/extracted/java/cacerts
/pki/ca-trust/extracted/java/README
/pki/ca-trust/extracted/openss]/ca-bundle.trust.crt
 /pki/ca-trust/extracted/openss1/README
/pki/ca-trust/extracted/pem/email-ca-bundle.pem
/pki/ca-trust/extracted/pem/objsign-ca-bundle.pem
 /pki/ca-trust/extracted/pem/README
/pki/ca-trust/extracted/pem/tls-ca-bundle.pem
/pki/ca-trust/extracted/README
 /pki/tls/ct_log_list.cnf
 /pki/tls/openssl.cnf
   postinstall/000-cygwin-post-install.sh.done
postinstall/0p_000_autorebase.dash
  /postinstall/op_update-info-dir.dash
/postinstall/base-files-mketc.sh.done
/postinstall/base-files-profile.sh.done
 /postinstall/bash.sh.done
/postinstall/ca-certificates.sh.done
 /postinstall/coreutils.sh.done
/postinstall/crypto-policies.sh.done
/postinstall/man-db.sh.done
 /postinstall/mintty.sh.done
/postinstall/openssl.sh.done
 /postinstall/p11-kit.sh.done
/postinstall/zp_man-db-update-index.dash
/preremove/base-files-manifest.lst
/preremove/base-files.sh
/preremove/ca-certificates.sh
/preremove/coreutils.sh
/preremove/crypto-policies.sh
 /preremove/man-db.sh
```

4. List all files in the usr directory and its subdirectories.

```
| Simple | S
```

5. Change to the tmp directory, create the TEST directory.

```
chris@DESKTOP-8LCLCKD /tmp
$ mkdir TEST

chris@DESKTOP-8LCLCKD /tmp
$ ls
TEST

chris@DESKTOP-8LCLCKD /tmp
$
```

6. Show the current day and time.

```
chris@DESKTOP-8LCLCKD /tmp
$ date
Fri May 27 07:31:02 MST 2022
```

7. Create the dir1, dir2 and dir3 directories in the TEST directory. Inside dir1 create the directory dir11. Inside the directory dir3 create the directory dir31 directory, create the dir311 and dir312 directories.

```
chris@DESKTOP-8LCLCKD /tmp/TEST
$ mkdir dir1
chris@DESKTOP-8LCLCKD /tmp/TEST
$ mkdir dir2
chris@DESKTOP-8LCLCKD /tmp/TEST
$ mkdir dir3
chris@DESKTOP-8LCLCKD /tmp/TEST
$ cd dir1
chris@DESKTOP-8LCLCKD /tmp/TEST/dir1
$ mkdir dir11
chris@DESKTOP-8LCLCKD /tmp/TEST/dir1
$ cd ..
chris@deskTop-8LCLCKD /tmp/TEST
$ cd dir3
chris@DESKTOP-8LCLCKD /tmp/TEST/dir3
$ mkdir dir31
chris@DESKTOP-8LCLCKD /tmp/TEST/dir3
$ cd dir31
chris@DESKTOP-8LCLCKD /tmp/TEST/dir3/dir31
$ mkdir dir311
chris@DESKTOP-8LCLCKD /tmp/TEST/dir3/dir31
$ mkdir dir312
```

8. Copy a file called message in the directory TEST in dir1, dir2 and dir3.

```
chris@DESKTOP-8LCLCKD /tmp/TEST $ touch message

chris@DESKTOP-8LCLCKD /tmp/TEST $ cp message dir1

chris@DESKTOP-8LCLCKD /tmp/TEST $ cp message dir2

chris@DESKTOP-8LCLCKD /tmp/TEST $ cp message dir3
```

9. Move directory dir31 and its subdirectories under dir2.

```
chris@DESKTOP-8LCLCKD /tmp/TEST
$ ls -R
.:
dir1 dir2 dir3 message
./dir1:
dir11 message
./dir1/dir11:
./dir2:
message
./dir3:
dir31 message
./dir3/dir31:
dir311 dir312
./dir3/dir31/dir311:
./dir3/dir31/dir312:
chris@DESKTOP-8LCLCKD /tmp/TEST
$ cp -r dir3/dir31 dir2
```

```
chris@DESKTOP-8LCLCKD /tmp/TEST
$ ls -R
.:
dir1 dir2 dir3 message
./dir1:
dir11 message
./dir1/dir11:
./dir2:
dir31 message
./dir2/dir31:
dir311 dir312
./dir2/dir31/dir311:
./dir2/dir31/dir312:
./dir3
dir31 message
./dir3/dir31:
dir31 message
./dir3/dir31:
./dir3/dir31/dir311:
./dir3/dir31/dir311:
./dir3/dir31/dir312:
```

10. Display ordinary files in the HOME directory and its subdirectories on the screen.

```
chris@DESKTOP-8LCLCKD /home
$ ls -R
.:
Student hola.txt hola3.txt test1.txt test2.txt
./student:
Proyecto Report.txt Tareas
./student/Proyecto:
Hardware Lab3.txt Lab4.txt
./student/Proyecto/Hardware:
Lab3.txt
./student/Tareas:
software
./student/Tareas/Software:
Lab1.txt Lab2.txt
```

11. Delete files and directories from dir1, including the directory itself.

```
chris@DESKTOP-8LCLCKD /tmp/TEST
$ rm -r dir1
chris@DESKTOP-8LCLCKD /tmp/TEST
$ ls
dir2 dir3 message
```

12. Using symbolic notation, remove all write permissions (owner, group, others) from the dir2 directory.

```
chris@DESKTOP-8LCLCKD /tmp/TEST
$ chmod -r dir2

chris@DESKTOP-8LCLCKD /tmp/TEST
$ ls -l
total 0
d-wx--x--x 1 chris chris 0 May 27 07:39 dir2
drwxr-xr-x+ 1 chris chris 0 May 27 07:37 dir3
-rw-r--r-- 1 chris chris 0 May 27 07:36 message
```

13. Using octal notation, remove the dir2 directory read permission from the rest of the users.

```
chris@DESKTOP-8LCLCKD /tmp/TEST
$ chmod 333 dir2

chris@DESKTOP-8LCLCKD /tmp/TEST
$ ls -l
total 0
d-wx-wx-wx 1 chris chris 0 May 27 07:39 dir2
drwxr-xr-x+ 1 chris chris 0 May 27 07:37 dir3
-rw-r--r-- 1 chris chris 0 May 27 07:36 message
```

15. Create under dir2, a directory called dir21.

```
chris@DESKTOP-8LCLCKD /tmp/TEST

$ cd dir2

chris@DESKTOP-8LCLCKD /tmp/TEST/dir2

$ mkdir dir21
```

16. What are the default values assigned to the files?

```
chris@DESKTOP-8LCLCKD /tmp/TEST/dir2

$ ls -l
total 0
drwxr-xr-x+ 1 chris chris 0 May 27 07:48 dir21
drwxr-xr-x+ 1 chris chris 0 May 27 07:39 dir31
-rw-r--r-- 1 chris chris 0 May 27 07:37 message
```

17. Create four new directories called dira, dirb, dirc, and dird under the current directory.

```
chris@DESKTOP-8LCLCKD /tmp/TEST/dir2
$ mkdir dira

chris@DESKTOP-8LCLCKD /tmp/TEST/dir2
$ mkdir dirb

chris@DESKTOP-8LCLCKD /tmp/TEST/dir2
$ mkdir dirc

chris@DESKTOP-8LCLCKD /tmp/TEST/dir2
$ mkdir dird
```

18. Check the access permissions of the newly created directories to verify the operation of the umask command.

```
chris@DESKTOP-8LCLCKD /tmp/TEST/dir2

$ ls -l
total 0
drwxr-xr-x+ 1 chris chris 0 May 27 07:48 dir21
drwxr-xr-x+ 1 chris chris 0 May 27 07:39 dir31
drwxr-xr-x+ 1 chris chris 0 May 27 07:50 dira
drwxr-xr-x+ 1 chris chris 0 May 27 07:50 dirb
drwxr-xr-x+ 1 chris chris 0 May 27 07:50 dirc
drwxr-xr-x+ 1 chris chris 0 May 27 07:50 dird
-rw-r--r- 1 chris chris 0 May 27 07:37 message
```

19. Create file one. Remove all read permissions. Check it out. Try to delete it.

```
chris@DESKTOP-8LCLCKD /tmp/TEST/dir2
  touch remove.txt
 chris@DESKTOP-8LCLCKD /tmp/TEST/dir2
$ chmod 333 remove.txt
chris@DESKTOP-8LCLCKD /tmp/TEST/dir2
$ 1s -1
total 0
drwxr-xr-x+ 1 chris chris 0 May 27 07:48 dir21
drwxr-xr-x+ 1 chris chris 0 May 27 07:39 dir31
drwxr-xr-x+ 1 chris chris 0 May 27 07:50 dira
drwxr-xr-x+ 1 chris chris 0 May 27 07:50 dirb
drwxr-xr-x+ 1 chris chris 0 May 27 07:50 dirc
drwxr-xr-x+ 1 chris chris 0 May 27 07:50 dird
 rw-r--r-- 1 chris chris 0 May 27 07:37 message
 -wx-wx-wx 1 chris chris 0 May 27 07:52 remove.txt
 hris@DESKTOP-8LCLCKD /tmp/TEST/dir2:
$ rm remove.txt
chris@DESKTOP-8LCLCKD /tmp/TEST/dir2
$ ls
dir21
       dir31 dira dirb dirc dird message
```

20. Create in your own directory, the directory folder1 with the three permissions for the owner, within it, file1 with reading and writing for all and file2 with reading and writing for the owner and only read for the rest.

```
chris@DESKTOP-8LCLCKD /cygdrive/c/chris
$ mkdir folder1
chris@DESKTOP-8LCLCKD /cygdrive/c/chris
 chmod 777 folder1
chris@DESKTOP-8LCLCKD /cygdrive/c/chris
$ cd folder1
chris@DESKTOP-8LCLCKD /cygdrive/c/chris/folder1
$ touch file1
chris@DESKTOP-8LCLCKD /cygdrive/c/chris/folder1
$ touch file2
chris@DESKTOP-8LCLCKD /cygdrive/c/chris/folder1
$ chmod 666 file1
chris@DESKTOP-8LCLCKD /cygdrive/c/chris/folder1
$ chmod 644 file2
chris@DESKTOP-8LCLCKD /cygdrive/c/chris/folder1
$ 1s -1
total 0
rw-rw-rw- 1 chris chris 0 May 27 07:59 file1
-rw-r--r-- 1 chris chris 0 May 27 07:59 file2
```

21. View the complete path of the current directory, create the directories *menus* and *mail* without moving from the current directory.

```
chris@DESKTOP-8LCLCKD /cygdrive/c/chris
$ ls -R
.:
folder1 hola.txt mail menus prueba1
./folder1:
file1 file2 mail menus
./folder1/mail:
./folder1/menus:
```

22. See if the tty file exists in the dev directory. If it exists, see its creation or update date.

```
chris@DESKTOP-8LCLCKD /dev
$ ls -l tty
crw-rw-rw- 1 chris chris 5, 0 May 27 08:10 tty
```

23. View the list of all the directories that hang from the root.

```
chris@DESKTOP-8LCLCKD /
$ ls -d */
bin/ cygdrive/ dev/ etc/ home/ lib/ proc/ sbin/ tmp/ usr/ var/
```