

1.last

```
File Edit View Bookmarks Settings Help
ayda@ayda-K401UQK1:~$ last
ayda      tty1          :0                Mon Apr 11 10:09    still logged in
reboot    system boot  5.11.0-49-generl Mon Apr 11 10:08    still running
ayda      tty1          :0                Sun Apr 10 22:10    down (01:25)
reboot    system boot  5.11.0-49-generl Sun Apr 10 22:07    23:35 (01:27)
ayda      tty1          :0                Sun Apr 10 14:16    down (00:13)
reboot    system boot  5.11.0-49-generl Sun Apr 10 14:15    14:30 (00:14)
ayda      tty1          :0                Sun Apr 10 00:54    crash (05:20)
reboot    system boot  5.11.0-49-generl Sun Apr 10 00:50    14:30 (05:40)
ayda      tty1          :0                Sat Apr 9 15:21     down (10:20)
reboot    system boot  5.11.0-49-generl Sat Apr 9 15:20     01:42 (10:22)
ayda      tty1          :0                Fri Apr 8 21:38     down (03:39)
reboot    system boot  5.11.0-49-generl Fri Apr 8 21:35     01:17 (03:41)
ayda      tty1          :0                Tue Apr 5 11:57     down (00:27)
reboot    system boot  5.11.0-49-generl Tue Apr 5 11:55     12:25 (00:30)
ayda      tty1          :0                Tue Apr 5 00:52     down (03:00)
reboot    system boot  5.11.0-49-generl Tue Apr 5 00:49     11:53 (03:03)
ayda      tty1          :0                Mon Apr 4 09:52     down (13:59)
reboot    system boot  5.11.0-49-generl Mon Apr 4 09:50     23:51 (14:01)
ayda      tty1          :0                Sun Apr 3 00:53     down (15:32)
reboot    system boot  5.11.0-49-generl Sun Apr 3 00:49     00:26 (15:36)
ayda      tty1          :0                Sat Apr 2 10:26     down (07:30)
reboot    system boot  5.11.0-49-generl Sat Apr 2 10:16     17:56 (07:39)
ayda      tty1          :0                Fri Apr 1 17:52     down (05:20)
reboot    system boot  5.11.0-49-generl Fri Apr 1 17:49     23:12 (05:23)
ayda      tty1          :0                Thu Mar 31 12:52     down (11:05)
reboot    system boot  5.11.0-49-generl Thu Mar 31 12:44     23:50 (11:13)
ayda      tty1          :0                Wed Mar 30 16:04     down (08:00)
reboot    system boot  5.11.0-49-generl Wed Mar 30 16:02     00:04 (08:02)
ayda      tty1          :0                Wed Mar 30 11:18     down (03:11)
reboot    system boot  5.11.0-49-generl Wed Mar 30 11:16     14:30 (03:13)
ayda      tty1          :0                Tue Mar 29 16:05     down (08:39)
reboot    system boot  5.11.0-49-generl Tue Mar 29 16:02     00:45 (08:42)
ayda      tty1          :0                Mon Mar 28 14:46     down (09:28)
reboot    system boot  5.11.0-49-generl Mon Mar 28 14:44     00:14 (09:29)
ayda      tty1          :0                Sun Mar 27 15:40     down (08:47)
reboot    system boot  5.11.0-49-generl Sun Mar 27 15:35     00:28 (08:52)
ayda      tty1          :0                Sat Mar 26 00:57     down (23:00)
reboot    system boot  5.11.0-49-generl Thu Dec 29 03:30     23:55 (1913+19:27)
reboot    system boot  5.11.0-49-generl Sat Mar 26 14:07     23:58 (09:50)
ayda      tty1          :0                Fri Mar 25 20:27     down (04:29)
reboot    system boot  5.11.0-49-generl Fri Mar 25 20:14     00:56 (04:42)
ayda      tty1          :0                Fri Mar 25 12:26     down (00:12)
reboot    system boot  5.11.0-49-generl Fri Mar 25 12:26     12:39 (00:13)
ayda      tty1          :0                Fri Mar 25 10:34     12:22 (01:47)
reboot    system boot  5.11.0-49-generl Fri Mar 25 10:27     12:22 (01:55)
ayda      tty1          :0                Thu Mar 24 12:38     down (11:57)
reboot    system boot  5.11.0-49-generl Thu Mar 24 12:35     00:35 (12:00)
ayda      tty1          :0                Wed Mar 23 10:36     down (13:48)
reboot    system boot  5.11.0-49-generl Wed Mar 23 10:34     00:25 (13:50)
ayda      tty1          :0                Tue Mar 22 11:54     down (11:24)
```

2. top

```
~: top — Konsole

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top - 16:49:40 up 6:41, 1 user, load average: 5.80, 5.67, 5.33
Tasks: 289 total, 1 running, 281 sleeping, 1 stopped, 0 zombie
%Cpu(s): 11.9 us, 7.0 sy, 0.2 ni, 58.4 id, 22.6 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 7832.9 total, 343.7 free, 5620.1 used, 1869.1 buff/cache
MiB Swap: 7629.0 total, 6848.1 free, 780.9 used, 1191.4 avail Mem

  PID USER      PR  NI   VIRT    RES    SHR   S  %CPU  %MEM     TIME+ COMMAND
 22800 ayda      20   0  62.6g 423488 123056 S 20.5  5.3   4:47.76 chrome
 2487  ayda      20   0  24.6g 141712  97668 S 12.9  1.8   13:09.88 chrome
 1382  ayda      0  -11 2196280 15444 12655 S 10.3  0.2   10:04.30 pulseaudio
 2593  ayda      20   0  17.1g  46276  44452 S  0.3  0.6    9:37.32 chrome
14843 ayda      20   0  5264272  2.0g  1.9g S  5.3 26.6 25:29.99 VirtualBoxVM
 2476  ayda      20   0  24.5g  89280  81348 S  3.0  1.1   10:12.99 chrome
 2323  ayda      20   0  17.0g 231492 140880 S  1.7  2.9 22:22.42 chrome
 2555  ayda      20   0  24.5g 114884  84288 S  1.7  1.4    6:56.74 chrome
15236 ayda      20   0  32.6g 284628 122360 S  1.7  2.6    4:36.14 chrome
 2178  ayda      20   0 1090852  17548 13788 S  1.3  0.2    4:19.15 VBoxSVC
 2229  ayda      20   0  16.8g 230744 150420 S  1.3  4.0 23:06.23 chrome
 4346  ayda      20   0  28.5g 229956 101932 S  1.3  2.9    7:52.88 chrome
12587 ayda      20   0  36.6g 369988 138656 S  1.3  4.6    5:30.61 chrome
1830  ayda      20   0 1336320  40240 35800 S  1.0  0.5    2:22.26 fdm
2324  ayda      20   0  16.3g  85784  63580 S  1.0  1.1    4:32.37 chrome
2167  ayda      20   0  75808  8744  8480 S  0.7  0.1   2:17.47 VBoxXPCOMIPCD
24023 ayda      20   0 13044  4304  3376 R  0.7  0.1   0:00.11 top
 119  root       0  -20   0      0      0 S  0.3  0.0   0:00.05 kworker/1:1H-kblockd
 481  root      -51   0      0      0      0 S  0.3  0.0   1:14.50 irq/130-twlwifi
1141  root      20   0 1236168  98160 58696 S  0.3  1.2 10:01.75 Xorg
1720  ayda      20   0  356800 26680 24740 S  0.3  0.3    0:04.33 kdeconnect
1735  ayda      20   0 1162400  6092  57230 S  0.3  0.0    0:23.01 torrent
1879  ayda      20   0 2684936  73536 29076 S  0.3  0.9    4:02.35 dropbox
2141  ayda      20   0 2004052 152492 70136 S  0.3  1.9 2:37.53 VirtualBox
2440  ayda      20   0  24.5g 101772  70400 S  0.3  1.3 2:58.75 chrome
 2580  ayda      0  -14 1086  7024  5220 S  0.3  0.1 1:20.63 wenatvehost
 3828  ayda      20   0 157976 11264 11096 S  0.3  0.1    0:33.51 kio_http_cache
22743 root       20   0      0      0      0 S  0.3  0.0   0:00.50 kworker/0:0H-events
22077 ayda      20   0 1024500 110632 89704 S  0.3  1.4    0:08.01 konsole
23843 ayda      20   0  32.6g 244088 113280 S  0.3  3.0   1:18.61 chrome
23192 ayda      20   0  24.5g  97724  78096 S  0.3  1.2    0:01.07 chrome
23284 ayda      20   0  24.5g  93784  77628 S  0.3  1.2    0:00.74 chrome
23581 root       20   0      0      0      0 S  0.0  0.0   0:00.32 kworker/u8:0-ext4-rsv-conversion
23893 ayda      20   0 334224 22852 20876 S  0.3  0.3   0:00.00 httpd
 1  root      20   0 164812  8332  4988 S  0.0  0.1    0:03.77 systemd
 2  root      20   0      0      0      0 S  0.0  0.0    0:00.02 kthread
 3  root      0  -20   0      0      0 S  0.0  0.0   0:00.00 rcu_gp
 4  root      0  -20   0      0      0 S  0.0  0.0   0:00.00 rcu_par_gp
 6  root      0  -20   0      0      0 S  0.0  0.0   0:00.00 kworker/0:0H-events_highpri
 9  root      0  -20   0      0      0 S  0.0  0.0   0:00.00 mm_percpu_wq
10  root      20   0      0      0      0 S  0.0  0.0   0:00.00 rcu_tasks_rude
11  root      20   0      0      0      0 S  0.0  0.0   0:00.00 rcu_tasks_trace
12  root      20   0      0      0      0 S  0.0  0.0   0:00.56 ksoftirqd/0
13  root      20   0      0      0      0 S  0.0  0.0   0:19.32 rcu_sched
```

pmap 24427

```
~: bash — Konsole

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ayda@ayda-K401UQK:~$ pmap 2167
2167: /usr/lib/VirtualBox/VBoxXPCOMIPCD
00005555fddb0000 8K r---- VBoxXPCOMIPCD
00005555fddb4000 8K r---- VBoxXPCOMIPCD
00005555fddb6000 4K r---- VBoxXPCOMIPCD
00005555fddb7000 4K r---- VBoxXPCOMIPCD
00005555fddb8000 1172K rw---- [ anon ]
00005555ffa80000 416K rw---- [ anon ]
0000771b1ba72000 12K r---- libnss_files-2.33.so
0000771b1ba75000 32K r---- libnss_files-2.33.so
0000771b1ba7d000 8K r---- libnss_files-2.33.so
0000771b1ba7f000 4K r---- libnss_files-2.33.so
0000771b1ba80000 4K rw---- libnss_files-2.33.so
0000771b1ba81000 24K rw---- [ anon ]
0000771b1baa1000 4K ----- [ anon ]
0000771b1baa2000 8192K rw---- [ anon ]
0000771b1ca20000 5572K r---- locale-archive
0000771b1c813000 44K rw---- [ anon ]
0000771b1c81e000 8K r---- libcrypt.so.1.1.0
0000771b1c200000 80K r---- libcrypt.so.1.1.0
0000771b1c334000 1000K r---- libcrypt.so.1.1.0
0000771b1c84d000 4K ----- libcrypt.so.1.1.0
0000771b1c84e000 4K r---- libcrypt.so.1.1.0
0000771b1c84f000 4K rw---- libcrypt.so.1.1.0
0000771b1c850000 32K rw---- [ anon ]
0000771b1c858000 60K r---- libsqlite3.so.0.8.6
0000771b1c867000 992K r---- libsqlite3.so.0.8.6
0000771b1c8f5000 208K r---- libsqlite3.so.0.8.6
0000771b1c993000 12K r---- libsqlite3.so.0.8.6
0000771b1c996000 12K rw---- libsqlite3.so.0.8.6
0000771b1c999000 64K r---- libhx509.so.5.0.0
0000771b1c99a000 164K r---- libhx509.so.5.0.0
0000771b1c9a2000 64K r---- libhx509.so.5.0.0
0000771b1c9a2000 12K r---- libhx509.so.5.0.0
0000771b1c9a3000 4K r---- libhx509.so.5.0.0
0000771b1c9a4000 4K rw---- [ anon ]
0000771b1c9e7000 12K r---- libheibase.so.1.0.0
0000771b1c9e9000 36K r---- libheibase.so.1.0.0
0000771b1c9f3000 16K r---- libheibase.so.1.0.0
0000771b1c9f7000 4K r---- libheibase.so.1.0.0
0000771b1c9f8000 4K rw---- libheibase.so.1.0.0
0000771b1c9f9000 8K rw---- [ anon ]
0000771b1c9fb000 4K r---- libwind.so.0.0.0
0000771b1c9fc000 8K r---- libwind.so.0.0.0
0000771b1c9fe000 148K r---- libwind.so.0.0.0
0000771b1ca23000 4K r---- libwind.so.0.0.0
0000771b1ca24000 4K rw---- libwind.so.0.0.0
0000771b1ca25000 20K r---- libroken.so.18.1.0
0000771b1ca2a000 52K r---- libroken.so.18.1.0
0000771b1ca37000 16K r---- libroken.so.18.1.0
```

3.last reboot

```
ayda@ayda-K401UQK:~$ last reboot
reboot system boot 5.11.0-49-generic Mon Apr 11 10:00 still running
reboot system boot 5.11.0-49-generic Sun Apr 10 22:07 - 23:35 (01:27)
reboot system boot 5.11.0-49-generic Sun Apr 10 14:15 - 14:30 (00:14)
reboot system boot 5.11.0-49-generic Sun Apr 10 08:50 - 14:30 (05:40)
reboot system boot 5.11.0-49-generic Sat Apr 9 15:20 - 01:42 (10:22)
reboot system boot 5.11.0-49-generic Fri Apr 8 21:35 - 01:17 (03:41)
reboot system boot 5.11.0-49-generic Tue Apr 5 11:55 - 12:25 (00:30)
reboot system boot 5.11.0-49-generic Tue Apr 5 08:49 - 11:53 (03:03)
reboot system boot 5.11.0-49-generic Mon Apr 4 00:50 - 23:51 (14:01)
reboot system boot 5.11.0-49-generic Sun Apr 3 08:49 - 00:26 (15:36)
reboot system boot 5.11.0-49-generic Sat Apr 2 10:16 - 17:56 (07:39)
reboot system boot 5.11.0-49-generic Fri Apr 1 17:49 - 23:12 (05:23)
reboot system boot 5.11.0-49-generic Thu Mar 31 12:44 - 23:50 (11:13)
reboot system boot 5.11.0-49-generic Wed Mar 30 16:02 - 00:04 (08:02)
reboot system boot 5.11.0-49-generic Wed Mar 30 11:16 - 14:30 (03:13)
reboot system boot 5.11.0-49-generic Tue Mar 29 16:02 - 00:45 (08:42)
reboot system boot 5.11.0-49-generic Mon Mar 28 14:44 - 00:14 (09:29)
reboot system boot 5.11.0-49-generic Sun Mar 27 15:35 - 00:28 (08:52)
reboot system boot 5.11.0-49-generic Thu Dec 29 03:30 - 23:58 (1913+19:27)
reboot system boot 5.11.0-49-generic Sat Mar 26 14:07 - 23:50 (09:50)
reboot system boot 5.11.0-49-generic Fri Mar 25 20:14 - 00:56 (04:42)
reboot system boot 5.11.0-49-generic Fri Mar 25 12:26 - 12:39 (00:13)
reboot system boot 5.11.0-49-generic Fri Mar 25 10:27 - 12:22 (01:55)
reboot system boot 5.11.0-49-generic Thu Mar 24 12:35 - 00:35 (12:00)
reboot system boot 5.11.0-49-generic Wed Mar 23 10:34 - 00:25 (13:50)
reboot system boot 5.11.0-49-generic Tue Mar 22 11:43 - 23:19 (11:35)
reboot system boot 5.11.0-49-generic Fri Mar 18 09:49 - 17:16 (07:27)
reboot system boot 5.11.0-49-generic Thu Mar 17 11:00 - 23:46 (12:30)
reboot system boot 5.11.0-49-generic Wed Mar 16 15:53 - 22:54 (07:00)
reboot system boot 5.11.0-49-generic Tue Mar 15 08:53 - 17:15 (08:22)
reboot system boot 5.11.0-49-generic Sat Mar 12 09:28 - 00:20 (14:52)
reboot system boot 5.11.0-49-generic Fri Mar 11 21:10 - 23:15 (02:05)
reboot system boot 5.11.0-49-generic Fri Mar 11 11:01 - 17:40 (06:39)
reboot system boot 5.11.0-49-generic Thu Mar 10 18:25 - 01:16 (06:50)
reboot system boot 5.11.0-49-generic Wed Mar 9 10:23 - 00:24 (14:01)
reboot system boot 5.11.0-49-generic Tue Mar 8 08:56 - 23:40 (14:51)
reboot system boot 5.11.0-49-generic Mon Mar 7 21:54 - 00:31 (02:37)
reboot system boot 5.11.0-49-generic Mon Mar 7 10:46 - 21:25 (10:39)
reboot system boot 5.11.0-49-generic Sun Mar 6 08:56 - 00:36 (15:39)
reboot system boot 5.11.0-49-generic Sat Mar 5 11:00 - 00:27 (13:17)
reboot system boot 5.11.0-49-generic Fri Mar 4 10:43 - 23:27 (12:44)
reboot system boot 5.11.0-49-generic Thu Mar 3 10:10 - 01:19 (15:09)
reboot system boot 5.11.0-49-generic Wed Mar 2 11:23 - 23:32 (12:09)
reboot system boot 5.11.0-49-generic Tue Mar 1 12:32 - 00:40 (12:16)
reboot system boot 5.11.0-49-generic Mon Feb 28 10:05 - 23:51 (13:45)
reboot system boot 5.11.0-49-generic Sun Feb 27 08:28 - 00:30 (16:02)
reboot system boot 5.11.0-49-generic Sat Feb 26 14:46 - 23:26 (08:39)
```

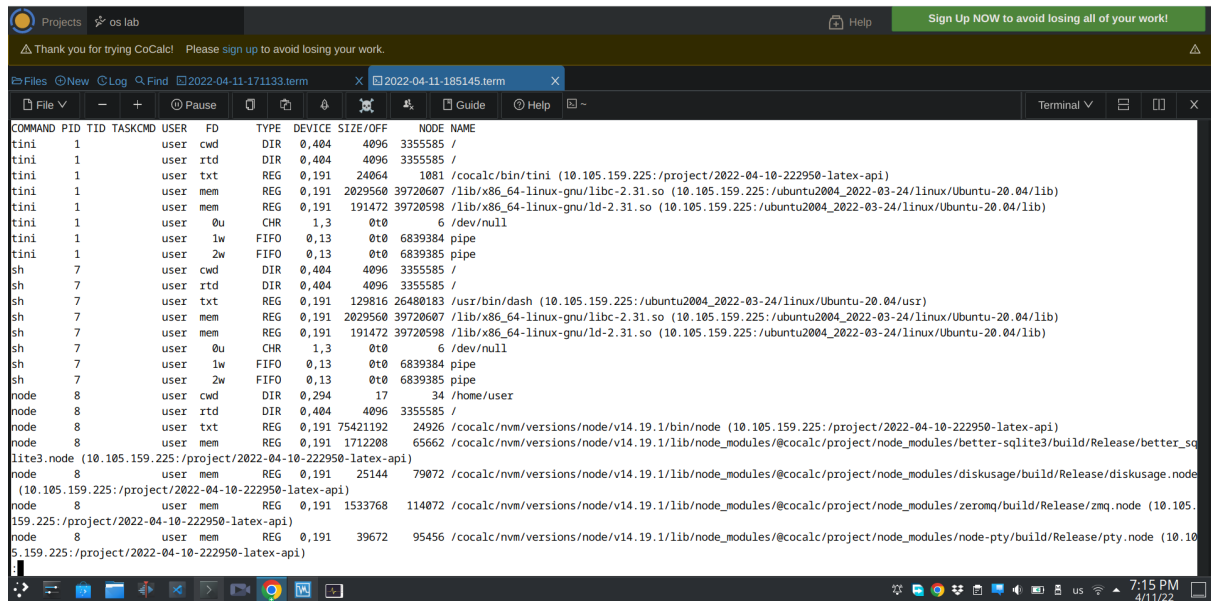
4.

nohup

```
~$ nohup bgp.sh
nohup: ignoring input and appending output to 'nohup.out'
nohup: failed to run command 'bgp.sh': No such file or directory
~$ cat > nohup.out
back gorund process
~$ nohup bash bgp.sh
nohup: ignoring input and appending output to 'nohup.out'
~$ nohup bash bgp.sh &
[1] 444
~$ nohup: ignoring input and appending output to 'nohup.out'

[1]+  Exit 127                  nohup bash bgp.sh
~$ jobs -l
~$ nohup bash bgp.sh &
[1] 472
~$ nohup: ignoring input and appending output to 'nohup.out'
jobs -l
[1]+  472 Exit 127              nohup bash bgp.sh
```

5. Isof

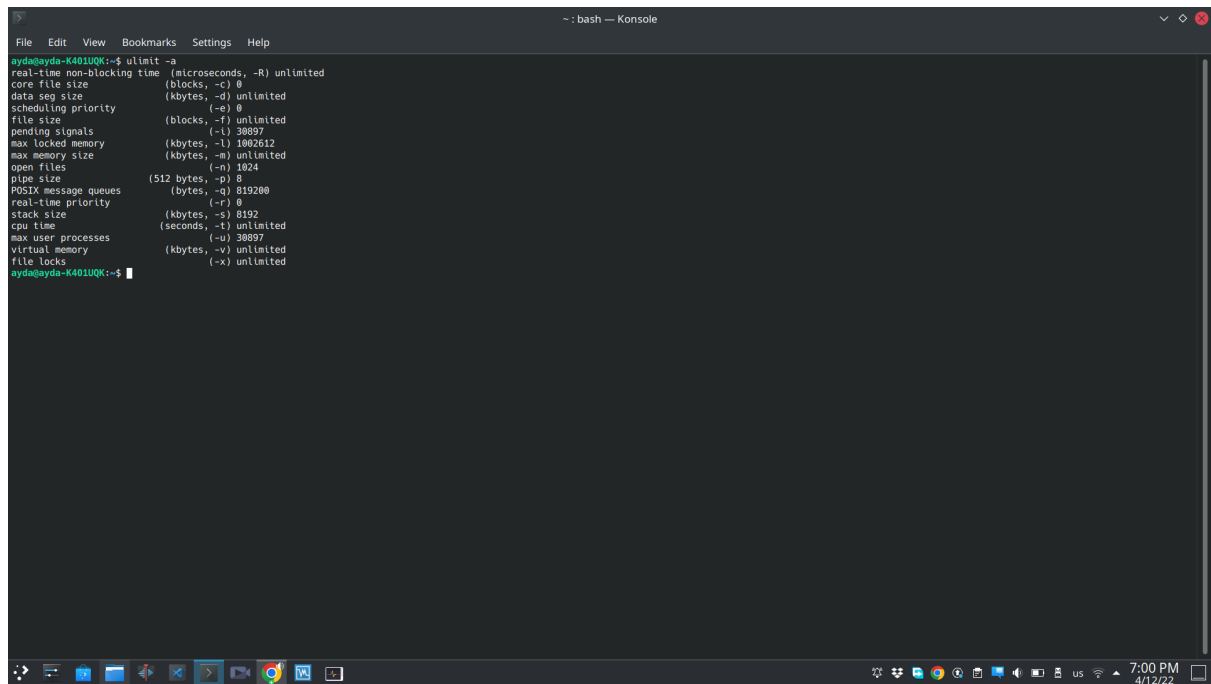


The screenshot shows a CoCalc terminal window with a dark theme. The terminal displays the output of the 'ls -la /proc/2022-04-10-222950-latex-api/2022-04-11-171133.term' command, which lists system processes. The output is a table with columns: COMMAND, PID, TID, TASKCMD, USER, FD, TYPE, DEVICE, SIZE/OFF, and NODE NAME. The processes listed include 'tini', 'sh', and 'node'. The terminal window has a title bar with 'Projects', 'os lab', and a 'Sign Up NOW to avoid losing all of your work!' button. The bottom status bar shows the time as 7:15 PM on 4/11/22.

COMMAND	PID	TID	TASKCMD	USER	FD	TYPE	DEVICE	SIZE/OFF	NODE NAME
tini	1		user	cwd	DIR	0,404	4096	3355585	/
tini	1		user	rtd	DIR	0,404	4096	3355585	/
tini	1		user	txt	REG	0,191	24064	1081	/cocalc/bin/tini (10.105.159.225:/project/2022-04-10-222950-latex-api)
tini	1		user	mem	REG	0,191	2029568	39720607	/lib/x86_64-linux-gnu/libc-2.31.so (10.105.159.225:/ubuntu2004_2022-03-24/linux/Ubuntu-20.04/lib)
tini	1		user	mem	REG	0,191	191472	39720598	/lib/x86_64-linux-gnu/ld-2.31.so (10.105.159.225:/ubuntu2004_2022-03-24/linux/Ubuntu-20.04/lib)
tini	1		user	0u	CHR	1,3	0t0	6	/dev/null
tini	1		user	1w	FIFO	0,13	0t0	6839384	pipe
tini	1		user	2w	FIFO	0,13	0t0	6839385	pipe
sh	7		user	cwd	DIR	0,404	4096	3355585	/
sh	7		user	rtd	DIR	0,404	4096	3355585	/
sh	7		user	txt	REG	0,191	129816	26480183	/usr/bin/dash (10.105.159.225:/ubuntu2004_2022-03-24/linux/Ubuntu-20.04/usr)
sh	7		user	mem	REG	0,191	2029568	39720607	/lib/x86_64-linux-gnu/libc-2.31.so (10.105.159.225:/ubuntu2004_2022-03-24/linux/Ubuntu-20.04/lib)
sh	7		user	mem	REG	0,191	191472	39720598	/lib/x86_64-linux-gnu/ld-2.31.so (10.105.159.225:/ubuntu2004_2022-03-24/linux/Ubuntu-20.04/lib)
sh	7		user	0u	CHR	1,3	0t0	6	/dev/null
sh	7		user	1w	FIFO	0,13	0t0	6839384	pipe
sh	7		user	2w	FIFO	0,13	0t0	6839385	pipe
node	8		user	cwd	DIR	0,294	17	34	/home/user
node	8		user	rtd	DIR	0,404	4096	3355585	/
node	8		user	txt	REG	0,191	75421192	24926	/cocalc/nvm/versions/node/v14.19.1/bin/node (10.105.159.225:/project/2022-04-10-222950-latex-api)
node	8		user	mem	REG	0,191	1712208	65662	/cocalc/nvm/versions/node/v14.19.1/lib/node_modules/@cocalc/project/node_modules/better-sqlite3/build/Release/better_sqlite3.node (10.105.159.225:/project/2022-04-10-222950-latex-api)
node	8		user	mem	REG	0,191	25144	79072	/cocalc/nvm/versions/node/v14.19.1/lib/node_modules/@cocalc/project/node_modules/diskusage/build/Release/diskusage.node (10.105.159.225:/project/2022-04-10-222950-latex-api)
node	8		user	mem	REG	0,191	1533768	114072	/cocalc/nvm/versions/node/v14.19.1/lib/node_modules/@cocalc/project/node_modules/zeromq/build/Release/zmq.node (10.105.159.225:/project/2022-04-10-222950-latex-api)
node	8		user	mem	REG	0,191	39672	95456	/cocalc/nvm/versions/node/v14.19.1/lib/node_modules/@cocalc/project/node_modules/node-pty/build/Release/pty.node (10.105.159.225:/project/2022-04-10-222950-latex-api)

6.

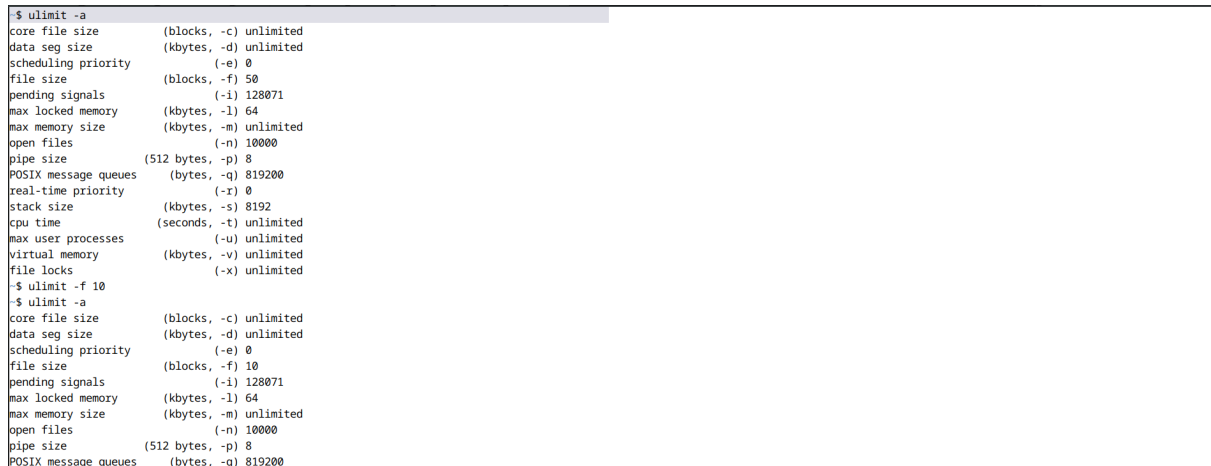
View system resource amount:



```
ayda@ayda-K401UQK:~$ ulimit -a
real-time non-blocking time (microseconds, -R) unlimited
core file size (blocks, -c) 0
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited
pending signals (-i) 38897
max locked memory (kbytes, -l) 1002612
max memory size (kbytes, -m) unlimited
open files (-n) 1024
pipe size (512 bytes, -p) 8
POSIX message queues (bytes, -q) 819200
real-time priority (-r) 0
stack size (kbytes, -s) 8192
cpu time (seconds, -t) unlimited
max user processes (-u) 38897
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited
ayda@ayda-K401UQK:~$
```

Limit system resource amount:

`ulimit -f 10`



```
$ ulimit -a
core file size (blocks, -c) unlimited
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) 10
pending signals (-i) 128071
max locked memory (kbytes, -l) 64
max memory size (kbytes, -m) unlimited
open files (-n) 10000
pipe size (512 bytes, -p) 8
POSIX message queues (bytes, -q) 819200
real-time priority (-r) 0
stack size (kbytes, -s) 8192
cpu time (seconds, -t) unlimited
max user processes (-u) unlimited
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited
$ ulimit -f 10
$ ulimit -a
core file size (blocks, -c) unlimited
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) 10
pending signals (-i) 128071
max locked memory (kbytes, -l) 64
max memory size (kbytes, -m) unlimited
open files (-n) 10000
pipe size (512 bytes, -p) 8
POSIX message queues (bytes, -q) 819200
```

7. cfdisk

Disk: /dev/sda
Size: 931.51 GiB, 1000204886016 bytes, 1953525168 sectors
Label: gpt, Identifier: 9703309C-05A3-4040-BB1D-A46EBC589C30

Device	Start	End	Sectors	Size	Type
>> /dev/sda1	2048	286047	284000	100M	EFI System
/dev/sda2	286048	239615	32768	16M	Microsoft reserved
/dev/sda3	239616	306122412	305882797	145.96	Microsoft basic data
/dev/sda4	306122752	307199999	1077248	520M	Windows recovery environment
/dev/sda5	307200000	308199423	999424	480M	EFI System
/dev/sda6	308199424	323823615	15624192	7.56	Linux swap
/dev/sda7	716800000	1126399999	409600000	195.36	Microsoft basic data
Free space	1126400000	1126400000	0	0	
/dev/sda8	1126402048	1953521663	827119616	394.46	Microsoft basic data
/dev/sda9	323823616	716797951	392974336	187.46	Linux filesystem
Free space	716797952	716797952	0	0	
Free space	1953521664	1953525134	3471	1.7M	

Partition name: EFI system partition
Partition UUID: 9F3C1288-0008-4357-9649-12C681E6838F
Partition type: EFI System (C12A7328-F81F-11D2-BA4B-00A0C93EC93B)
Filesystem UUID: EA43-E358
Filesystem: vfat
Mountpoint: /boot/efi (mounted)

[Delete] [Resize] [] [Type] [Help] [Sort] [Write] [Dump]

Note that partition table entries are not in disk order now.
Quit program without writing changes

parted

8.

du

```
ayda@ayda-K401UQK:~$ du
8      ./PycharmProjects/pythonProject/.idea/inspectionProfiles
48     ./PycharmProjects/pythonProject/.idea
64     ./PycharmProjects/pythonProject
64     ./PycharmProjects/signalsAndSys/.idea/inspectionProfiles
36     ./PycharmProjects/signalsAndSys/.idea
48     ./PycharmProjects/signalsAndSys
8      ./PycharmProjects/pythonProject205/.idea/inspectionProfiles
36     ./PycharmProjects/pythonProject205/.idea
64     ./PycharmProjects/pythonProject205
12     ./PycharmProjects/lcpc/.idea/inspectionProfiles
48     ./PycharmProjects/lcpc/.idea
56     ./PycharmProjects/lcpc
8      ./PycharmProjects/pythonProject1/.idea/inspectionProfiles
48     ./PycharmProjects/pythonProject1/.idea
72     ./PycharmProjects/pythonProject1
388    ./PycharmProjects
4      ./wine/drive_c/ProgramData/Microsoft/Windows/Start Menu/Programs/Administrative Tools
4      ./wine/drive_c/ProgramData/Microsoft/Windows/Start Menu/Programs/Startup
16     ./wine/drive_c/ProgramData/Microsoft/Windows/Start Menu/Programs
12     ./wine/drive_c/ProgramData/Microsoft/Windows/Templates
24     ./wine/drive_c/ProgramData/Microsoft/Windows
28     ./wine/drive_c/ProgramData/Microsoft
592    ./wine/drive_c/ProgramData/Package Cache/(B6EF1186-0882-43B1-AA75-403B032A144A)v3.9.7427.0
596    ./wine/drive_c/ProgramData/Package Cache
668    ./wine/drive_c/ProgramData
4      ./wine/drive_c/users/ayda/SendTo
1924   ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Scripts
24     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/charset/metadata
12     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/charset/cli
116    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/charset
64     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/mspack
116    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/pkg_resources
164    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/distlib/_backport
956    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/distlib
68     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/toml
8      ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/resolve/lib/compat
56     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/resolve/lib
220    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/requests
24     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/progress
276    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/certifi
28     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/cachecontrol/caches
84     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/cachecontrol
132    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/packaging
48     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/webencodings
44     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/colorama
28     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/pep517/in_process
88     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/pep517
164    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/html5lib/_trie
44     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/html5lib/_filters
```

du -h

```
ayda@ayda-K401UQK:~$ du -h
8.0K    ./PycharmProjects/pythonProject/.idea/inspectionProfiles
48K     ./PycharmProjects/pythonProject/.idea
64K     ./PycharmProjects/pythonProject
36K     ./PycharmProjects/signalsAndSys/.idea/inspectionProfiles
48K     ./PycharmProjects/signalsAndSys/.idea
48K     ./PycharmProjects/signalsAndSys
8.0K    ./PycharmProjects/pythonProject205/.idea/inspectionProfiles
36K     ./PycharmProjects/pythonProject205/.idea
64K     ./PycharmProjects/pythonProject205
12K     ./PycharmProjects/lcpc/.idea/inspectionProfiles
48K     ./PycharmProjects/lcpc/.idea
56K     ./PycharmProjects/lcpc
8.0K    ./PycharmProjects/pythonProject1/.idea/inspectionProfiles
48K     ./PycharmProjects/pythonProject1/.idea
72K     ./PycharmProjects/pythonProject1
388K    ./PycharmProjects
4.0K    ./wine/drive_c/ProgramData/Microsoft/Windows/Start Menu/Programs/Administrative Tools
4.0K    ./wine/drive_c/ProgramData/Microsoft/Windows/Start Menu/Programs/Startup
12K     ./wine/drive_c/ProgramData/Microsoft/Windows/Start Menu/Programs
16K     ./wine/drive_c/ProgramData/Microsoft/Windows/Start Menu/Programs
4.0K    ./wine/drive_c/ProgramData/Microsoft/Windows/Templates
24K     ./wine/drive_c/ProgramData/Microsoft/Windows
28K     ./wine/drive_c/ProgramData/Microsoft
592K    ./wine/drive_c/ProgramData/Package Cache/(B6EF1186-0882-43B1-AA75-403B032A144A)v3.9.7427.0
596K    ./wine/drive_c/ProgramData/Package Cache
668K    ./wine/drive_c/ProgramData
4.0K    ./wine/drive_c/users/ayda/SendTo
1.9M    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Scripts
24K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/charset/metadata
12K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/charset/cli
1.1M    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/charset
64K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/mspack
116K    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/pkg_resources
164K    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/distlib/_backport
956K    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/distlib
68K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/toml
8.0K    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/resolve/lib/compat
56K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/resolve/lib
220K    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/requests
24K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/progress
276K    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/certifi
28K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/cachecontrol/caches
84K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/cachecontrol
132K    ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/packaging
48K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/webencodings
44K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/colorama
28K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/pep517/in_process
88K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/pep517
16K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/html5lib/_trie
44K     ./wine/drive_c/users/ayda/PycharmProjects/pythonProject/venv/Lib/site-packages/pip/_vendor/html5lib/_filters
```


9.

`sudo du -h /var`

```
File Edit View Bookmarks Settings Help
ayda@ayda-K401UQK:~$ sudo du -h /var
[sudo] password for ayda:
23M /var/crash
4.0K /var/locall
4.0K /var/metrics
4.0K /var/snap/flutter/common
4.0K /var/snap/flutter/111
12K /var/snap/flutter
4.0K /var/snap/core18/2344
4.0K /var/snap/core18/common
4.0K /var/snap/core18/2284
16K /var/snap/core18
4.0K /var/snap/snapd/14978
4.0K /var/snap/snapd/common
4.0K /var/snap/snapd/15177
16K /var/snap/snapd
4.0K /var/snap/core20/1495
4.0K /var/snap/core20/common
4.0K /var/snap/core20/1376
16K /var/snap/core20
4.0K /var/snap/core/12821
4.0K /var/snap/core/common
4.0K /var/snap/core/12834
16K /var/snap/core
4.0K /var/snap/compress-video/22
4.0K /var/snap/compress-video/23
4.0K /var/snap/compress-video/common
16K /var/snap/compress-video
4.0K /var/snap/pycharm-professional/271
4.0K /var/snap/pycharm-professional/278
4.0K /var/snap/pycharm-professional/common
16K /var/snap/pycharm-professional
4.0K /var/snap/gnome-3-28-1804/common
4.0K /var/snap/gnome-3-28-1804/161
12K /var/snap/gnome-3-28-1804
4.0K /var/snap/gtk-common-themes/1519
4.0K /var/snap/gtk-common-themes/1515
4.0K /var/snap/gtk-common-themes/common
16K /var/snap/gtk-common-themes
4.0K /var/snap/android-studio/common
4.0K /var/snap/android-studio/119
12K /var/snap/android-studio
4.0K /var/snap/bare/5
4.0K /var/snap/bare/common
12K /var/snap/bare
4.0K /var/snap/pycharm-community/267
4.0K /var/snap/pycharm-community/274
4.0K /var/snap/pycharm-community/common
16K /var/snap/pycharm-community
180K /var/snap
4.0K /var/opt
```

`sudo du -h Downloads`

```
File Edit View Bookmarks Settings Help
ayda@ayda-K401UQK:~$ sudo du -h Downloads
324M Downloads/Telegram Desktop
680M Downloads/New Folder
8.0K Downloads/tor-browser_en-US/Browser/icons
33M Downloads/tor-browser_en-US/Browser/fonts
8.0K Downloads/tor-browser_en-US/Browser/defaults/pref
12K Downloads/tor-browser_en-US/Browser/defaults
15M Downloads/tor-browser_en-US/Browser/TorBrowser/Tor/PluggableTransports
1.8M Downloads/tor-browser_en-US/Browser/TorBrowser/Tor/libstdc++
23M Downloads/tor-browser_en-US/Browser/TorBrowser/Tor
9.2M Downloads/tor-browser_en-US/Browser/TorBrowser/Data/Tor
12K Downloads/tor-browser_en-US/Browser/TorBrowser/Data/fontconfig
668K Downloads/tor-browser_en-US/Browser/TorBrowser/Data/Browser/profile.default/extensions
684K Downloads/tor-browser_en-US/Browser/TorBrowser/Data/Browser/profile.default
4.0K Downloads/tor-browser_en-US/Browser/TorBrowser/Data/Browser/Caches
696K Downloads/tor-browser_en-US/Browser/TorBrowser/Data/Browser
9.8M Downloads/tor-browser_en-US/Browser/TorBrowser/Data
12K Downloads/tor-browser_en-US/Browser/TorBrowser/Docs/snowflake
36K Downloads/tor-browser_en-US/Browser/TorBrowser/Docs/Licenses/PluggableTransports
128K Downloads/tor-browser_en-US/Browser/TorBrowser/Docs/Licenses
488K Downloads/tor-browser_en-US/Browser/TorBrowser/Docs
34M Downloads/tor-browser_en-US/Browser/TorBrowser
36K Downloads/tor-browser_en-US/Browser/browser/chrome/icons/default
48K Downloads/tor-browser_en-US/Browser/browser/chrome/icons
44K Downloads/tor-browser_en-US/Browser/browser/chrome
372K Downloads/tor-browser_en-US/Browser/browser/features
15M Downloads/tor-browser_en-US/Browser/browser
8.0K Downloads/tor-browser_en-US/Browser/.config/gtk-3.0
12K Downloads/tor-browser_en-US/Browser/.config
220M Downloads/tor-browser_en-US/Browser
220M Downloads/tor-browser_en-US
4.0K Downloads/eltsmatters.com
2.6G Downloads
ayda@ayda-K401UQK:~$
```

10.

chown test:users test.txt

```
Desktop: bash — Konsole
File Edit View Bookmarks Settings Help
ayda@ayda-K401UQK:~/Desktop$ ls
.sce                                django
'Adobe Creative Cloud.desktop'     django_
Adobe.XD.49.0.12.14               dt8.avi
AI                                  f8books
android-studio-2021.1.1.22-linux.tar.gz  flutter_linux_2.10.3-stable.tar.xz.fdmdownload
blockchain                        frllanseri.avi
Cambridge_Grammar_For_IELTS_Audio_IELTSMatters.com  graph
creative-cloud-linux-master        lets
ctf1                               Java.Twitter.Implementation.Phase1.mp4
'data base'                       Java_twitter_uml_and_views.mp4
Database-System-Concepts-7th-Edition-www.EBooksWorld.ir.rar  JetBrains.PyCharm.2021.2.3.tar.gz
'data transform2.avi'             Kali-Linux-2021.3-vbox-amd64-disk001.vmdk
'data transform3.avi'            Kali-Linux-2021.3-vbox-amd64.mf
'data transform'                 Kali-Linux-2021.3-vbox-amd64.ovf
debian-11.3.0-amd64-netinst.iso   lottery.png
ayda@ayda-K401UQK:~/Desktop$ ls -l test.txt
-rw-rw-r-- 1 ayda ayda 2 Apr 13 08:04 test.txt
ayda@ayda-K401UQK:~/Desktop$ chown test:users test.txt
chown: changing ownership of 'test.txt': Operation not permitted
ayda@ayda-K401UQK:~/Desktop$ sudo chown test:users test.txt
ayda@ayda-K401UQK:~/Desktop$ ls -l test.txt
-rw-rw-r-- 1 test users 2 Apr 13 08:04 test.txt
ayda@ayda-K401UQK:~/Desktop$
```