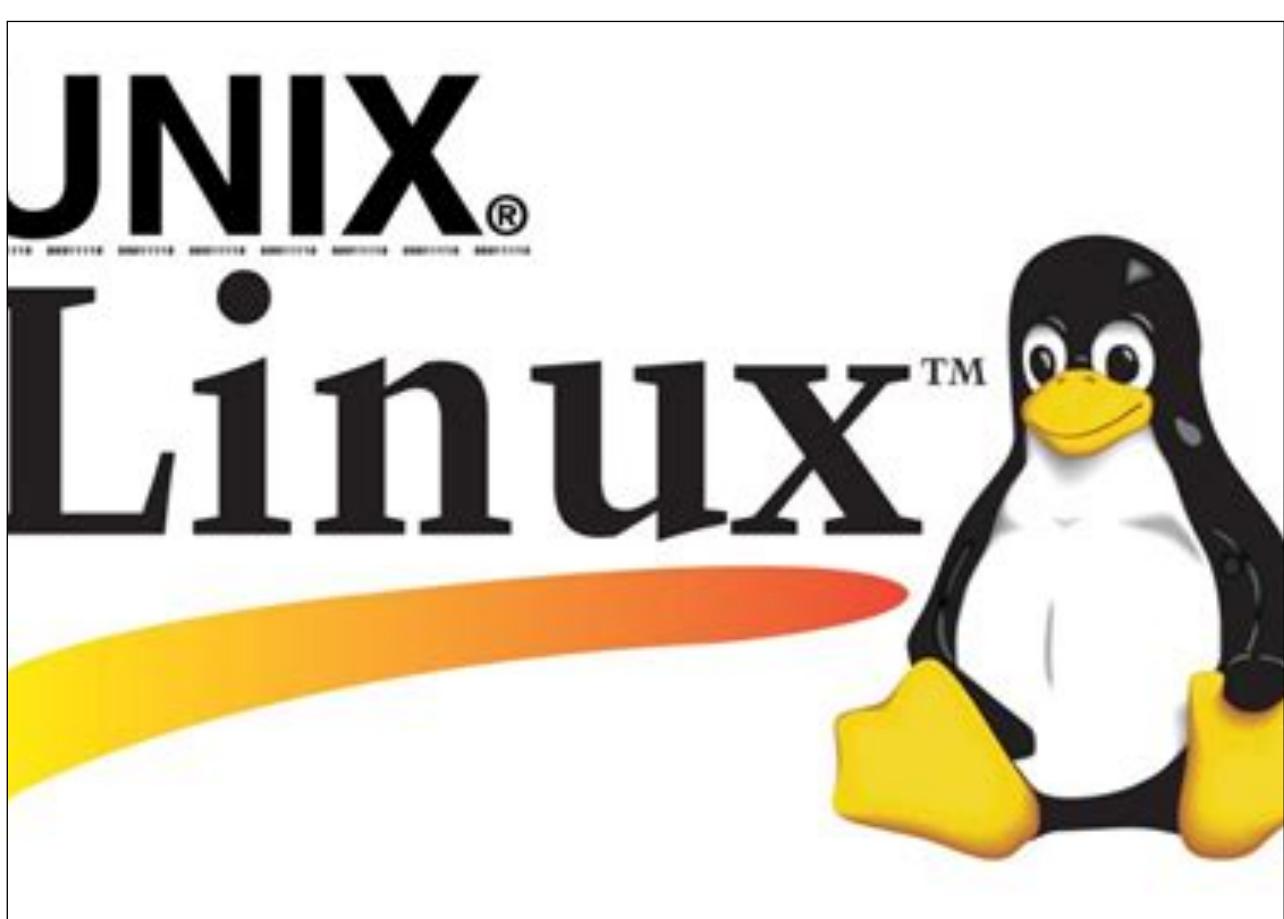


---

# TP 1 Système D'exploitation

---

22 May 2021



# Exercice 1 :

- 1) ls: liste le contenu du répertoire courant

```
Movies
Music
Notis.txt
Pictures
Public
Qt
Rclass1981.R
Revise.R
SQR
TP 15:12:28.R
T2P
TWK1
Twinkle
UVV14GE.pdf
Untitled.R
UVV14GE
VFSfirst.c
build-fibonacci_CSSS-Desktop_Qt_5_1_0_clang_64bit-Debug
build-fibonacci_CSSS-Desktop_Qt_5_1_0_clang_64bit-Release
build-TWK1-Desktop_Qt_5_1_0_clang_64bit-Debug
build-Triangle-Desktop_Qt_5_1_0_clang_64bit-Debug
build-UVV14GE-Desktop_Qt_5_1_0_clang_64bit-Debug
build-caesarCipher_CSSS-Desktop_Qt_5_1_0_clang_64bit-Debug
build-UVV14GE-Desktop_Qt_5_1_0_clang_64bit-Release
build-class_23_93-Desktop_Qt_5_1_0_clang_64bit-Debug
build-containSwitch_CSSS-Desktop_Qt_5_1_0_clang_64bit-Debug
build-floydTriangle-Desktop_Qt_5_1_0_clang_64bit-Debug
build-floydTriangle_CSSS-Desktop_Qt_5_1_0_clang_64bit-Debug
build-forEach-Desktop_Qt_5_1_0_clang_64bit-Debug
build-helloWorld_CSSS-Desktop_Qt_5_1_0_clang_64bit-Debug
build-nameGame_CSSS-Desktop_Qt_5_1_0_clang_64bit-Debug
build-numberLoop_CSSS-Desktop_Qt_5_1_0_clang_64bit-Debug
build-replaceAll_CSSS-Desktop_Qt_5_1_0_clang_64bit-Debug
build-UVV14GE-Desktop_Qt_5_1_0_clang_64bit-Release
build-untitled-Desktop_Qt_5_1_0_clang_64bit-Debug
build-untitled2-Desktop_Qt_5_1_0_clang_64bit-Debug
build-untitled3-Desktop_Qt_5_1_0_clang_64bit-Debug
build-untitled4-Desktop_Qt_5_1_0_clang_64bit-Debug
build-untitled5-Desktop_Qt_5_1_0_darwin_gcc42_gmake_64bit-Debug
caesarCipher_CSSS
caesarCipher_CSSS
classes_24_63
classes_25_63
colorSwatch.CSSS
dataFileBefore.CSSS
dataFile.css
eclipse-workspace
factorials
fibonacci_studocode.c
floydTriangle_CSSS
foreach
hmm
isLocation
largestNumber
matrixInp.html
mdi-test.html
myHTMLNote
myMath
myHTMLprojet.html
myMath
myLogo
myName.cpp
numbers.CSSS
numberLoop.CSSS
numberLoop1.CSSS
numberLoop2.CSSS
passwordEntry_CSSS
question0.cpp
question0A1_L005
search
to put in trash.c
topUnttrash.c
topUnttrash
topUnttrash.c
tx
untitled
untitled1
untitled2
untitled3
untitled4
untitled5
untitled6
untitled7
untitled8
videoFormation.html
base=3 28
```

- 2) Man ls : affiche le manuel d'une commande (ls dans ce cas)

```
LS(1)          BSD General Commands Manual          LS(1)
NAME      ls -- list directory contents
SYNOPSIS  ls [-ABCDFGHOPRSTUW@abcdefgijklmnpqrstuwxh] [file ...]
DESCRIPTION
        For each operand that names a file of a type other than directory, ls
        displays its name as well as any requested, associated information.  For
        each operand that names a file or type directory, ls displays the names
        of all files contained within that directory, as well as any requested, asso-
        ciated information.

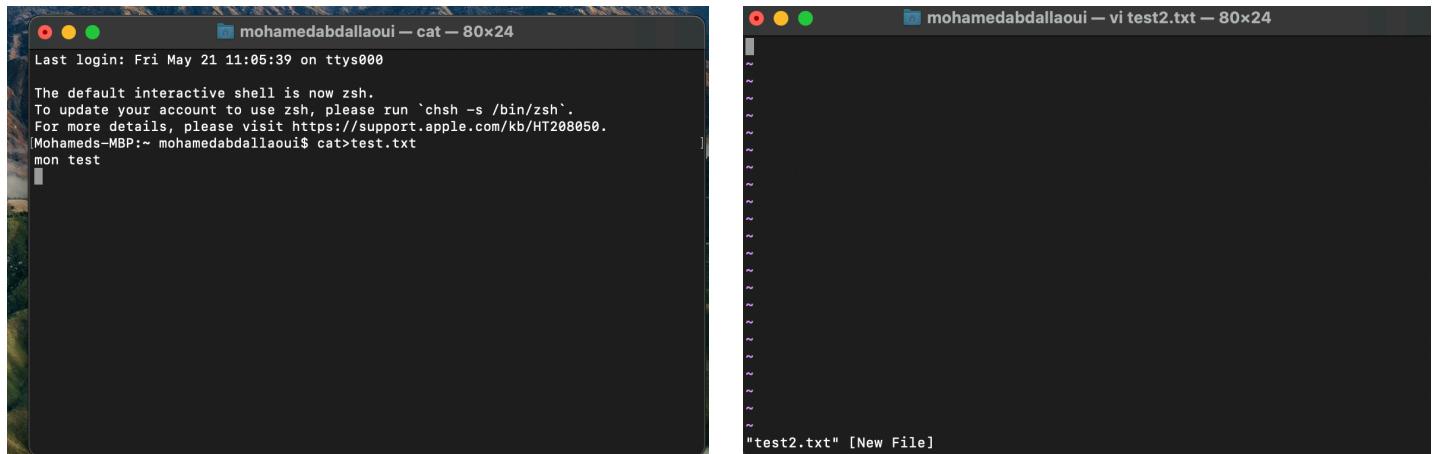
        If no operands are given, the contents of the current directory are dis-
        played.  If more than one operand is given, non-directory operands are
        displayed first.  If both directory and non-directory operands are listed sepa-
        rately and in lexicographical order.

        The following options are available:
        -B      Display extended attribute keys and sizes in long (-l) output.
        -1      (The numeric digit 'one'.) Force output to be one entry per
               line.  This is the default when output is not to a terminal.
        -A      List all entries except for . and .. . Always set for the super-
               user.
        -a      Include directory entries whose names begin with a dot (.).
        -B      Force printing of non-printable characters (as defined by
               crypt(3) and current locale settings) in file names as ``\xxx,
               where xxx is the numeric value of the character in octal.
        -b      As -B, but use C escape codes whenever possible.
        -C      Force multi-column output; this is the default when output is to
               a terminal.
        -c      Use size when file status was last changed for sorting (-t) or
               long printing (-l).
        -d      Directories are listed as plain files (not searched recursively).
        -E      Print the Access Control List (ACL) associated with the file, if
               present, in long (-l) output.
        -F      Display a group separator, after each pathname that is a
               directory, an asterisk (*) after each that is executable, an at
               sign (@) after each symbolic link, an equals sign (=) after
               each that is a device, a tilde (~) after each whitespace, and a ver-
               tical bar (|) after each that is a FIFO.
        -f      Output is not sorted.  This option turns on the -a option.
        -G      Enable colored output.  This option is equivalent to defining
               COLORFUL in the environment. (See below.)
        -g      The -g option is not available for compatibility with POSIX; it is
               used to display the group name in the long (-l) format output
               (the owner name is suppressed).
        -H      Symbolic links on the command line are followed.  This option is
               assumed if none of the -F, -d, or -l options are specified.
        -h      When used with the -l option, use unit suffixes: Byte, Kilobyte,
               Megabyte, Gigabyte, Terabyte and Petabyte in order to reduce the
               number of digits to three or less using base 2 for size.
        -i      For each file, print the file's file serial number (inode num-
               ber).
        -k      If the -k option is specified, print the file size allocation in
               kilobytes, not blocks.  This option overrides the environment
               variable BLOCKSIZE.
        -L      Follow all symbolic links to final target and list the file or
               directory that they reference rather than the link itself.  This
               option overrules the -F option.
        -l      (The lowercase letter 'ell'.) List in long format. (See
               below.)
```

3) - cat test.txt : crée ou ouvre un fichier (test.txt) et donne la main pour le remplir

- vi test.txt crée ouvre un fichier text.

- gedit : est un éditeur de text libre (ne marche pas sur mon terminale).

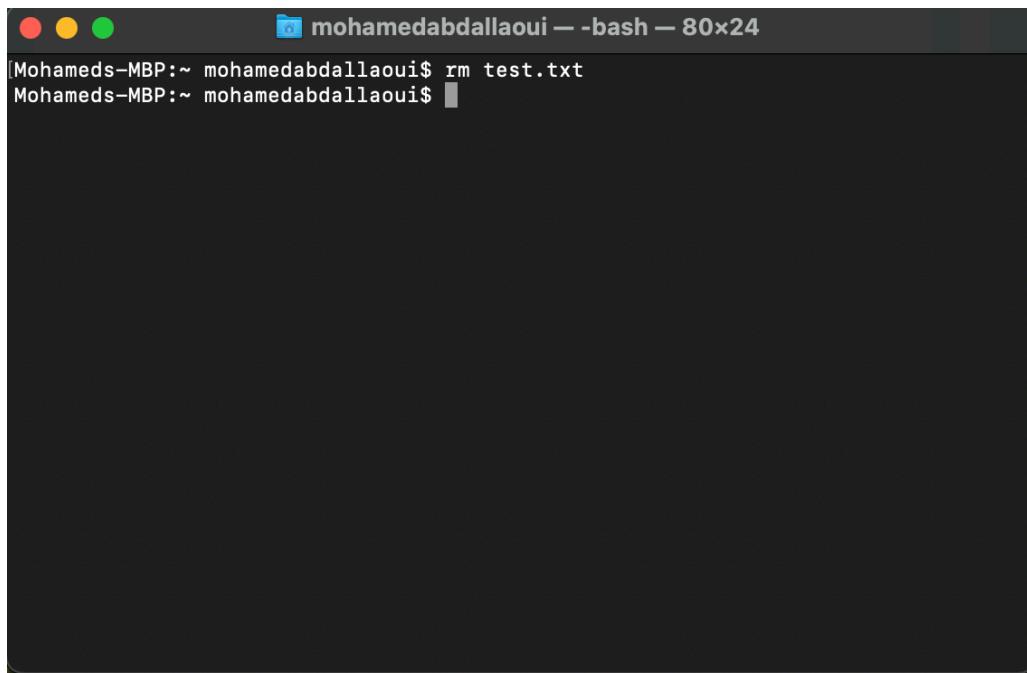


```
mohamedabdallaoui — cat — 80x24
Last login: Fri May 21 11:05:39 on ttys000
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
[Mohameds-MBP:~ mohamedabdallaoui$ cat>test.txt
mon test

mohamedabdallaoui — vi test2.txt — 80x24
"test2.txt" [New File]
```

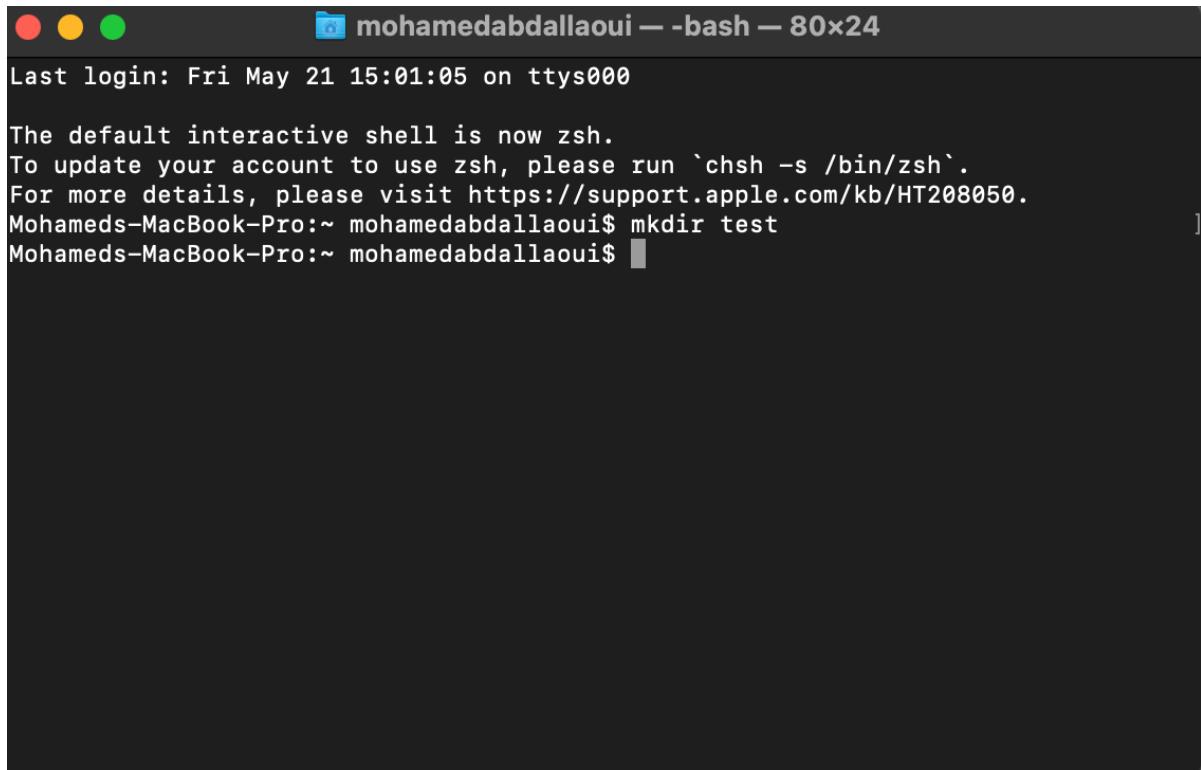
Difference : Syntaxe de la commande et manière de remplir le fichier

4) rm : supprime un fichier dont le nom est fourni



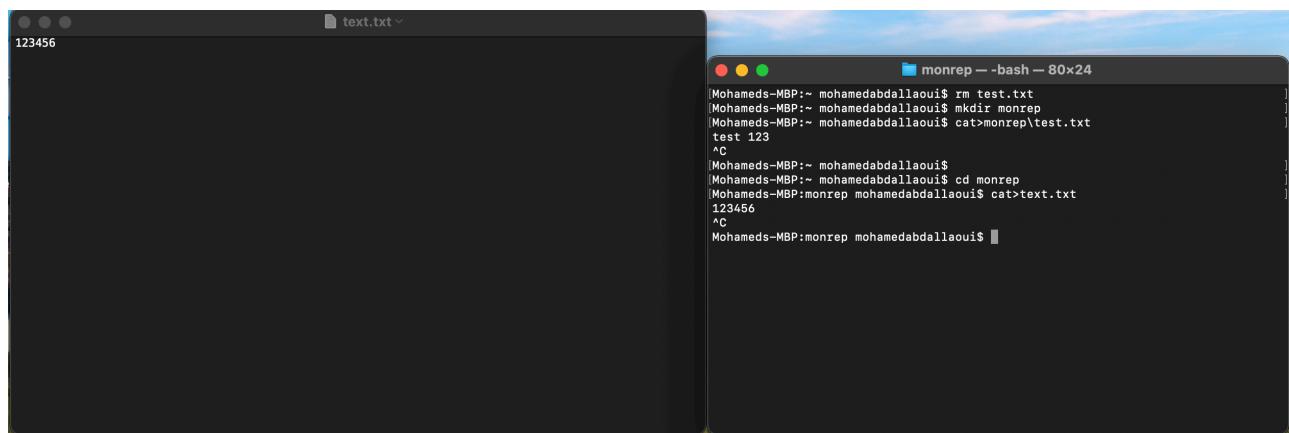
```
mohamedabdallaoui — -bash — 80x24
[Mohameds-MBP:~ mohamedabdallaoui$ rm test.txt
Mohameds-MBP:~ mohamedabdallaoui$ ]
```

5) mkdir : make directory don't le nom est fourni



```
Last login: Fri May 21 15:01:05 on ttys000
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
Mohameds-MacBook-Pro:~ mohamedabdallaoui$ mkdir test
Mohameds-MacBook-Pro:~ mohamedabdallaoui$ ]
```

6) cd monrep permet d'accéder au dossier monrep



```
123456
Mohameds-MBP:~ mohamedabdallaoui$ rm test.txt
Mohameds-MBP:~ mohamedabdallaoui$ mkdir monrep
Mohameds-MBP:~ mohamedabdallaoui$ cat>monrep\test.txt
test 123
^C
Mohameds-MBP:~ mohamedabdallaoui$ cd monrep
Mohameds-MBP:monrep mohamedabdallaoui$ cat>text.txt
123456
^C
Mohameds-MBP:monrep mohamedabdallaoui$ ]
```

7) rmdir pour remove directory supprime un dossier

Rmdir -R monrep supprime le dossier avec son contenu avec message de confirmation

---

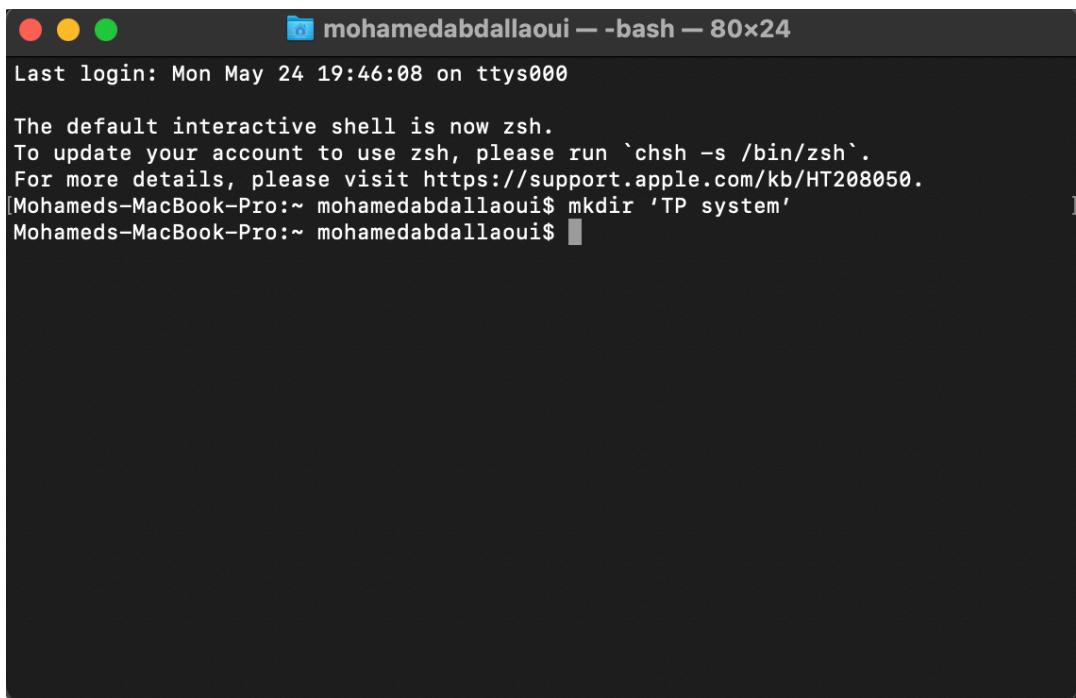
## 8) pwd : chemin du répertoire courant

```
monrep -- bash -- 107x24
^C
[Mohameds-MBP:~ mohamedabdallaoui$ 
[Mohameds-MBP:~ mohamedabdallaoui$ cd monrep
[Mohameds-MBP:monrep mohamedabdallaoui$ cat>text.txt
123456
^C
[Mohameds-MBP:monrep mohamedabdallaoui$ cd..
-bash: cd..: command not found
[Mohameds-MBP:monrep mohamedabdallaoui$ cd\
[>
[Mohameds-MBP:~ mohamedabdallaoui$ 
[Mohameds-MBP:~ mohamedabdallaoui$ man cd
[Mohameds-MBP:~ mohamedabdallaoui$ rmdir monrep
rmdir: monrep: Directory not empty
[Mohameds-MBP:~ mohamedabdallaoui$ man rmdir
[Mohameds-MBP:~ mohamedabdallaoui$ rmdir -R monrep
rmdir: illegal option -- R
usage: rmdir [-p] directory ...
[Mohameds-MBP:~ mohamedabdallaoui$ pwd
/Users/mohamedabdallaoui
[Mohameds-MBP:~ mohamedabdallaoui$ cd monrep
[Mohameds-MBP:monrep mohamedabdallaoui$ pwd
/Users/mohamedabdallaoui/monrep
Mohameds-MBP:monrep mohamedabdallaoui$ ]
```

## 9) chmod mode fichier : attribue des droit d'accès à un fichier pour des utilisateur -chmod u=r myfile.txt attribue le droit de lecture aux autres utilisateur

```
monrep -- bash -- 107x24
123456
^C
[Mohameds-MBP:monrep mohamedabdallaoui$ cd..
-bash: cd..: command not found
[Mohameds-MBP:monrep mohamedabdallaoui$ cd\
[>
[Mohameds-MBP:~ mohamedabdallaoui$ 
[Mohameds-MBP:~ mohamedabdallaoui$ man cd
[Mohameds-MBP:~ mohamedabdallaoui$ rmdir monrep
rmdir: monrep: Directory not empty
[Mohameds-MBP:~ mohamedabdallaoui$ man rmdir
[Mohameds-MBP:~ mohamedabdallaoui$ rmdir -R monrep
rmdir: illegal option -- R
usage: rmdir [-p] directory ...
[Mohameds-MBP:~ mohamedabdallaoui$ pwd
/Users/mohamedabdallaoui
[Mohameds-MBP:~ mohamedabdallaoui$ cd monrep
[Mohameds-MBP:monrep mohamedabdallaoui$ pwd
/Users/mohamedabdallaoui/monrep
[Mohameds-MBP:monrep mohamedabdallaoui$ 
[Mohameds-MBP:monrep mohamedabdallaoui$ chmod a-wx test.txt
chmod: test.txt: No such file or directory
[Mohameds-MBP:monrep mohamedabdallaoui$ chmod a-wx text.txt
Mohameds-MBP:monrep mohamedabdallaoui$ ]
```

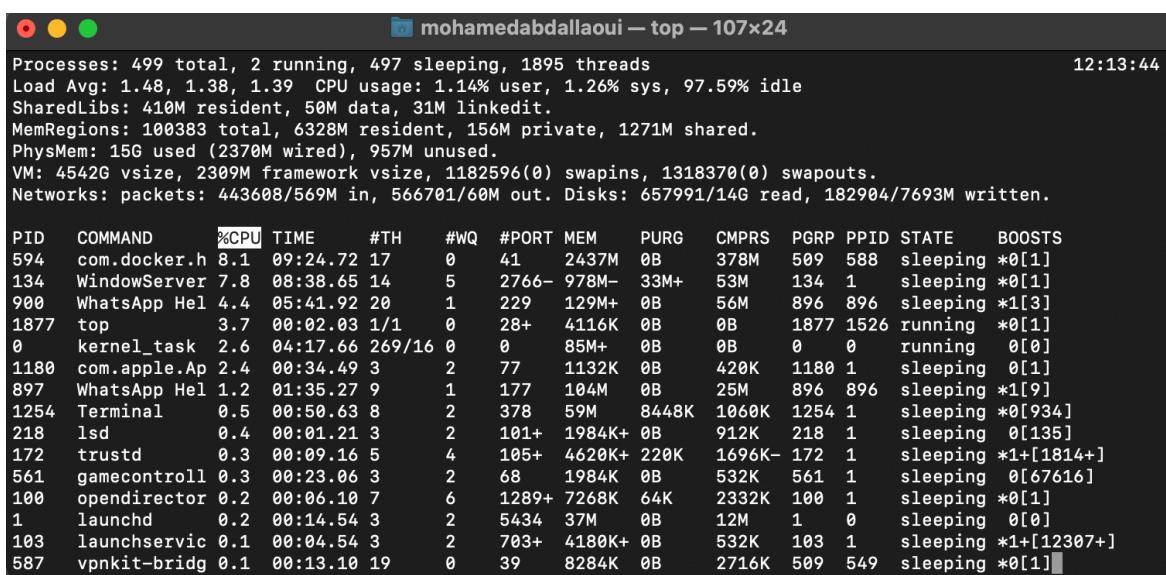
10) mkdir 'TP system' pour créer un nouveau dossier nommé TP system



```
mohamedabdallaoui — bash — 80x24
Last login: Mon May 24 19:46:08 on ttys000
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
[Mohameds-MacBook-Pro:~ mohamedabdallaoui$ mkdir 'TP system'
Mohameds-MacBook-Pro:~ mohamedabdallaoui$ ]
```

## Exercice 2 :

- + top ) Affiche les processus en mémoire



```
mohamedabdallaoui — top — 107x24
Processes: 499 total, 2 running, 497 sleeping, 1895 threads
Load Avg: 1.48, 1.38, 1.39 CPU usage: 1.14% user, 1.26% sys, 97.59% idle
SharedLibs: 410M resident, 50M data, 31M linkedit.
MemRegions: 100383 total, 6328M resident, 156M private, 1271M shared.
PhysMem: 15G used (2370M wired), 957M unused.
VM: 4542G vsize, 2309M framework vsize, 1182596(0) swapins, 1318370(0) swapouts.
Networks: packets: 443608/569M in, 566701/60M out. Disks: 657991/14G read, 182904/7693M written.

PID COMMAND %CPU TIME #TH #WQ #PORT MEM PURG CMPRS PGRP PPID STATE BOOSTS
594 com.docker.h 8.1 09:24.72 17 0 41 2437M 0B 378M 509 588 sleeping *0[1]
134 WindowServer 7.8 08:38.65 14 5 2766- 978M- 33M+ 53M 134 1 sleeping *0[1]
900 WhatsApp He 4.4 05:41.92 20 1 229 129M+ 0B 56M 896 896 sleeping *1[3]
1877 top 3.7 00:02.03 1/1 0 28+ 4116K 0B 0B 1877 1526 running *0[1]
0 kernel_task 2.6 04:17.66 269/16 0 0 85M+ 0B 0B 0 0 running 0[0]
1180 com.apple.Ap 2.4 00:34.49 3 2 77 1132K 0B 420K 1180 1 sleeping 0[1]
897 WhatsApp He 1.2 01:35.27 9 1 177 104M 0B 25M 896 896 sleeping *1[9]
1254 Terminal 0.5 00:50.63 8 2 378 59M 8448K 1060K 1254 1 sleeping *0[934]
218 lsd 0.4 00:01.21 3 2 101+ 1984K+ 0B 912K 218 1 sleeping 0[135]
172 trustd 0.3 00:09.16 5 4 105+ 4620K+ 220K 1696K- 172 1 sleeping *1+[1814+]
561 gamecontrol 0.3 00:23.06 3 2 68 1984K 0B 532K 561 1 sleeping 0[67616]
100 opendirector 0.2 00:06.10 7 6 1289+ 7268K 64K 2332K 100 1 sleeping *0[1]
1 launchd 0.2 00:14.54 3 2 5434 37M 0B 12M 1 0 sleeping 0[0]
103 launchservic 0.1 00:04.54 3 2 703+ 4180K+ 0B 532K 103 1 sleeping *1+[12307+]
587 vpnkit-bridg 0.1 00:13.10 19 0 39 8284K 0B 2716K 509 549 sleeping *0[1]
```

- + Ps ) Affiche le processus qui contrôle le terminal



mohamedabdallaoui — -bash — 80x24

```
Last login: Sat May 22 16:58:19 on ttys000

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
[Mohameds-MacBook-Pro:~ mohamedabdallaoui$]
[Mohameds-MacBook-Pro:~ mohamedabdallaoui$ ps
  PID TTY          TIME CMD
 5633 ttys000    0:00.01 -bash
Mohameds-MacBook-Pro:~ mohamedabdallaoui$ ]
```

- + The q ) quitte l'application top
- + kill ) tue le processus dans le numero est donné

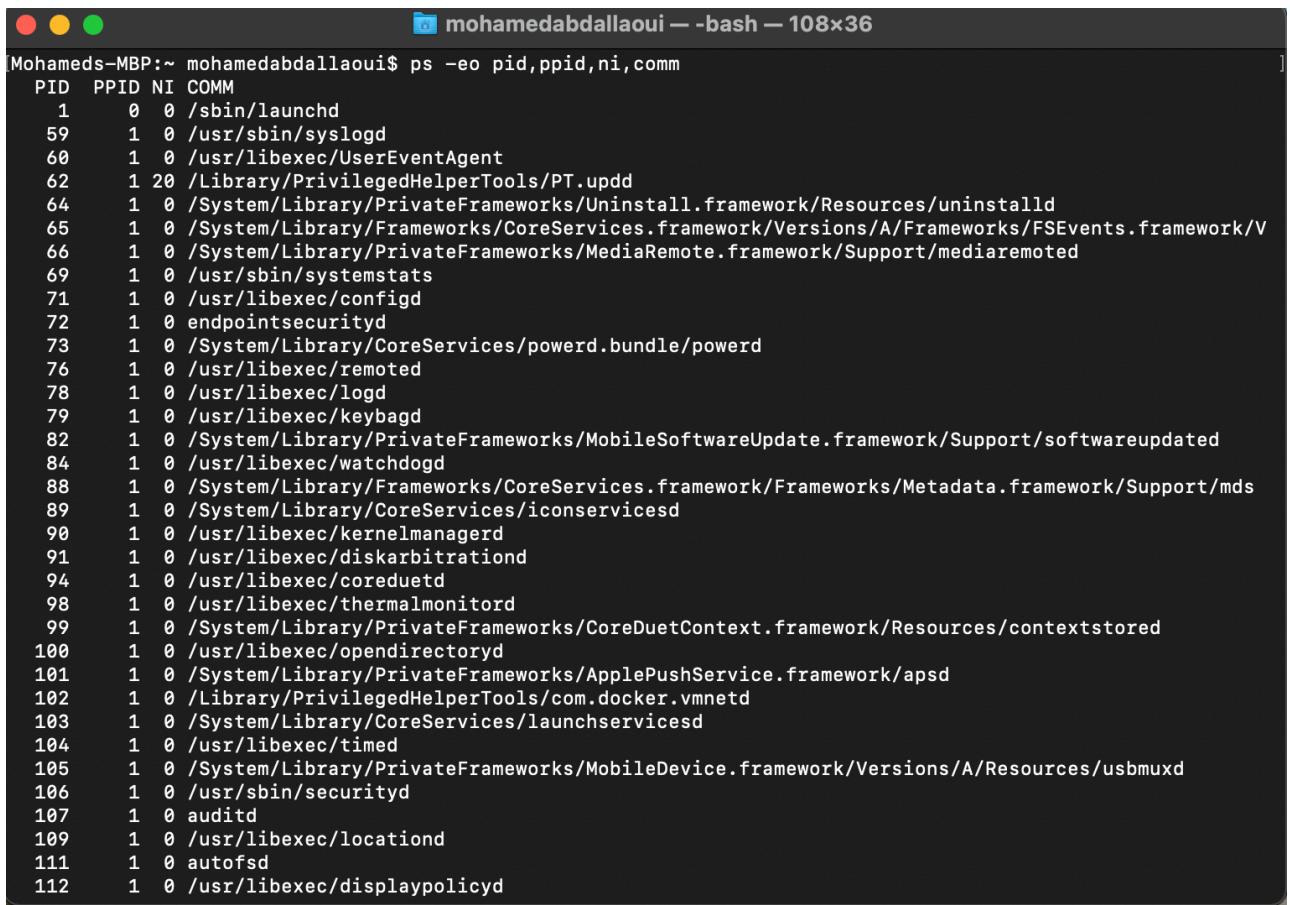


mohamedabdallaoui — -bash — 117x24

```
[Mohameds-MBP:test mohamedabdallaoui$ pwd
/Users/mohamedabdallaoui/test
[Mohameds-MBP:test mohamedabdallaoui$ nice -n 10 /Users/mohamedabdallaoui/test/untitled9/main.cpp
nice: /Users/mohamedabdallaoui/test/untitled9/main.cpp: Permission denied
Mohameds-MBP:test mohamedabdallaoui$ chmod
[usage: chmod [-fhv] [-R [-H | -L | -P]] [-a | +a | =a [i][# [ n]]] mode|entry file ...
  chmod [-fhv] [-R [-H | -L | -P]] [-E | -C | -N | -i | -I] file ...
Mohameds-MBP:test mohamedabdallaoui$ chmod u=rwx /Users/mohamedabdallaoui/test/untitled9/main.cpp
Mohameds-MBP:test mohamedabdallaoui$ nice -n 10 /Users/mohamedabdallaoui/test/untitled9/main.cpp
[/Users/mohamedabdallaoui/test/untitled9/main.cpp: line 3: using: command not found
[/Users/mohamedabdallaoui/test/untitled9/main.cpp: line 5: syntax error near unexpected token `(
[/Users/mohamedabdallaoui/test/untitled9/main.cpp: line 5: `int main()
Mohameds-MBP:test mohamedabdallaoui$ top
Mohameds-MBP:test mohamedabdallaoui$ nice -n 10 /Users/mohamedabdallaoui/test/untitled9/untitled9
Hello World!
Mohameds-MBP:test mohamedabdallaoui$ top
Mohameds-MBP:test mohamedabdallaoui$ cd
Mohameds-MBP:~ mohamedabdallaoui$ mkdir "TP system"
Mohameds-MBP:~ mohamedabdallaoui$ top
Mohameds-MBP:~ mohamedabdallaoui$ kill 134
-bash: kill: (134) - Operation not permitted
Mohameds-MBP:~ mohamedabdallaoui$ top
Mohameds-MBP:~ mohamedabdallaoui$ kill 2495
Mohameds-MBP:~ mohamedabdallaoui$ ]
```

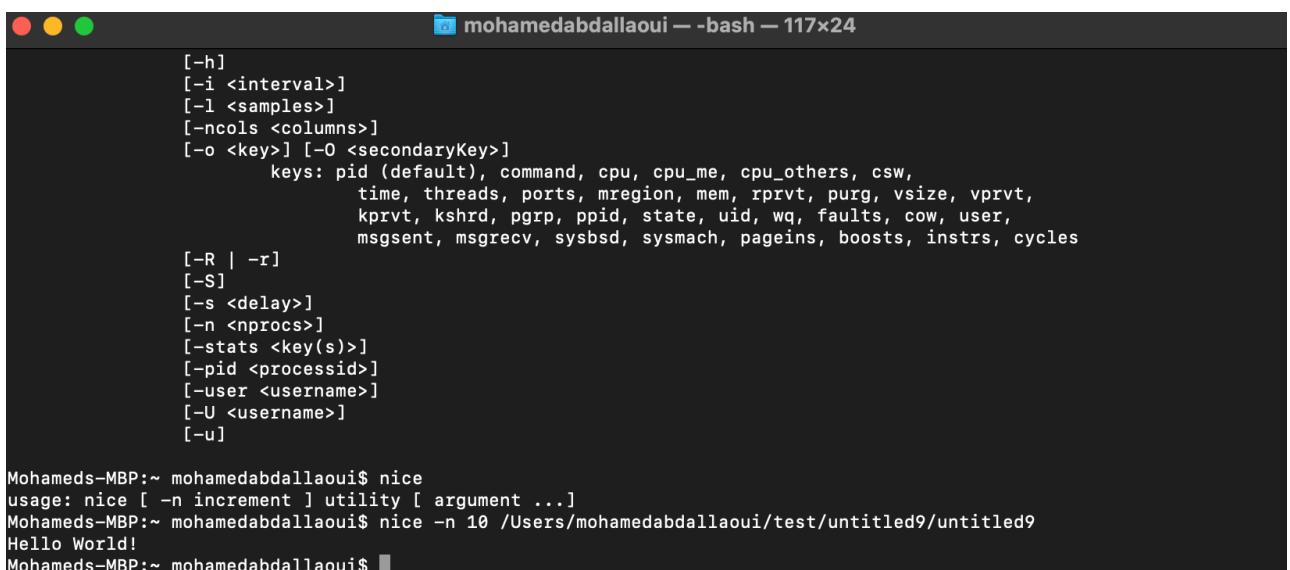
- Exemple : kill 2495 (tue le processus du logiciel team)

+ ps -eo pid,ppid,ni,comm )



```
mohamedabdallaoui$ ps -eo pid,ppid,ni,comm
PID  PPID NI COMM
 1    0  0 /sbin/launchd
 59   1  0 /usr/sbin/syslogd
 60   1  0 /usr/libexec/UserEventAgent
 62   1 20 /Library/PrivilegedHelperTools/PT.updd
 64   1  0 /System/Library/PrivateFrameworks/Uninstall.framework/Resources/uninstalld
 65   1  0 /System/Library/Frameworks/CoreServices.framework/Versions/A/Frameworks/FSEvents.framework/V
 66   1  0 /System/Library/PrivateFrameworks/MediaRemote.framework/Support/mediaremoted
 69   1  0 /usr/sbin/systemstats
 71   1  0 /usr/libexec/configd
 72   1  0 endpointsecurityd
 73   1  0 /System/Library/CoreServices/powerd.bundle/powerd
 76   1  0 /usr/libexec/remoted
 78   1  0 /usr/libexec/logd
 79   1  0 /usr/libexec/keybagd
 82   1  0 /System/Library/PrivateFrameworks/MobileSoftwareUpdate.framework/Support/softwareupdated
 84   1  0 /usr/libexec/watchdogd
 88   1  0 /System/Library/Frameworks/CoreServices.framework/Frameworks/Metadata.framework/Support/mds
 89   1  0 /System/Library/CoreServices/iconservicesd
 90   1  0 /usr/libexec/kernelmanagerd
 91   1  0 /usr/libexec/diskarbitrationd
 94   1  0 /usr/libexec/coreduetd
 98   1  0 /usr/libexec/thermalmonitord
 99   1  0 /System/Library/PrivateFrameworks/CoreDuetContext.framework/Resources/contextstored
100   1  0 /usr/libexec/opendirectoryd
101   1  0 /System/Library/PrivateFrameworks/ApplePushService.framework/apsd
102   1  0 /Library/PrivilegedHelperTools/com.docker.vmnetd
103   1  0 /System/Library/CoreServices/launchservicesd
104   1  0 /usr/libexec/timed
105   1  0 /System/Library/PrivateFrameworks/MobileDevice.framework/Versions/A/Resources/usbmuxd
106   1  0 /usr/sbin/securityd
107   1  0 auditd
109   1  0 /usr/libexec/locationd
111   1  0 autofs
112   1  0 /usr/libexec/displaypolicyd
```

+ nice ) nice -n 10 /Users/mohamedabdallaoui/test/untitled9/untitled9  
créer le processus untitled9 en memoire et lui attribuer la priorité 10



```
mohamedabdallaoui$ nice
[-h]
[-i <interval>]
[-l <samples>]
[-ncols <columns>]
[-o <key>] [-0 <secondaryKey>]
          keys: pid (default), command, cpu, cpu_me, cpu_others, csw,
                  time, threads, ports, mregion, mem, rprvt, purg, vsize, vprvt,
                  kprvt, kshrd, pgrp, ppid, state, uid, wq, faults, cow, user,
                  msgsent, msgrecv, sysbsd, sysmach, pageins, boosts, instrs, cycles
[-R | -r]
[-S]
[-s <delay>]
[-n <nprocs>]
[-stats <key(s)>]
[-pid <processid>]
[-user <username>]
[-U <username>]
[-u]

Mohameds-MBP:~ mohamedabdallaoui$ nice
usage: nice [ -n increment ] utility [ argument ... ]
Mohameds-MBP:~ mohamedabdallaoui$ nice -n 10 /Users/mohamedabdallaoui/test/untitled9/untitled9
Hello World!
Mohameds-MBP:~ mohamedabdallaoui$
```