

리눅스시스템 Lab07

분반: 002

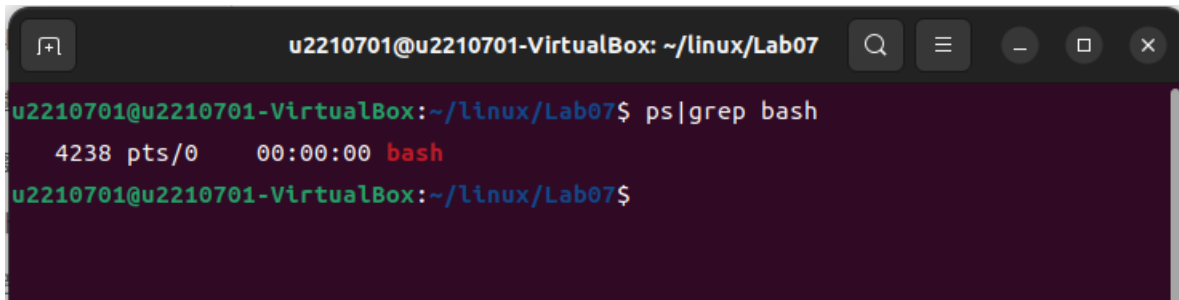
학과: 컴퓨터과학과

학번: 2210701

이름: 김주영

1. grep 명령어 실습

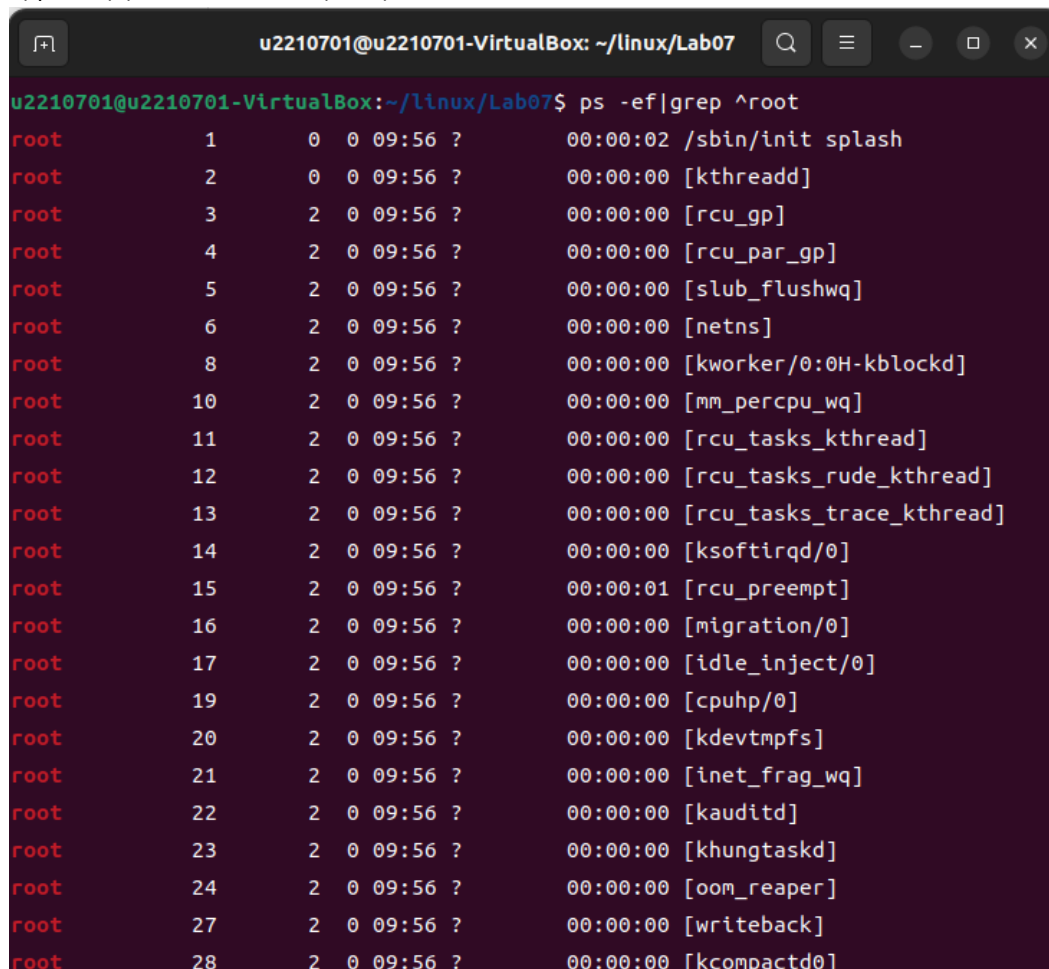
1) p2의 (3)번에 대한 정답(명령)을 실행한 터미널 창을 캡처한다. 명령에 대해 설명한다.



```
u2210701@u2210701-VirtualBox: ~/linux/Lab07
u2210701@u2210701-VirtualBox:~/linux/Lab07$ ps|grep bash
  4238 pts/0    00:00:00 bash
u2210701@u2210701-VirtualBox:~/linux/Lab07$
```

파이프를 사용해 ps명령의 결과에서 grep명령어를 사용해 bash관련 프로세스를 출력한다.

2) p2의 (4)번에 대한 정답(명령)을 실행한 터미널 창을 캡처한다. 명령에 대해 설명한다.

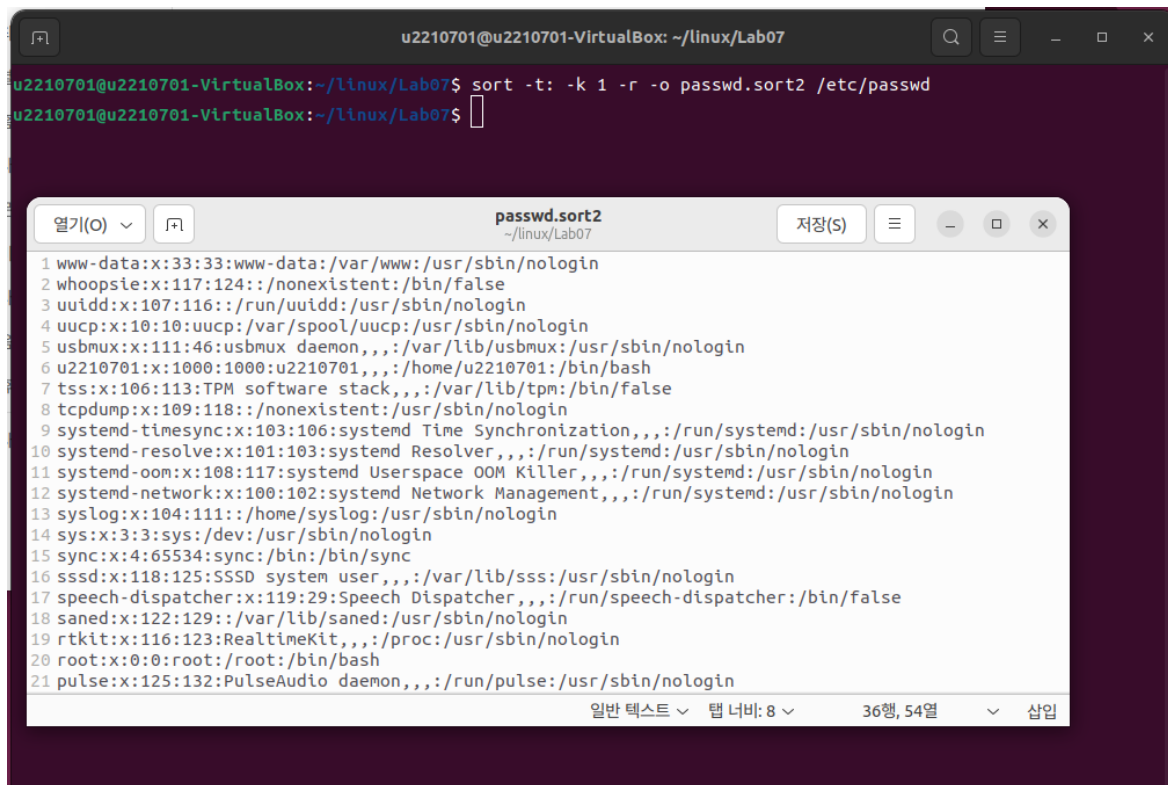


```
u2210701@u2210701-VirtualBox: ~/linux/Lab07
u2210701@u2210701-VirtualBox:~/linux/Lab07$ ps -ef|grep ^root
root      1      0  0 09:56 ?        00:00:02 /sbin/init splash
root      2      0  0 09:56 ?        00:00:00 [kthreadd]
root      3      2  0 09:56 ?        00:00:00 [rcu_gp]
root      4      2  0 09:56 ?        00:00:00 [rcu_par_gp]
root      5      2  0 09:56 ?        00:00:00 [slub_flushwq]
root      6      2  0 09:56 ?        00:00:00 [netns]
root      8      2  0 09:56 ?        00:00:00 [kworker/0:0H-kblockd]
root     10      2  0 09:56 ?        00:00:00 [mm_percpu_wq]
root     11      2  0 09:56 ?        00:00:00 [rcu_tasks_kthread]
root     12      2  0 09:56 ?        00:00:00 [rcu_tasks_rude_kthread]
root     13      2  0 09:56 ?        00:00:00 [rcu_tasks_trace_kthread]
root     14      2  0 09:56 ?        00:00:00 [ksoftirqd/0]
root     15      2  0 09:56 ?        00:00:01 [rcu_preempt]
root     16      2  0 09:56 ?        00:00:00 [migration/0]
root     17      2  0 09:56 ?        00:00:00 [idle_inject/0]
root     19      2  0 09:56 ?        00:00:00 [cpuhp/0]
root     20      2  0 09:56 ?        00:00:00 [kdevtmpfs]
root     21      2  0 09:56 ?        00:00:00 [inet_frag_wq]
root     22      2  0 09:56 ?        00:00:00 [kauditd]
root     23      2  0 09:56 ?        00:00:00 [khungtaskd]
root     24      2  0 09:56 ?        00:00:00 [oom_reaper]
root     27      2  0 09:56 ?        00:00:00 [writeback]
root     28      2  0 09:56 ?        00:00:00 [kcompactd0]
```

줄의 가장 앞에 나오는 이름이 소유자의 이름이고, grep 명령에서는 따로 소유자만 검색할 수 없다. 따라서 정규식 ^을 활용해 소유자가 root인 프로세스들을 출력했다.

2. sort 명령어 실습

1) p6의 (2)번에 대한 정답(명령)을 실행한 터미널 창을 캡처한다. 명령에 대해 설명한다.



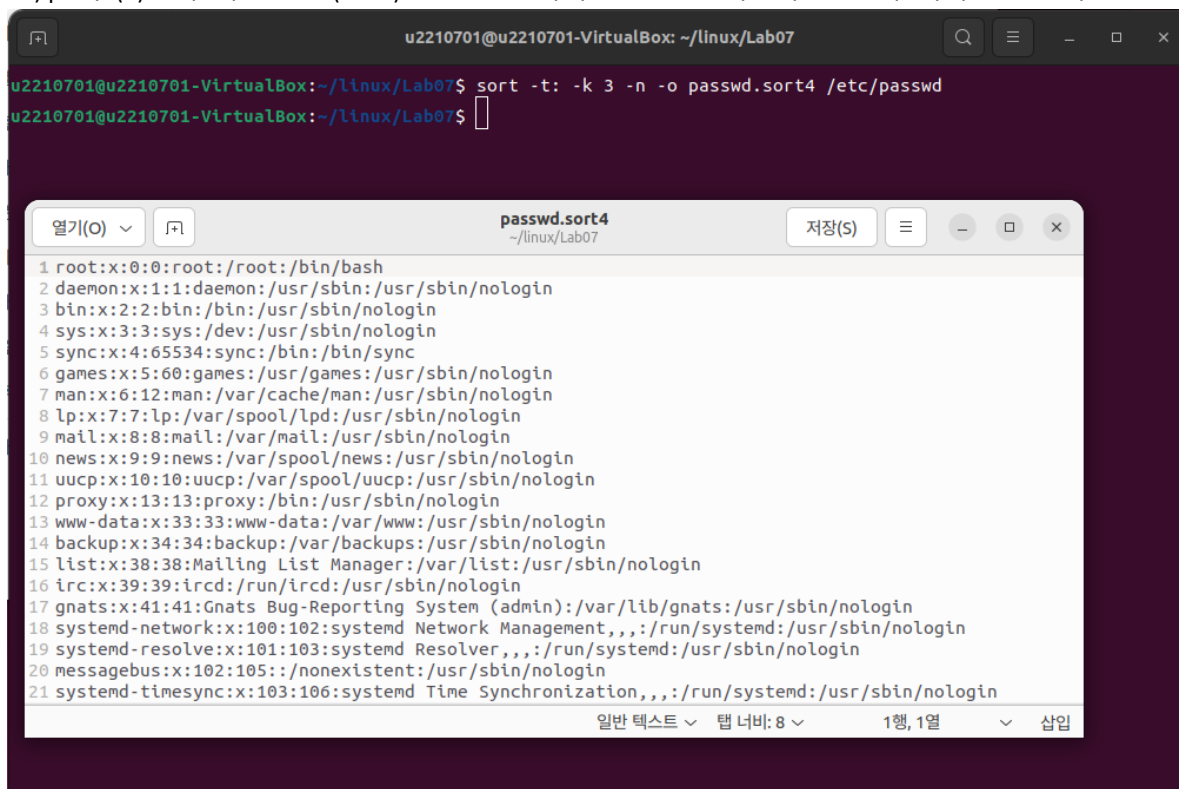
The first screenshot shows a terminal window with the command `sort -t: -k 1 -r -o passwd.sort2 /etc/passwd` being executed. The second screenshot shows the resulting file `passwd.sort2` in a text editor, displaying the output of the sort command, which lists system users in reverse order of their primary group ID.

```
u2210701@u2210701-VirtualBox: ~/linux/Lab07
u2210701@u2210701-VirtualBox:~/linux/Lab07$ sort -t: -k 1 -r -o passwd.sort2 /etc/passwd
u2210701@u2210701-VirtualBox:~/linux/Lab07$
```

```
passwd.sort2
~/linux/Lab07
1 www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
2 whoopsie:x:117:124::/nonexistent:/bin/false
3 uidd:x:107:116::/run/uid:usr/sbin/nologin
4 uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
5 usbmux:x:111:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
6 u2210701:x:1000:1000:u2210701,,,:/home/u2210701:/bin/bash
7 tss:x:106:113:TPM software stack,,,:/var/lib/tpm:/bin/false
8 tcpdump:x:109:118::/nonexistent:/usr/sbin/nologin
9 systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
10 systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
11 systemd-oom:x:108:117:systemd Userspace OOM Killer,,,:/run/systemd:/usr/sbin/nologin
12 systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
13 syslog:x:104:111::/home/syslog:/usr/sbin/nologin
14 sys:x:3:3:sys:/dev:/usr/sbin/nologin
15 sync:x:4:65534:sync:/bin:/bin/sync
16 sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
17 speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
18 saned:x:122:129::/var/lib/saned:/usr/sbin/nologin
19 rtkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin
20 root:x:0:0:root:/root:/bin/bash
21 pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
```

(1)번의 명령에 `-r` 옵션을 추가하여 계정명을 내림차순으로 정렬한다.

2) p6의 (4)번에 대한 정답(명령)을 실행한 터미널 창을 캡처한다. 명령에 대해 설명한다.



The third screenshot shows a terminal window with the command `sort -t: -k 3 -n -o passwd.sort4 /etc/passwd` being executed. The fourth screenshot shows the resulting file `passwd.sort4` in a text editor, displaying the output of the sort command, which lists users in ascending order of their user ID (UID).

```
u2210701@u2210701-VirtualBox: ~/linux/Lab07
u2210701@u2210701-VirtualBox:~/linux/Lab07$ sort -t: -k 3 -n -o passwd.sort4 /etc/passwd
u2210701@u2210701-VirtualBox:~/linux/Lab07$
```

```
passwd.sort4
~/linux/Lab07
1 root:x:0:0:root:/root:/bin/bash
2 daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
3 bin:x:2:2:bin:/bin:/usr/sbin/nologin
4 sys:x:3:3:sys:/dev:/usr/sbin/nologin
5 sync:x:4:65534:sync:/bin:/bin/sync
6 games:x:5:60:games:/usr/games:/usr/sbin/nologin
7 man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
8 lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
9 mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
10 news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
11 uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
12 proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
13 www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
14 backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
15 list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
16 irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
17 gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
18 systemd-network:x:100:102:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
19 systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
20 messagebus:x:102:105::/nonexistent:/usr/sbin/nologin
21 systemd-timesync:x:103:106:systemd Time Synchronization,,,:/run/systemd:/usr/sbin/nologin
```

(3)번의 명령에 `-n` 옵션을 추가하여 UID를 번호순으로 정렬한다.

3) p6의 (5)번에 대한 정답(명령)을 실행한 터미널 창을 캡처한다. 명령에 대해 설명한다.

The image shows a terminal window and a file editor. The terminal window displays the command `sort -t: -k 5 -o passwd.sort5 /etc/passwd` being executed. The file editor shows the output of the command, which is a sorted list of system users. The output is as follows:

```
1 syslog:x:104:111::/home/syslog:/usr/sbin/nologin
2 whoopsie:x:117:124::/nonexistent:/bin/false
3 _apt:x:105:65534::/nonexistent:/usr/sbin/nologin
4 messagebus:x:102:105::/nonexistent:/usr/sbin/nologin
5 tcpdump:x:109:118::/nonexistent:/usr/sbin/nologin
6 gnome-initial-setup:x:126:65534::/run/gnome-initial-setup:/bin/false
7 uidd:x:107:116::/run/uidd:/usr/sbin/nologin
8 geoclue:x:124:131::/var/lib/geoclue:/usr/sbin/nologin
9 saned:x:122:129::/var/lib/saned:/usr/sbin/nologin
10 avahi-autoipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:/usr/sbin/nologin
11 avahi:x:114:121:Avahi mDNS daemon,,,:/run/avahi-daemon:/usr/sbin/nologin
12 gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
13 gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
14 hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
15 kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/usr/sbin/nologin
16 list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
17 nm-openvpn:x:121:127:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
18 pulse:x:125:132:PulseAudio daemon,,,:/run/pulse:/usr/sbin/nologin
19 rtkit:x:116:123:RealtimeKit,,,:/proc:/usr/sbin/nologin
20 sssd:x:118:125:SSSD system user,,,:/var/lib/sss:/usr/sbin/nologin
21 speech-dispatcher:x:119:29:Speech Dispatcher,,,:/run/speech-dispatcher:/bin/false
```

계정설명은 5번째 순서이므로 -k 5 로 작성하고, 기본적으로 오름차순으로 출력되기 때문에 다른 옵션 없이 명령을 작성한다.

3. find 명령어 실습

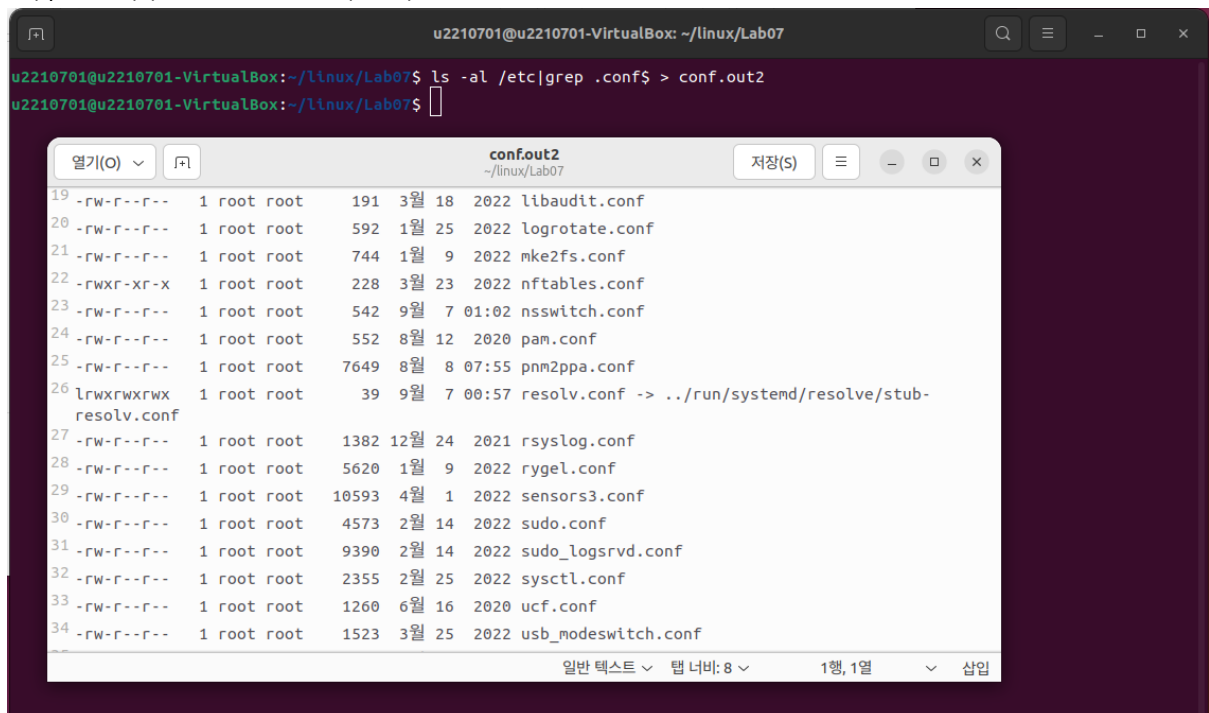
1) p12의 (2)번에 대한 정답(명령)을 실행한 터미널 창을 캡처한다. 명령에 대해 설명한다.

The image shows a terminal window and a file editor. The terminal window displays the command `find /etc -name "*.conf" > conf.out` being executed. The file editor shows the output of the command, which is a list of files in the /etc directory that end with the .conf extension. The output is as follows:

```
1 /etc/ca-certificates.conf
2 /etc/pam.conf
3 /etc/security/pwquality.conf
4 /etc/security/pam_env.conf
5 /etc/security/sepermit.conf
6 /etc/security/limits.conf
7 /etc/security/capability.conf
8 /etc/security/time.conf
9 /etc/security/namespace.conf
10 /etc/security/faillock.conf
11 /etc/security/group.conf
12 /etc/security/access.conf
13 /etc/NetworkManager/conf.d/default-wifi-powersave-on.conf
14 /etc/NetworkManager/NetworkManager.conf
15 /etc/sane.d/pie.conf
16 /etc/sane.d/coolscan.conf
17 /etc/sane.d/hp.conf
18 /etc/sane.d/avision.conf
19 /etc/sane.d/abaton.conf
20 /etc/sane.d/epsonds.conf
21 /etc/sane.d/sm3840.conf
```

find 명령의 -name 옵션을 사용하여 확장자 .conf 파일을 찾아 출력 재지정을 통해 conf.out 파일에 저장한다.

2) p12의 (3)번에 대한 정답(명령)을 실행한 터미널 창을 캡처한다. 명령에 대해 설명한다.



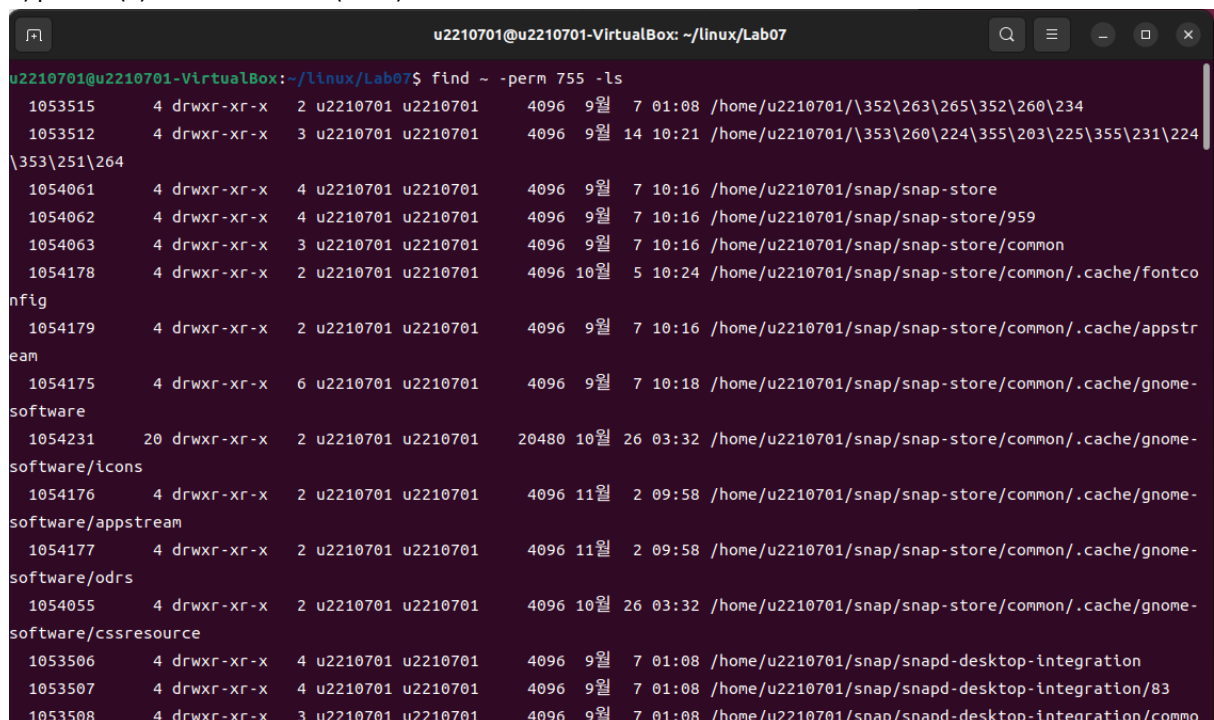
```
u2210701@u2210701-VirtualBox: ~/linux/Lab07
u2210701@u2210701-VirtualBox:~/linux/Lab07$ ls -al /etc|grep .conf > conf.out2
u2210701@u2210701-VirtualBox:~/linux/Lab07$
```

Line	Permissions	Owner	Group	Size	Month	Day	Year	File Name
19	-rw-r--r--	1	root	191	3월	18	2022	libaudit.conf
20	-rw-r--r--	1	root	592	1월	25	2022	logrotate.conf
21	-rw-r--r--	1	root	744	1월	9	2022	mke2fs.conf
22	-rwxr-xr-x	1	root	228	3월	23	2022	nftables.conf
23	-rw-r--r--	1	root	542	9월	7	01:02	nsswitch.conf
24	-rw-r--r--	1	root	552	8월	12	2020	pam.conf
25	-rw-r--r--	1	root	7649	8월	8	07:55	pnm2ppa.conf
26	lrwxrwxrwx	1	root	39	9월	7	00:57	resolv.conf -> ../run/systemd/resolve/stub-resolv.conf
27	-rw-r--r--	1	root	1382	12월	24	2021	rsyslog.conf
28	-rw-r--r--	1	root	5620	1월	9	2022	rygel.conf
29	-rw-r--r--	1	root	10593	4월	1	2022	sensors3.conf
30	-rw-r--r--	1	root	4573	2월	14	2022	sudo.conf
31	-rw-r--r--	1	root	9390	2월	14	2022	sudo_logsrvd.conf
32	-rw-r--r--	1	root	2355	2월	25	2022	sysctl.conf
33	-rw-r--r--	1	root	1260	6월	16	2020	ucf.conf
34	-rw-r--r--	1	root	1523	3월	25	2022	usb_modeswitch.conf

ls -al 명령을 통해 /etc디렉터리의 모든 파일을 grep 의 입력으로 지정한다.

확장자만을 찾기위해 문자열의 가장 끝에만 .conf가 위치하도록 grep 정규식 \$을 이용해 출력하여 conf.out2파일에 저장한다.

3) p12의 (4)번에 대한 정답(명령)을 실행한 터미널 창을 캡처한다. 명령에 대해 설명한다.



```
u2210701@u2210701-VirtualBox: ~/linux/Lab07
u2210701@u2210701-VirtualBox:~/linux/Lab07$ find ~ -perm 755 -ls
```

File Path	Permissions	Owner	Group	Size	Month	Day	Year
/home/u2210701/.352\263\265\352\260\234	4 drwxr-xr-x	2	u2210701	4096	9월	7	01:08
/home/u2210701/.353\260\224\355\203\225\355\231\224\353\251\264	4 drwxr-xr-x	3	u2210701	4096	9월	14	10:21
/home/u2210701/snap/snap-store	4 drwxr-xr-x	4	u2210701	4096	9월	7	10:16
/home/u2210701/snap/snap-store/959	4 drwxr-xr-x	4	u2210701	4096	9월	7	10:16
/home/u2210701/snap/snap-store/common	4 drwxr-xr-x	3	u2210701	4096	9월	7	10:16
/home/u2210701/snap/snap-store/common/.cache/fontco	4 drwxr-xr-x	2	u2210701	4096	10월	5	10:24
/home/u2210701/snap/snap-store/common/.cache/appstr	4 drwxr-xr-x	2	u2210701	4096	9월	7	10:16
/home/u2210701/snap/snap-store/common/.cache/gnome-	4 drwxr-xr-x	6	u2210701	4096	9월	7	10:18
/home/u2210701/snap/snap-store/common/.cache/gnome-	20 drwxr-xr-x	2	u2210701	20480	10월	26	03:32
/home/u2210701/snap/snap-store/common/.cache/gnome-	4 drwxr-xr-x	2	u2210701	4096	11월	2	09:58
/home/u2210701/snap/snap-store/common/.cache/gnome-	4 drwxr-xr-x	2	u2210701	4096	11월	2	09:58
/home/u2210701/snap/snap-store/common/.cache/gnome-	4 drwxr-xr-x	2	u2210701	4096	10월	26	03:32
/home/u2210701/snap/snapd-desktop-integration	4 drwxr-xr-x	4	u2210701	4096	9월	7	01:08
/home/u2210701/snap/snapd-desktop-integration/83	4 drwxr-xr-x	4	u2210701	4096	9월	7	01:08
/home/u2210701/snap/snapd-desktop-integration/commo	4 drwxr-xr-x	3	u2210701	4096	9월	7	01:08

홈 디렉토리를 나타내는 ~을 이용해 find 명령을 실행하고, -perm조건을 활용해 접근권한이 755인 것들을 모두 검색해 -ls 로 출력한다.