Nama : Aji Mustaqim

NIM : L200180141

Praktikum Sistem Operasi C
Modul 5
Latihan

Terminal - root@kayon-pc3: /home/kayon-pc3

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top - 17:01:20 up 28 min, 1 user, load average: 0,11, 0,31, 0,57
Tasks: 208 total,   1 running, 154 sleeping,   0 stopped,   0 zombie
%Cpu(s): 5,5 us, 0,6 sy, 0,0 ni, 93,6 id, 0,0 wa, 0,0 hi, 0,3 si, 0,0 st
KiB Mem : 8106416 total, 2841520 free, 1285580 used, 3979316 buff/cache
KiB Swap: 947080 total,   947080 free,   0 used. 6418104 avail Mem

  PID USER   PR NI   VIRT   RES   SHR S %CPU %MEM   TIME+ COMMAND
17994 kayon-p+ 20   0 2785252 257072 127656 S 10,3 3,2   1:34.68 Web Content
  877 root   20   0 383488 78604 56444 S   8,0 1,0   0:39.13 Xorg
10826 kayon-p+ 20   0 385628 28024 22344 S   2,7 0,3   0:00.08 xfce4-screensho
 8024 kayon-p+ 20   0 588264 41260 30528 S   2,0 0,5   0:04.39 xfce4-terminal
 6237 kayon-p+ 20   0 3178992 295456 145196 S   1,0 3,6   0:49.43 firefox
 1713 kayon-p+ 20   0 403240 30264 23232 S   0,3 0,4   0:02.63 xfwm4
 1717 kayon-p+ 20   0 420260 30840 23860 S   0,3 0,4   0:01.28 xfce4-panel
 9310 kayon-p+ 20   0 2718852 216856 125976 S   0,3 2,7   0:12.76 Web Content
10825 root   20   0   51788   4176   3416 R   0,3 0,1   0:00.04 top
    1 root   20   0 225516   9560   6980 S   0,0 0,1   0:03.20 systemd
    2 root   20   0   0   0   0 S   0,0 0,0   0:00.00 kthreadd
    3 root   0 -20   0   0   0 I   0,0 0,0   0:00.00 rcu_gp
    4 root   0 -20   0   0   0 I   0,0 0,0   0:00.00 rcu_par_gp
    6 root   0 -20   0   0   0 I   0,0 0,0   0:00.00 kworker/0:0H-kb
    8 root   0 -20   0   0   0 I   0,0 0,0   0:00.00 mm_percpu_wq
    9 root   20   0   0   0   0 S   0,0 0,0   0:00.14 ksoftirqd/0
   10 root   20   0   0   0   0 I   0,0 0,0   0:00.78 rcu_sched
   11 root   20   0   0   0   0 I   0,0 0,0   0:00.00 rcu_bh
   12 root   rt   0   0   0   0 S   0,0 0,0   0:00.01 migration/0
   13 root   rt   0   0   0   0 S   0,0 0,0   0:00.00 watchdog/0
   14 root   20   0   0   0   0 S   0,0 0,0   0:00.00 cpuhp/0
   15 root   20   0   0   0   0 S   0,0 0,0   0:00.00 cpuhp/1
   16 root   rt   0   0   0   0 S   0,0 0,0   0:00.00 watchdog/1
   17 root   rt   0   0   0   0 S   0,0 0,0   0:00.01 migration/1
   18 root   20   0   0   0   0 S   0,0 0,0   0:00.14 ksoftirqd/1
   20 root   0 -20   0   0   0 I   0,0 0,0   0:00.00 kworker/1:0H-kb
   21 root   20   0   0   0   0 S   0,0 0,0   0:00.00 cpuhp/2
   22 root   rt   0   0   0   0 S   0,0 0,0   0:00.00 watchdog/2
   23 root   rt   0   0   0   0 S   0,0 0,0   0:00.01 migration/2
   24 root   20   0   0   0   0 S   0,0 0,0   0:00.12 ksoftirqd/2
   26 root   0 -20   0   0   0 I   0,0 0,0   0:00.00 kworker/2:0H-kb
   27 root   20   0   0   0   0 S   0,0 0,0   0:00.00 cpuhp/3
   28 root   rt   0   0   0   0 S   0,0 0,0   0:00.00 watchdog/3
   29 root   rt   0   0   0   0 S   0,0 0,0   0:00.01 migration/3
   30 root   20   0   0   0   0 S   0,0 0,0   0:00.12 ksoftirqd/3
   32 root   0 -20   0   0   0 I   0,0 0,0   0:00.00 kworker/3:0H-kb
   33 root   20   0   0   0   0 S   0,0 0,0   0:00.00 kdevtmpfs
   34 root   0 -20   0   0   0 I   0,0 0,0   0:00.00 netns

Terminal - root@kayon-pc3: /home/kayon-pc3

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root@kayon-pc3:/home/kayon-pc3# echo $SHELL
/bin/bash
root@kayon-pc3:/home/kayon-pc3# echo {con,pre}{sent,fer}{s,ed}
consents consented confers confered presents presented prefers prefered
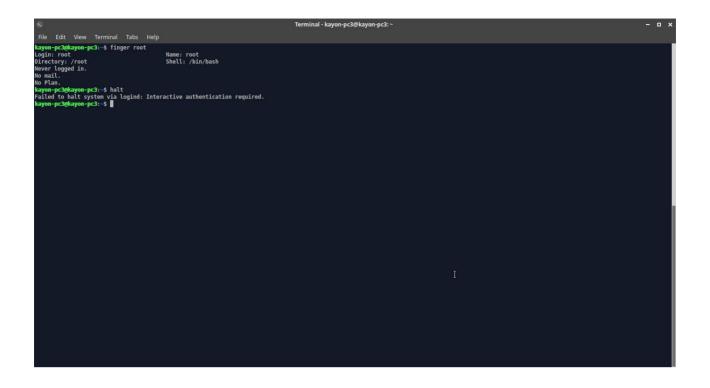root@kayon-pc3:/home/kayon-pc3#

NAME
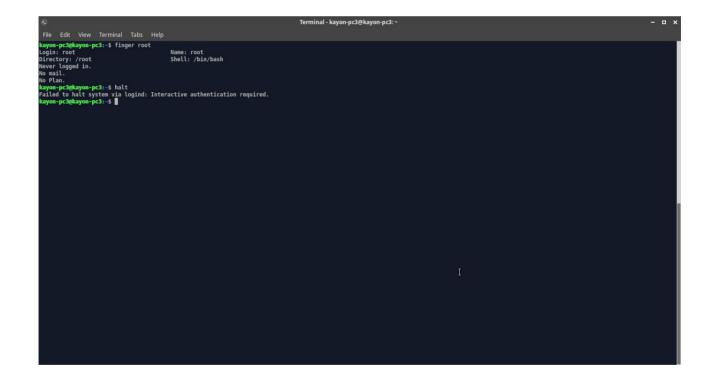   ls - list directory contents

SYNOPSIS
       ls [OPTION]... [FILE]...

DESCRIPTION
       List information about the FILEs (the current directory by default). Sort entries alphabetically if none of **-cftuvSUX** nor **--sort** is specified.

       Mandatory arguments to long options are mandatory for short options too.

       -a, **--all**
              do not ignore entries starting with .

       -A, **--almost-all**
              do not list implied . and ..

       --author
              with **-l**, print the author of each file

       -b, **--escape**
              print C-style escapes for nongraphic characters

       --block-size=SIZE
              scale sizes by SIZE before printing them; e.g., '--block-size=M' prints sizes in units of 1,048,576 bytes; see SIZE format below

       -B, **--ignore-backups**
              do not list implied entries ending with ~

       -c   with **-lt**: sort by, and show, ctime (time of last modification of file status information); with **-l**: show ctime and sort by name; otherwise: sort by ctime, newest first

       -C   list entries by columns

       --color[=WHEN]
              colorize the output; WHEN can be 'always' (default if omitted), 'auto', or 'never'; more info below

       -d, **--directory**
              list directories themselves, not their contents

       -D, **--dired**
              generate output designed for Emacs' dired mode

 Manual page ls(1) line 1 (press h for help or q to quit)

NAME
       who - show who is logged on

SYNOPSIS
       who [OPTION]... [FILE | ARG1 ARG2]

DESCRIPTION
       Print information about users who are currently logged in.

       -a, **--all**
              same as **-b -d --login -p -r -t -T -u**

       -b, **--boot**
              time of last system boot

       -d, **--dead**
              print dead processes

       -H, **--heading**
              print line of column headings

       --ips print ips instead of hostnames. with **--lookup**, canonicalizes based on stored IP, if available, rather than stored hostname

       -l, **--login**
              print system login processes

       --lookup
              attempt to canonicalize hostnames via DNS

       -m   only hostname and user associated with stdin

       -p, **--process**
              print active processes spawned by init

       -q, **--count**
              all login names and number of users logged on

       -r, **--runlevel**
              print current runlevel

       -s, **--short**
              print only name, line, and time (default)
 Manual page who(1) line 1 (press h for help or q to quit)

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```
root@kayon-pc3:/home/kayon-pc3# who can tell me about linux
who: extra operand 'me'
Try 'who --help' for more information.
root@kayon-pc3:/home/kayon-pc3# last
kayon-pc tty7        :0               Wed Oct  9 23:34   gone - no logout
reboot   system boot  4.18.0-22-generi Wed Oct  9 23:33   still running
kayon-pc tty7        :0               Tue Oct  8 16:15 - 17:41  (01:25)
reboot   system boot  4.18.0-22-generi Tue Oct  8 16:15 - 17:41  (01:26)
kayon-pc tty7        :0               Tue Oct  8 15:15 - 15:35  (00:19)
reboot   system boot  4.18.0-22-generi Tue Oct  8 15:15 - 15:35  (00:20)
kayon-pc tty7        :0               Tue Oct  8 15:06 - 15:10  (00:04)
reboot   system boot  4.18.0-22-generi Tue Oct  8 15:05 - 15:14  (00:08)
kayon-pc tty7        :0               Tue Oct  8 14:55 - 15:05  (00:09)
reboot   system boot  4.18.0-22-generi Tue Oct  8 14:55 - 15:05  (00:09)

wtmp begins Tue Oct  8 14:48:12 2019
root@kayon-pc3:/home/kayon-pc3# fdisk -l
Disk /dev/sda: 465,8 GiB, 500107862016 bytes, 976773168 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disklabel type: dos
Disk identifier: 0x80e875a7


Device     Boot     Start       End    Sectors   Size Id Type
/dev/sda1  *         2048    206847     204800   100M  7 HPFS/NTFS/exFAT
/dev/sda2          206848 409602047  409395200 195,2G  7 HPFS/NTFS/exFAT
/dev/sda3       409602048 935811071  526209024 250,9G  7 HPFS/NTFS/exFAT
/dev/sda4       935811072 976771071   40960000  19,5G 83 Linux


root@kayon-pc3:/home/kayon-pc3# users
kayon-pc3
root@kayon-pc3:/home/kayon-pc3# cat /etc/fstab
# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point>   <type>  <options>       <dump>  <pass>
# / was on /dev/sda4 during installation
UUID=3b84dc42-e5c5-4cb3-af44-24c40b35d2ff /               ext4    errors=remount-ro 0       1
/swapfile                                 none            swap    sw              0       0
root@kayon-pc3:/home/kayon-pc3#
```

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```
/swapfile                                 none            swap    sw              0       0
root@kayon-pc3:/home/kayon-pc3# clear

root@kayon-pc3:/home/kayon-pc3# cal 2000
                            2000
       Januari               Februari               Maret
Mi Se Se Ra Ka Ju Sa   Mi Se Se Ra Ka Ju Sa   Mi Se Se Ra Ka Ju Sa
                   1          1  2  3  4  5             1  2  3  4
 2  3  4  5  6  7  8    6  7  8  9 10 11 12    5  6  7  8  9 10 11
 9 10 11 12 13 14 15   13 14 15 16 17 18 19   12 13 14 15 16 17 18
16 17 18 19 20 21 22   20 21 22 23 24 25 26   19 20 21 22 23 24 25
23 24 25 26 27 28 29   27 28 29              26 27 28 29 30 31
30 31

        April                   Mei                    Juni
Mi Se Se Ra Ka Ju Sa   Mi Se Se Ra Ka Ju Sa   Mi Se Se Ra Ka Ju Sa
                   1       1  2  3  4  5  6             1  2  3
 2  3  4  5  6  7  8    7  8  9 10 11 12 13    4  5  6  7  8  9 10
 9 10 11 12 13 14 15   14 15 16 17 18 19 20   11 12 13 14 15 16 17
16 17 18 19 20 21 22   21 22 23 24 25 26 27   18 19 20 21 22 23 24
23 24 25 26 27 28 29   28 29 30 31           25 26 27 28 29 30
30

        Juli                  Agustus              September
Mi Se Se Ra Ka Ju Sa   Mi Se Se Ra Ka Ju Sa   Mi Se Se Ra Ka Ju Sa
                   1          1  2  3  4  5                1  2
 2  3  4  5  6  7  8    6  7  8  9 10 11 12    3  4  5  6  7  8  9
 9 10 11 12 13 14 15   13 14 15 16 17 18 19   10 11 12 13 14 15 16
16 17 18 19 20 21 22   20 21 22 23 24 25 26   17 18 19 20 21 22 23
23 24 25 26 27 28 29   27 28 29 30 31        24 25 26 27 28 29 30
30 31

       Oktober               November              Desember
Mi Se Se Ra Ka Ju Sa   Mi Se Se Ra Ka Ju Sa   Mi Se Se Ra Ka Ju Sa
 1  2  3  4  5  6  7             1  2  3  4                1  2
 8  9 10 11 12 13 14    5  6  7  8  9 10 11    3  4  5  6  7  8  9
15 16 17 18 19 20 21   12 13 14 15 16 17 18   10 11 12 13 14 15 16
22 23 24 25 26 27 28   19 20 21 22 23 24 25   17 18 19 20 21 22 23
29 30 31              26 27 28 29 30         24 25 26 27 28 29 30
                                             31
root@kayon-pc3:/home/kayon-pc3# cal 9 1752
   September 1752
Mi Se Se Ra Ka Ju Sa
       1  2 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
```

```
Terminal - kayon-pc3@kayon-pc3:~

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kayon-pc3@kayon-pc3:~$ cal 10 2007
    Oktober 2007
Mi Se Se Ra Ka Ju Sa
    1  2  3  4  5  6
 7  8  9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31

kayon-pc3@kayon-pc3:~$ bc -l
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006, 2008, 2012-2017 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
quit
kayon-pc3@kayon-pc3:~$ pwd
/home/kayon-pc3
kayon-pc3@kayon-pc3:~$ history
    1  sudo su
    2  sudo apt install grub-customizer
    3  sudo apt-install grub-cus
    4  sudo apt install grub-customizer
    5  sudo su
    6  labrpl
    7  sudo su
    8  man ls
    9  man who
   10  who can tell me about linux
   11  fdisk -l
   12  bc -l
   13  lsmod
   14  ps -axu
   15  lspci
   16  free
   17  cat /proc/cpuinfo
   18  finger root
   19  finger
   20  top
   21  dmesg | more
   22  uname -a
   23  init 0
   24  sudo su
   25  ls
   26  ls -l
   27  ls //home
   28  what ls
```

```
Terminal - kayon-pc3@kayon-pc3:~

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kayon-pc3@kayon-pc3:~$ lsmod
Module                  Size  Used by
ufs                    77824  0
qnx4                   16384  0
hfsplus               106496  0
hfs                    57344  0
minix                  32768  0
ntfs                  102400  0
msdos                  20480  0
jfs                   188416  0
xfs                  1290240  0
cpuid                  16384  0
input_leds             16384  0
joydev                 24576  0
snd_hda_codec_hdmi     49152  1
nvidia_uvm            815104  0
eeepc_wmi              16384  0
asus_wmi               28672  1 eeepc_wmi
sparse_keymap          16384  1 asus_wmi
wmi_bmof               16384  0
gpio_ich               16384  0
intel_rapl             20480  0
x86_pkg_temp_thermal   16384  0
intel_powerclamp       16384  0
coretemp               16384  0
snd_hda_codec_realtek 106496  1
kvm_intel             208896  0
snd_hda_codec_generic  73728  1 snd_hda_codec_realtek
kvm                   626688  1 kvm_intel
irqbypass              16384  1 kvm
crct10dif_pclmul       16384  0
crc32_pclmul           16384  0
ghash_clmulni_intel    16384  0
pcbc                   16384  0
snd_hda_intel          40960  2
snd_hda_codec         126976  4 snd_hda_codec_generic,snd_hda_codec_hdmi,snd_hda_intel,snd_hda_codec_realtek
snd_hda_core           81920  5 snd_hda_codec_generic,snd_hda_codec_hdmi,snd_hda_intel,snd_hda_codec,snd_hda_codec_realtek
snd_hwdep              20480  1 snd_hda_codec
snd_pcm                98304  4 snd_hda_codec_hdmi,snd_hda_intel,snd_hda_codec,snd_hda_core
aesni_intel           200704  0
aes_x86_64             20480  1 aesni_intel
crypto_simd            16384  1 aesni_intel
cryptd                 24576  3 crypto_simd,ghash_clmulni_intel,aesni_intel
snd_seq_midi           16384  0
snd_seq_midi_event     16384  1 snd_seq_midi
glue_helper            16384  1 aesni_intel
```

```
Terminal - kayon-pc3@kayon-pc3: ~
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kayon-pc3@kayon-pc3:~$ ps -axu
USER       PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.1  0.1 225516  9560 ?        Ss   16:33   0:03 /lib/systemd/systemd --system --deserialize 41
root         2  0.0  0.0      0     0 ?        S    16:33   0:00 [kthreadd]
root         3  0.0  0.0      0     0 ?        I<   16:33   0:00 [rcu_gp]
root         4  0.0  0.0      0     0 ?        I<   16:33   0:00 [rcu_par_gp]
root         6  0.0  0.0      0     0 ?        I<   16:33   0:00 [kworker/0:0H-kb]
root         8  0.0  0.0      0     0 ?        I<   16:33   0:00 [mm_percpu_wq]
root         9  0.0  0.0      0     0 ?        S    16:33   0:00 [ksoftirqd/0]
root        10  0.0  0.0      0     0 ?        I    16:33   0:00 [rcu_sched]
root        11  0.0  0.0      0     0 ?        I    16:33   0:00 [rcu_bh]
root        12  0.0  0.0      0     0 ?        S    16:33   0:00 [migration/0]
root        13  0.0  0.0      0     0 ?        S    16:33   0:00 [watchdog/0]
root        14  0.0  0.0      0     0 ?        S    16:33   0:00 [cpuhp/0]
root        15  0.0  0.0      0     0 ?        S    16:33   0:00 [cpuhp/1]
root        16  0.0  0.0      0     0 ?        S    16:33   0:00 [watchdog/1]
root        17  0.0  0.0      0     0 ?        S    16:33   0:00 [migration/1]
root        18  0.0  0.0      0     0 ?        S    16:33   0:00 [ksoftirqd/1]
root        20  0.0  0.0      0     0 ?        I<   16:33   0:00 [kworker/1:0H-kb]
root        21  0.0  0.0      0     0 ?        S    16:33   0:00 [cpuhp/2]
root        22  0.0  0.0      0     0 ?        S    16:33   0:00 [watchdog/2]
root        23  0.0  0.0      0     0 ?        S    16:33   0:00 [migration/2]
root        24  0.0  0.0      0     0 ?        S    16:33   0:00 [ksoftirqd/2]
root        26  0.0  0.0      0     0 ?        I<   16:33   0:00 [kworker/2:0H-kb]
root        27  0.0  0.0      0     0 ?        S    16:33   0:00 [cpuhp/3]
root        28  0.0  0.0      0     0 ?        S    16:33   0:00 [watchdog/3]
root        29  0.0  0.0      0     0 ?        S    16:33   0:00 [migration/3]
root        30  0.0  0.0      0     0 ?        S    16:33   0:00 [ksoftirqd/3]
root        32  0.0  0.0      0     0 ?        I<   16:33   0:00 [kworker/3:0H-kb]
root        33  0.0  0.0      0     0 ?        S    16:33   0:00 [kdevtmpfs]
root        34  0.0  0.0      0     0 ?        I<   16:33   0:00 [netns]
root        35  0.0  0.0      0     0 ?        S    16:33   0:00 [rcu_tasks_kthre]
root        36  0.0  0.0      0     0 ?        S    16:33   0:00 [kauditd]
root        37  0.0  0.0      0     0 ?        I    16:33   0:00 [kworker/0:1-eve]
root        40  0.0  0.0      0     0 ?        S    16:33   0:00 [khungtaskd]
root        41  0.0  0.0      0     0 ?        S    16:33   0:00 [oom_reaper]
root        42  0.0  0.0      0     0 ?        I<   16:33   0:00 [writeback]
root        43  0.0  0.0      0     0 ?        S    16:33   0:00 [kcompactd0]
root        44  0.0  0.0      0     0 ?        SN   16:33   0:00 [ksmd]
root        45  0.0  0.0      0     0 ?        SN   16:33   0:00 [khugepaged]
root        46  0.0  0.0      0     0 ?        I<   16:33   0:00 [crypto]
root        47  0.0  0.0      0     0 ?        I<   16:33   0:00 [kintegrityd]
root        48  0.0  0.0      0     0 ?        I<   16:33   0:00 [kblockd]
root        49  0.0  0.0      0     0 ?        I    16:33   0:00 [kworker/3:1-eve]
root        50  0.0  0.0      0     0 ?        I<   16:33   0:00 [ata_sff]
root        51  0.0  0.0      0     0 ?        I<   16:33   0:00 [md]
```

```
Terminal - kayon-pc3@kayon-pc3: ~
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kayon-pc3@kayon-pc3:~$ lspci
00:00.0 Host bridge: Intel Corporation 4th Gen Core Processor DRAM Controller (rev 06)
00:01.0 PCI bridge: Intel Corporation Xeon E3-1200 v3/4th Gen Core Processor PCI Express x16 Controller (rev 06)
00:14.0 USB controller: Intel Corporation 8 Series/C220 Series Chipset Family USB xHCI (rev 05)
00:16.0 Communication controller: Intel Corporation 8 Series/C220 Series Chipset Family MEI Controller #1 (rev 04)
00:1a.0 USB controller: Intel Corporation 8 Series/C220 Series Chipset Family USB EHCI #2 (rev 05)
00:1b.0 Audio device: Intel Corporation 8 Series/C220 Series Chipset High Definition Audio Controller (rev 05)
00:1c.0 PCI bridge: Intel Corporation 8 Series/C220 Series Chipset Family PCI Express Root Port #1 (rev d5)
00:1c.2 PCI bridge: Intel Corporation 8 Series/C220 Series Chipset Family PCI Express Root Port #3 (rev d5)
00:1c.5 PCI bridge: Intel Corporation 82801 PCI Bridge (rev d5)
00:1d.0 USB controller: Intel Corporation 8 Series/C220 Series Chipset Family USB EHCI #1 (rev 05)
00:1f.0 ISA bridge: Intel Corporation H81 Express LPC Controller (rev 05)
00:1f.2 SATA controller: Intel Corporation 8 Series/C220 Series Chipset Family 6-port SATA Controller 1 [AHCI mode] (rev 05)
00:1f.3 SMBus: Intel Corporation 8 Series/C220 Series Chipset Family SMBus Controller (rev 05)
01:00.0 VGA compatible controller: NVIDIA Corporation GM107 [GeForce GTX 750 Ti] (rev a2)
01:00.1 Audio device: NVIDIA Corporation Device 0fbc (rev a1)
03:00.0 Ethernet controller: Realtek Semiconductor Co., Ltd. RTL8111/8168/8411 PCI Express Gigabit Ethernet Controller (rev 11)
04:00.0 PCI bridge: ASMedia Technology Inc. ASM1083/1085 PCIe to PCI Bridge (rev 04)
kayon-pc3@kayon-pc3:~$ free
              total        used        free      shared  buff/cache   available
Mem:        8106416     1434680     2682820      100664     3988916     6267860
Swap:        947080           0      947080
kayon-pc3@kayon-pc3:~$ cat /proc/cpuinfo
processor       : 0
vendor_id       : GenuineIntel
cpu family      : 6
model           : 60
model name      : Intel(R) Core(TM) i5-4590 CPU @ 3.30GHz
stepping        : 3
microcode       : 0x27
cpu MHz         : 2430.081
cache size      : 6144 KB
physical id     : 0
siblings        : 4
core id         : 0
cpu cores       : 4
apicid          : 0
initial apicid  : 0
fpu             : yes
fpu_exception   : yes
cpuid level     : 13
wp              : yes
flags           : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon
pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadli
ne_timer aes xsave avx f16c rdrand lahf_lm abm cpuid_fault epb invpcid_single pti ssbd ibrs ibpb stibp tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid
```

```
kayon-pc3@kayon-pc3:~$ finger root
Login: root                       Name: root
Directory: /root                  Shell: /bin/bash
Never logged in.
No mail.
No Plan.
kayon-pc3@kayon-pc3:~$ halt
Failed to halt system via logind: Interactive authentication required.
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```

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```

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```
kayon-pc3@kayon-pc3:~$ free
              total        used        free      shared  buff/cache   available
Mem:        8106416     1420156     2701516       93228     3984744     6289816
Swap:        947080           0      947080
kayon-pc3@kayon-pc3:~$ pstree
systemd─┬─ModemManager───2*[{ModemManager}]
        ├─NetworkManager─┬─dhclient
        │                └─2*[{NetworkManager}]
        ├─Thunar───2*[{Thunar}]
        ├─accounts-daemon───2*[{accounts-daemon}]
        ├─acpid
        ├─avahi-daemon───avahi-daemon
        ├─cron
        ├─cups-browsed───2*[{cups-browsed}]
        ├─cupsd
        ├─dbus-daemon
        ├─fwupd───4*[{fwupd}]
        ├─gnome-keyring-d───3*[{gnome-keyring-d}]
        ├─irqbalance───{irqbalance}
        ├─2*[kerneloops]
        ├─lightdm─┬─Xorg───{Xorg}
        │         ├─lightdm─┬─sh───ssh-agent
        │         │         └─xfce4-session─┬─applet.py───{applet.py}
        │         │                         ├─blueman-applet───3*[{blueman-applet}]
        │         │                         ├─light-locker───3*[{light-locker}]
        │         │                         ├─nm-applet───3*[{nm-applet}]
        │         │                         ├─polkit-gnome-au───2*[{polkit-gnome-au}]
        │         │                         ├─update-notifier───3*[{update-notifier}]
        │         │                         └─2*[{xfce4-session}]
        │         └─2*[{lightdm}]
        ├─lvmetad
        ├─networkd-dispat───{networkd-dispat}
        ├─nvidia-persiste
        ├─packagekitd───2*[{packagekitd}]
        ├─polkitd───2*[{polkitd}]
        ├─pulseaudio───{pulseaudio}
        ├─python3───2*[{python3}]
        ├─rsyslogd───3*[{rsyslogd}]
        ├─rtkit-daemon───2*[{rtkit-daemon}]
        ├─sshd
        ├─systemd─┬─(sd-pam)
        │         ├─at-spi-bus-laun─┬─dbus-daemon
        │         │                 └─3*[{at-spi-bus-laun}]
        │         ├─at-spi2-registr───2*[{at-spi2-registr}]
        │         ├─dbus-daemon
```

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```
kayon-pc3@kayon-pc3:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
kayon-pc3@kayon-pc3:~$ ls -l
total 32
drwxr-xr-x 2 kayon-pc3 kayon-pc3 4096 Sep  4 10:30 Desktop
drwxr-xr-x 2 kayon-pc3 kayon-pc3 4096 Okt  9 17:13 Documents
drwxr-xr-x 2 kayon-pc3 kayon-pc3 4096 Sep  4 10:30 Downloads
drwxr-xr-x 2 kayon-pc3 kayon-pc3 4096 Sep  4 10:30 Music
drwxr-xr-x 2 kayon-pc3 kayon-pc3 4096 Sep  4 10:30 Pictures
drwxr-xr-x 2 kayon-pc3 kayon-pc3 4096 Sep  4 10:30 Public
drwxr-xr-x 2 kayon-pc3 kayon-pc3 4096 Sep  4 10:30 Templates
drwxr-xr-x 2 kayon-pc3 kayon-pc3 4096 Sep  4 10:30 Videos
kayon-pc3@kayon-pc3:~$ ls -l/home
ls: invalid option -- '/'
Try 'ls --help' for more information.
kayon-pc3@kayon-pc3:~$ whatis ls
ls (1)               - list directory contents
kayon-pc3@kayon-pc3:~$ whatis mkdir
mkdir (1)            - make directories
mkdir (2)            - create a directory
kayon-pc3@kayon-pc3:~$ mkdir informatika
kayon-pc3@kayon-pc3:~$ rmdir informatika
kayon-pc3@kayon-pc3:~$ touch rpl.txt
kayon-pc3@kayon-pc3:~$ rm rpl.txt
kayon-pc3@kayon-pc3:~$ which mkdir
/bin/mkdir
kayon-pc3@kayon-pc3:~$ whereis ls
ls: /bin/ls /usr/share/man/man1/ls.1.gz
kayon-pc3@kayon-pc3:~$ df
Filesystem     1K-blocks      Used Available Use% Mounted on
udev             4012956         0   4012956   0% /dev
tmpfs             810644      1372    809272   1% /run
/dev/sda4       20027216   9157980   9828852  49% /
tmpfs            4053208     67896   3985312   2% /dev/shm
tmpfs               5120         4      5116   1% /run/lock
tmpfs            4053208         0   4053208   0% /sys/fs/cgroup
tmpfs             810640        32    810608   1% /run/user/1000
kayon-pc3@kayon-pc3:~$ du
4       ./Desktop
4       ./Templates
616     ./.thumbnails/normal
620     ./.thumbnails
4       ./.gnupg/private-keys-v1.d
8       ./.gnupg
4       ./Pictures
```

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```