

CSE320 Assignment 1 Reflective Document

Hojun Kwak 113949335

Things that I've learned:

Tar command:

z : gzip compression when creating a tar file, resulting in a compressed archive with the '.tar.gz' extension.

c : Creates an archive by bundling files and directories together.

v : Displays verbose information, providing detailed output during the archiving or extraction process.

f : Specifies the filename of the archive to be created or extracted.

Uname command:

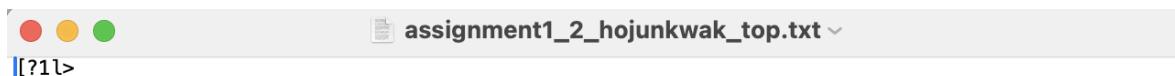
-o: operating system

-v: kernel version

-i: hardware architecture

Difference between ps and top command: The command "ps" displays all processes time-wise. The status of the process is irrelevant to it (running or sleeping). "top" displays active processes in the top-ordered list

Difficulties I've faced:



The top.txt file has only some trash contents.

```
hjkwak@bcl-server:~$ put assignment1_1_hojunkwak.tar.gz  remote kwak60@172.16.75  
.216  
Command 'put' not found, did you mean:  
  command 'ppt' from deb bsdgames (2.17-29)  
  command 'pt' from deb tcllib (1.20+dfsg-1)  
  command 'lut' from deb tracetuner (3.0.6~beta+dfsg-3)  
  command 'wput' from deb wput (0.6.2+git20130413-11)  
  command 'cut' from deb coreutils (8.32-4.1ubuntu1)  
  command 'dput' from deb dput (1.1.0ubuntu2.1)  
  command 'dput' from deb dput-ng (1.34)
```

```
hjkwak@bcl-server:~$ sftp hjkwak@10.12.26.48
hjkwak@10.12.26.48's password:
Connected to 10.12.26.48.
sftp> ls
Assignment1
Documents
Music
Public
Videos
assignment1_2_hojunkwak_top.txt
lava-dl
snap
sftp>          Desktop
                  Downloads
                  Pictures
                  Templates
                  assignment1_1_hojunkwak.tar.gz
                  lava
                  remote
                  test.log
```

At first, I had some difficulties with getting the hang of the “sftp” command. So I tried connecting from the server to my local memory and try downloading from the virtual machine to the virtual memory. I was able to resolve this problem by correctly using the sftp command on my local terminal.

I was able to get to know a lot of new Linux commands. I still am not confident with most linux commands, but I now know where to start from. Below is the whole progress which I followed throughout the whole assignment.

Overall Progress of the whole project:

```
hkwak60@gwaghojun-ui-MacBookPro Desktop % pwd  
/Users/hkwak60/Desktop
```

Start by checking the working directory

```
hkwak60@gwaghojun-ui-MacBookPro Desktop % cd ..  
hkwak60@gwaghojun-ui-MacBookPro ~ %
```

Move to Home

```
hkwak60@gwaghojun-ui-MacBookPro ~ % mkdir Assignment1  
hkwak60@gwaghojun-ui-MacBookPro ~ % cd Assignment1  
hkwak60@gwaghojun-ui-MacBookPro Assignment1 %
```

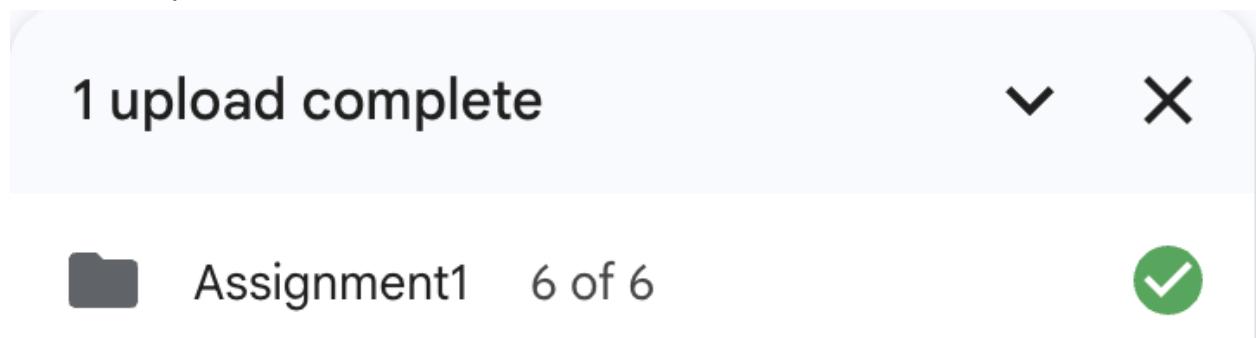
Make a folder and navigate to the folder

```
hkwak60@gwaghojun-ui-MacBookPro Assignment1 % mkdir MyDoc  
hkwak60@gwaghojun-ui-MacBookPro Assignment1 % mkdir MyAssignment  
hkwak60@gwaghojun-ui-MacBookPro Assignment1 % mkdir MyCode  
hkwak60@gwaghojun-ui-MacBookPro Assignment1 % ls  
MyAssignment MyCode MyDoc
```

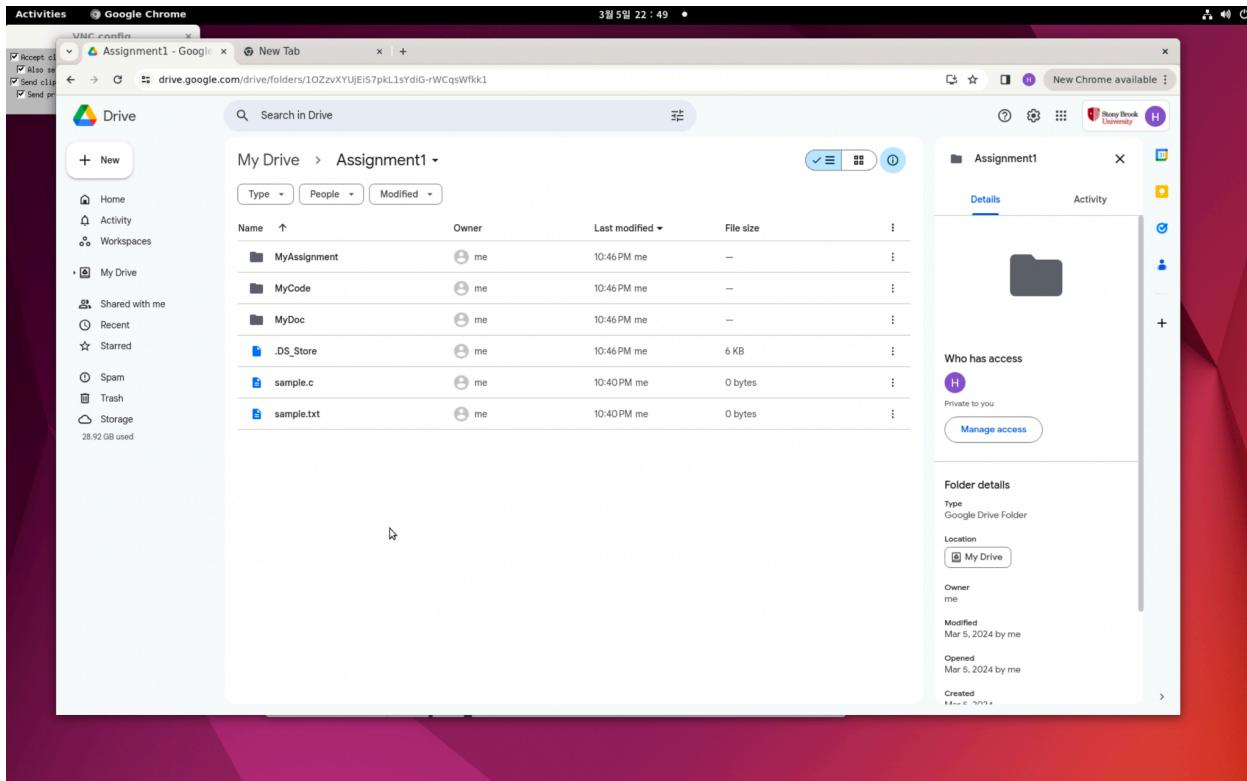
Make necessary folders inside the assignment folder

```
hkwak60@gwaghojun-ui-MacBookPro Assignment1 % touch sample.txt  
hkwak60@gwaghojun-ui-MacBookPro Assignment1 % touch sample.c  
hkwak60@gwaghojun-ui-MacBookPro Assignment1 % ls  
MyAssignment MyCode MyDoc sample.c sample.txt
```

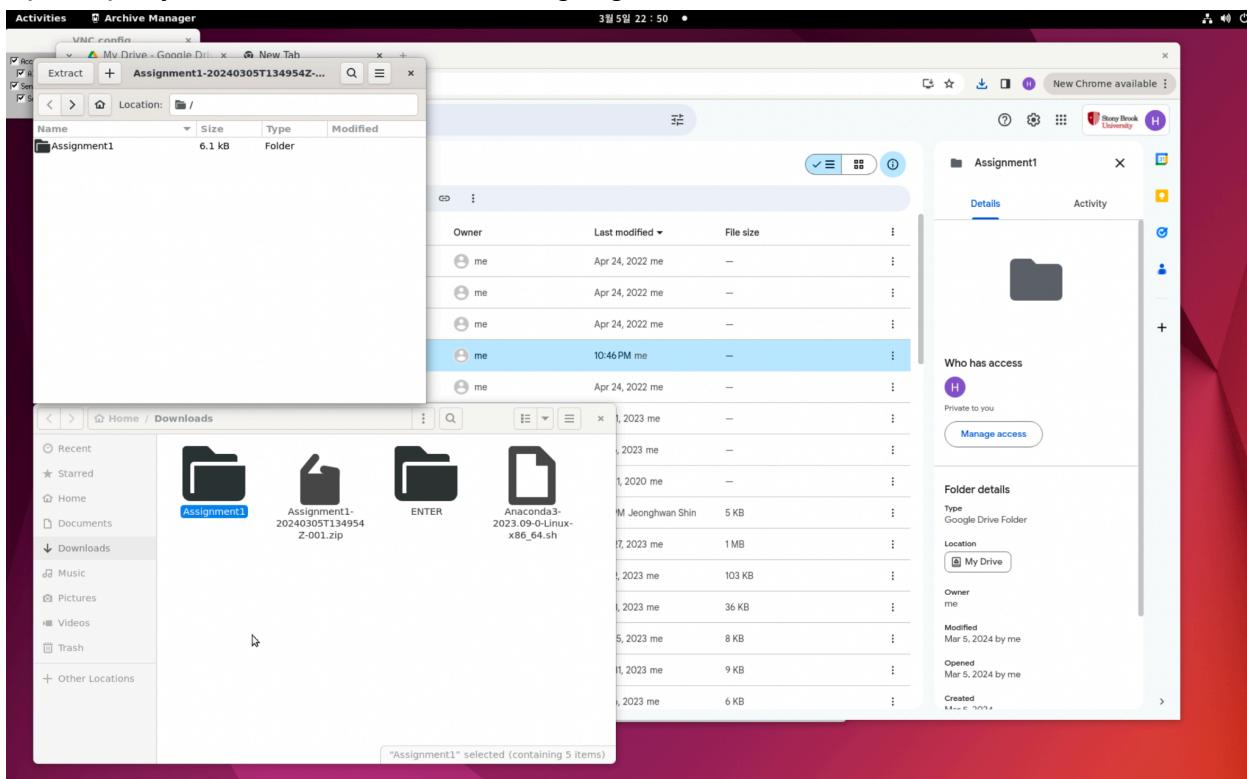
Create sample text and code files



Upload the folder to google drive, so that I can download the file on my virtual machine



Open up my server and connect to the google drive



Download the uploaded folder into the virtual machine

```
hjkwak@bcl-server:~$ cd Downloads
hjkwak@bcl-server:~/Downloads$ ls
Anaconda3-2023.09-0-Linux-x86_64.sh  Assignment1-20240305T134954Z-001.zip
Assignment1                           ENTER
hjkwak@bcl-server:~/Downloads$ mv Assignment1 ..
hjkwak@bcl-server:~/Downloads$ ls
Anaconda3-2023.09-0-Linux-x86_64.sh  ENTER
Assignment1-20240305T134954Z-001.zip
hjkwak@bcl-server:~/Downloads$ cd ..
hjkwak@bcl-server:~$ ls
Assignment1  Documents  lava      Music      Public    snap      Videos
Desktop      Downloads  lava-dl   Pictures   remote   Templates
```

Change the directory of the downloaded folder to Home

```
hjkwak@bcl-server:~$ cd Assignment1
hjkwak@bcl-server:~/Assignment1$ ls
MyAssignment  MyCode  MyDoc  sample.c  sample.txt
hjkwak@bcl-server:~/Assignment1$ mv sample.c MyCode
hjkwak@bcl-server:~/Assignment1$ mv sample.txt MyDoc
hjkwak@bcl-server:~/Assignment1$ ls
MyAssignment  MyCode  MyDoc
hjkwak@bcl-server:~/Assignment1$
```

Move the code and text files to appropriate folders

```
hjkwak@bcl-server:~/Assignment1/MyDoc$ ls -l
total 0
-rw-rw-r-- 1 hjkwak hjkwak 0  3월  5 22:40 text.txt
hjkwak@bcl-server:~/Assignment1/MyDoc$ ls -a
. .. text.txt
hjkwak@bcl-server:~/Assignment1/MyDoc$
```

Get details using ls

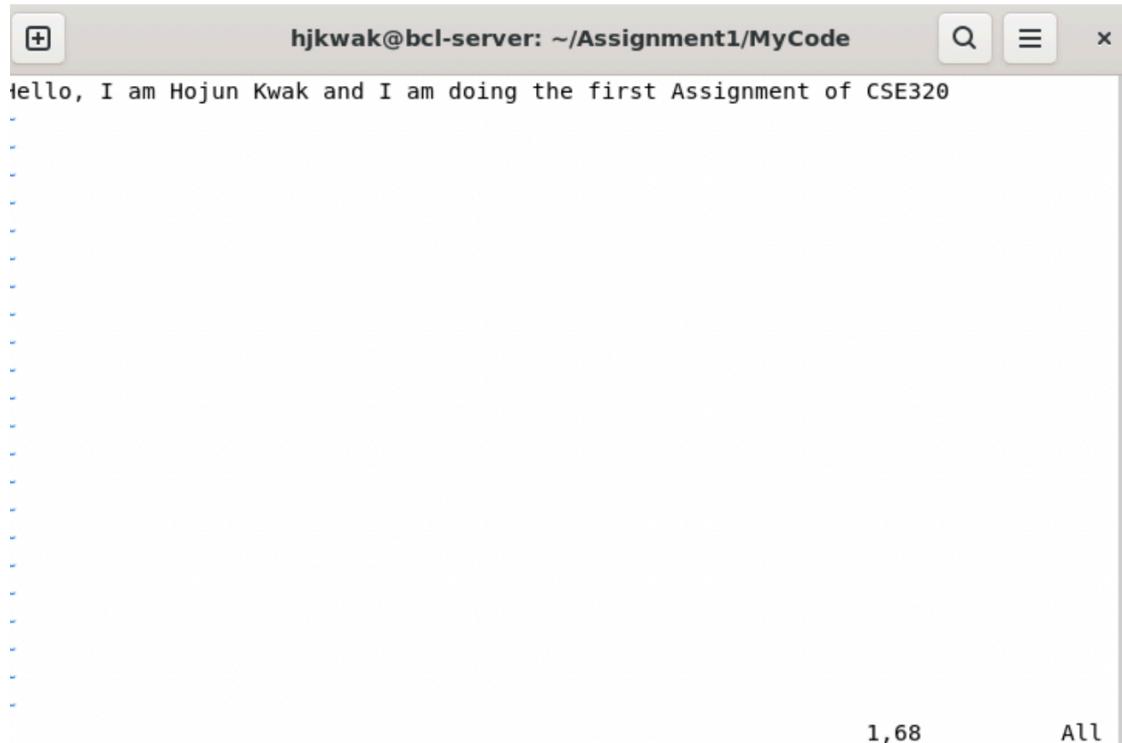
```
hjkwak@bcl-server:~/Assignment1/MyCode$ ls
sample.c
hjkwak@bcl-server:~/Assignment1/MyCode$ mv sample.c code.c
hjkwak@bcl-server:~/Assignment1/MyCode$ ls
code.c
hjkwak@bcl-server:~/Assignment1/MyCode$ cd ../MyDoc
hjkwak@bcl-server:~/Assignment1/MyDoc$ ls
sample.txt
hjkwak@bcl-server:~/Assignment1/MyDoc$ mv sample.txt text.txt
hjkwak@bcl-server:~/Assignment1/MyDoc$ ls
text.txt
```

Rename files

```
hjkwak@bcl-server:~/Assignment1/MyDoc$ cd ../MyCode
hjkwak@bcl-server:~/Assignment1/MyCode$ touch kwak.txt
```

Make kwak.txt on Code directory

```
hjkwak@bcl-server:~/Assignment1/MyCode$ vi kwak.txt
```



hjkwak@bcl-server: ~/Assignment1/MyCode

```
Hello, I am Hojun Kwak and I am doing the first Assignment of CSE320
```

1,68

All

Write appropriate contents in the text file

```
hjkwak@bcl-server:~/Assignment1/MyCode$ cat kwak.txt
Hello, I am Hojun Kwak and I am doing the first Assignment of CSE320
```

Check the contents using cat command

```
hjkwak@bcl-server:~/Assignment1/MyCode$ cd ..
hjkwak@bcl-server:~/Assignment1$
```

```
hjkwak@bcl-server:~/Assignment1$ tar zcvf assignment1_1_hojunkwak.tar.gz MyCode
MyDoc
MyCode/
MyCode/kwak.txt
MyCode/code.c
MyDoc/
MyDoc/text.txt
hjkwak@bcl-server:~/Assignment1$ ls
assignment1_1_hojunkwak.tar.gz  MyAssignment  MyCode  MyDoc
```

Make the zipped file using the tar command

z : gzip compression when creating a tar file, resulting in a compressed archive with the '.tar.gz' extension.

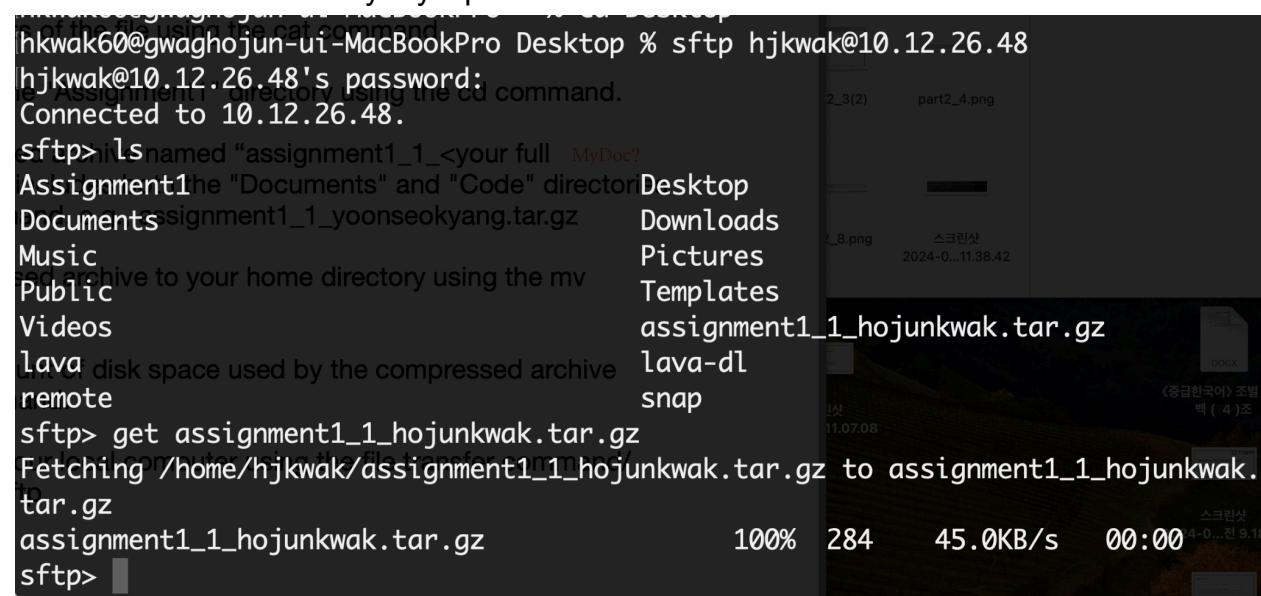
c : Creates an archive by bundling files and directories together.

v : Displays verbose information, providing detailed output during the archiving or extraction process.

f : Specifies the filename of the archive to be created or extracted.

```
hjkwak@bcl-server:~$ du -hs assignment1_1_hojunkwak.tar.gz
4.0K    assignment1_1_hojunkwak.tar.gz
```

Check how much memory my zip file is



hkwak60@gwaghojun-ui-MacBookPro Desktop % sftp hkwak@10.12.26.48
hkwak@10.12.26.48's password:
Connected to 10.12.26.48.
sftp> ls
ls named "assignment1_1_<your full MyDoc?
Assignment1 the "Documents" and "Code" director Desktop
Documents assignment1_1_yoonseokyang.tar.gz Downloads
Music Pictures
Public Templates
Videos assignment1_1_hojunkwak.tar.gz
lava disk space used by the compressed archive lava-dl
remote snap
sftp> get assignment1_1_hojunkwak.tar.gz
Fetching /home/hkwak/assignment1_1_hojunkwak.tar.gz to assignment1_1_hojunkwak.
tar.gz
assignment1_1_hojunkwak.tar.gz 100% 284 45.0KB/s 00:00
sftp>

Connect and download the file from the virtual machine to my local memory using sftp command.

There is a different set of sftp commands but they are very similar to unix commands.

```
hkwak@bcl-server:~$ uname -o  
GNU/Linux  
hkwak@bcl-server:~$ uname -v  
#21~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri Feb 9 13:32:52 UTC 2  
hkwak@bcl-server:~$ uname -i  
x86_64  
hkwak@bcl-server:~$ uname -a  
Linux bcl-server 6.5.0-21-generic #21~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Fri Feb  
9 13:32:52 UTC 2 x86_64 x86_64 x86_64 GNU/Linux
```

Go back to virtual machine and determine information about operating system using the uname command

-o: operating system

-v: kernel version

-i: hardware architecture

```
hkwak@bcl-server:~$ ps aux  
USER PID %CPU %MEM VSZ RSS TTY STAT START TIME COMMAND  
root 1 0.0 0.0 167252 11472 ? Ss 3월 04 0:04 /sbin/init  
root 2 0.0 0.0 0 0 ? S 3월 04 0:00 [kthreadd]  
root 3 0.0 0.0 0 0 ? I< 3월 04 0:00 [rcu_gp]  
root 4 0.0 0.0 0 0 ? I< 3월 04 0:00 [rcu_par_gp]  
root 5 0.0 0.0 0 0 ? I< 3월 04 0:00 [slub_flush]  
root 6 0.0 0.0 0 0 ? I< 3월 04 0:00 [netns]  
root 8 0.0 0.0 0 0 ? I< 3월 04 0:00 [kworker/0:
```

```

root      62041  0.0  0.0      0      0 ?          I      23:31  0:00 [kworker/10:1
root      62044  0.0  0.0      0      0 ?          I      23:31  0:00 [kworker/3:0-
root      62246  0.0  0.0      0      0 ?          I      23:37  0:00 [kworker/5:1]
root      62309  0.0  0.0      0      0 ?          I      23:38  0:00 [kworker/u48:
root      62407  0.0  0.0  17460 10808 ?          Ss    23:42  0:00 sshd: hjkwak
hjkwak   62454  0.0  0.0  18132 8388 ?          S      23:42  0:00 sshd: hjkwak@_
hjkwak   62457  0.0  0.0  12580 5568 pts/8      Ss+   23:42  0:00 -bash
hjshim   62581  0.0  0.0 1188629236 86328 ?      Sl    23:47  0:00 /opt/google/c
hjkwak   62593  0.0  0.0  13984 3648 pts/7      R+    23:48  0:00 ps aux

```

With the ps aux command, check currently running processes

```

hjkwak@bcl-server:~$ id -u
1004
hjkwak@bcl-server:~$ id -g
1004
hjkwak@bcl-server:~$ id -u hjkwak
1004
hjkwak@bcl-server:~$ id hjkwak
uid=1004(hjkwak) gid=1004(hjkwak) groups=1004(hjkwak),4(adm),24(cdrom),27(sudo),
30(dip),46(plugdev),122(lpadmin),135(lxd),136(sambashare)
hjkwak@bcl-server:~$ id
uid=1004(hjkwak) gid=1004(hjkwak) groups=1004(hjkwak),4(adm),24(cdrom),27(sudo),
30(dip),46(plugdev),122(lpadmin),135(lxd),136(sambashare)

```

get information about id using id command

```

hjkwak@bcl-server:~$ top

top - 23:51:25 up 1 day,  3:04,  3 users,  load average: 6.97, 5.05, 4.56
Tasks: 1035 total,   2 running, 1030 sleeping,   3 stopped,   0 zombie
%Cpu(s): 9.8 us, 15.0 sy, 0.0 ni, 75.0 id, 0.1 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 128582.0 total, 56235.1 free, 28362.6 used, 43984.3 buff/cache
MiB Swap: 2048.0 total, 2048.0 free,     0.0 used. 98660.0 avail Mem

```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
8373	ysyang	20	0	46.1g	21.9g	785732	R	577.2	17.5	6503:47	python3
3762	hjchung	20	0	8113056	319060	147880	S	4.3	0.2	24:53.08	gnome-s+
3758	sapark	20	0	7915844	321424	151124	S	4.0	0.2	24:57.00	gnome-s+
60345	hjkwak	20	0	1133.8g	352484	132016	S	2.0	0.3	1:49.59	chrome
60078	hjkwak	20	0	33.0g	154620	127380	S	1.3	0.1	0:39.18	chrome
62670	hjkwak	20	0	15340	5376	3648	R	1.0	0.0	0:00.08	top
1067	systemd+	20	0	14836	6720	5952	S	0.3	0.0	2:00.72	systemd+
1777	vsvand	20	0	327776	154644	73664	S	0.3	0.1	3:48.47	Xtiaerv+

Top command will show what processes are running. The command "ps" displays all processes time-wise. The status of the process is irrelevant to it (running or sleeping). "top" displays active processes in the top-ordered list

```

hjkwak@bcl-server:~$ top > top.txt &
[3] 62693

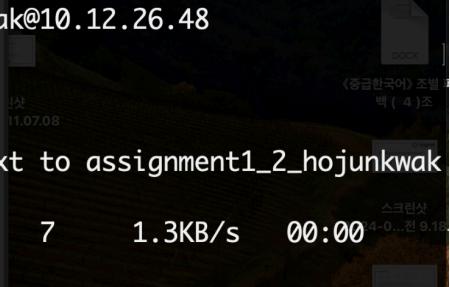
```

```
hjkwak@bcl-server:~$ ps -al
F S   UID      PID  PPID C PRI  NI ADDR SZ WCHAN TTY          TIME CMD
0 R  1001     8373  8328 99  80    0 - 8133190 -  pts/2    4-12:29:28 python3
0 T  1002    57860 34820  0  80    0 - 3466 -  pts/9    00:00:00 top
0 T  1004    58390 34472  0  80    0 - 3466 do_sig pts/7  00:00:00 top
0 T  1004    58775 34472  0  80    0 - 3466 do_sig pts/7  00:00:00 top
0 T  1004    62693 34472  0  80    0 - 3466 do_sig pts/7  00:00:00 top
4 R  1004    62729 34472  0  80    0 - 3496 -  pts/7  00:00:00 ps

[3]+  Stopped                  top > top.txt
```

Get the top process in a text file

```
hjkwak60@gwaghojun-ui-MacBookPro Desktop % sftp hjkwak@10.12.26.48
hjkwak@10.12.26.48's password:
Connected to 10.12.26.48.
sftp> get assignment1_2_hojunkwak_top.txt
Fetching /home/hjkwak/assignment1_2_hojunkwak_top.txt to assignment1_2_hojunkwak_
_top.txt
Computer using the file transfer command/
assignment1_2_hojunkwak_top.txt          100%    7      1.3KB/s  00:00
sftp>
```



Download the file to the local memory.