

a) top: processz aktivitást mutató parancs, valós idejű módban készít jelentést a futó rendszerről

```
mint@mint: ~  
File Edit View Search Terminal Help  
top - 14:04:44 up 1 min, 1 user, load average: 5.66, 1.74, 0.60  
Tasks: 151 total, 2 running, 149 sleeping, 0 stopped, 0 zombie  
%Cpu(s): 75.4 us, 10.1 sy, 0.0 ni, 6.9 id, 0.0 wa, 0.0 hi, 7.6 si, 0.0 st  
MiB Mem : 3936.4 total, 2440.9 free, 588.0 used, 907.5 buff/cache  
MiB Swap: 0.0 total, 0.0 free, 0.0 used. 3023.9 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1861	mint	20	0	710532	54040	16948	R	85.7	1.3	0:02.86	flatpak
1622	mint	20	0	3282972	190272	112448	S	2.0	4.7	0:07.52	cinnamon
996	root	20	0	280060	75472	47748	S	1.7	1.9	0:01.27	Xorg
1837	mint	20	0	465724	39460	30908	S	1.3	1.0	0:00.37	gnome-t+
10	root	20	0	0	0	0	S	0.3	0.0	0:00.23	ksoftir+
11	root	20	0	0	0	0	I	0.3	0.0	0:00.31	rcu_sch+
1883	mint	20	0	13604	3740	3236	R	0.3	0.1	0:00.02	top
1	root	20	0	102092	11472	8464	S	0.0	0.3	0:02.55	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+
5	root	20	0	0	0	0	I	0.0	0.0	0:00.00	kworker+
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+
7	root	20	0	0	0	0	I	0.0	0.0	0:00.20	kworker+
8	root	20	0	0	0	0	I	0.0	0.0	0:00.01	kworker+
9	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	mm_perc+
12	root	rt	0	0	0	0	S	0.0	0.0	0:00.00	migrati+

b) vmstat: rendszer aktivitásról, a hardverről és a rendszerről nyújt információkat

```
mint@mint: ~  
File Edit View Search Terminal Help  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
mint@mint:~$ vmstat -a  
procs -----memory----- --swap-- -----io---- -system-- -----cpu-----  
r b swpd free inact active si so bi bo in cs us sy id wa st  
0 0 0 2509508 563916 796508 0 0 2581 0 332 1815 32 10 57 0  
0  
mint@mint:~$
```

```
root@mint: /home/mint
File Edit View Search Terminal Help

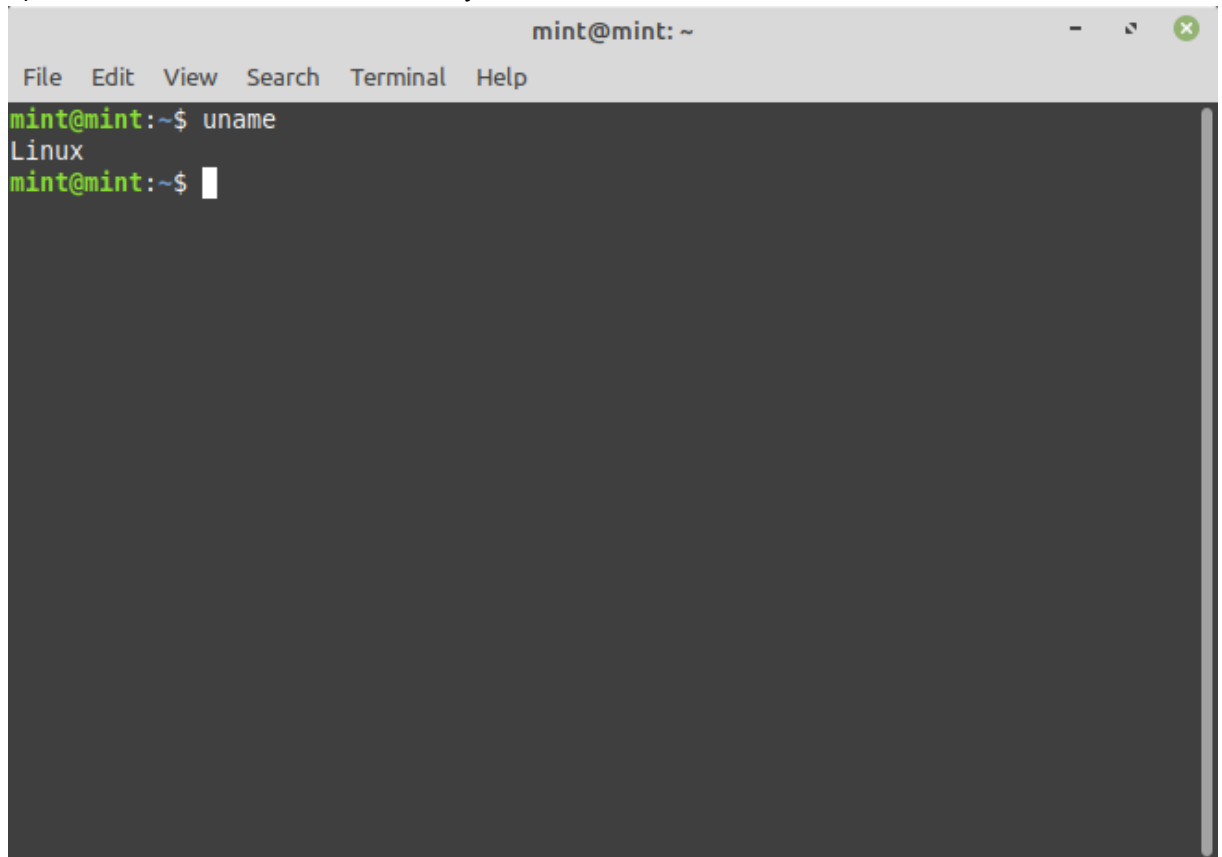
mint@mint:~$ sudo -s
root@mint:/home/mint# vmstat -m
Cache              Num  Total  Size  Pages
ovl_inode          10883 11776   688    23
isofs_inode_cache   576    576   656    12
fsverity_info       0        0   248    16
ip6-frags           0        0   184    22
PINGv6              0        0  1216    13
RAWv6               26     26  1216    13
UDIPv6              36     36  1344    12
tw_sock_TCPv6        0        0   248    16
request_sock_TCPv6   0        0   304    13
TCPv6               26     26  2368    13
kcopyd_job           0        0  3312     9
dm_uevent            0        0  2632    12
scsi_sense_cache     32     32   128    32
mqueue_inode_cache   8        8   960     8
fuse_request         28     28   144    28
fuse_inode           19     19   832    19
ecryptfs_key_record_cache 0        0   576    14
ecryptfs_inode_cache 0        0  1024     8
ecryptfs_file_cache  0        0    16   256
ecryptfs_auth_tok_list_item 0        0   832    19
```

c) w username: ki van bejelentkezve a rendszerbe, és éppen mit csinál

```
mint@mint: ~  
File Edit View Search Terminal Help  
mint@mint:~$ w mint  
14:10:30 up 6 min, 1 user, load average: 0.09, 0.63, 0.46  
USER      TTY      FROM          LOGIN@      IDLE        JCPU        PCPU WHAT  
mint      tty7      :0            14:03       6:33       8.12s      0.72s cinnamon-sessio  
mint@mint:~$
```

```
mint@mint: ~  
File Edit View Search Terminal Help  
mint@mint:~$ who  
mint      tty7      2021-02-23 14:03 (:0)  
mint@mint:~$ whoami  
mint  
mint@mint:~$
```

d) uname: szerver futásának kezdő ideje



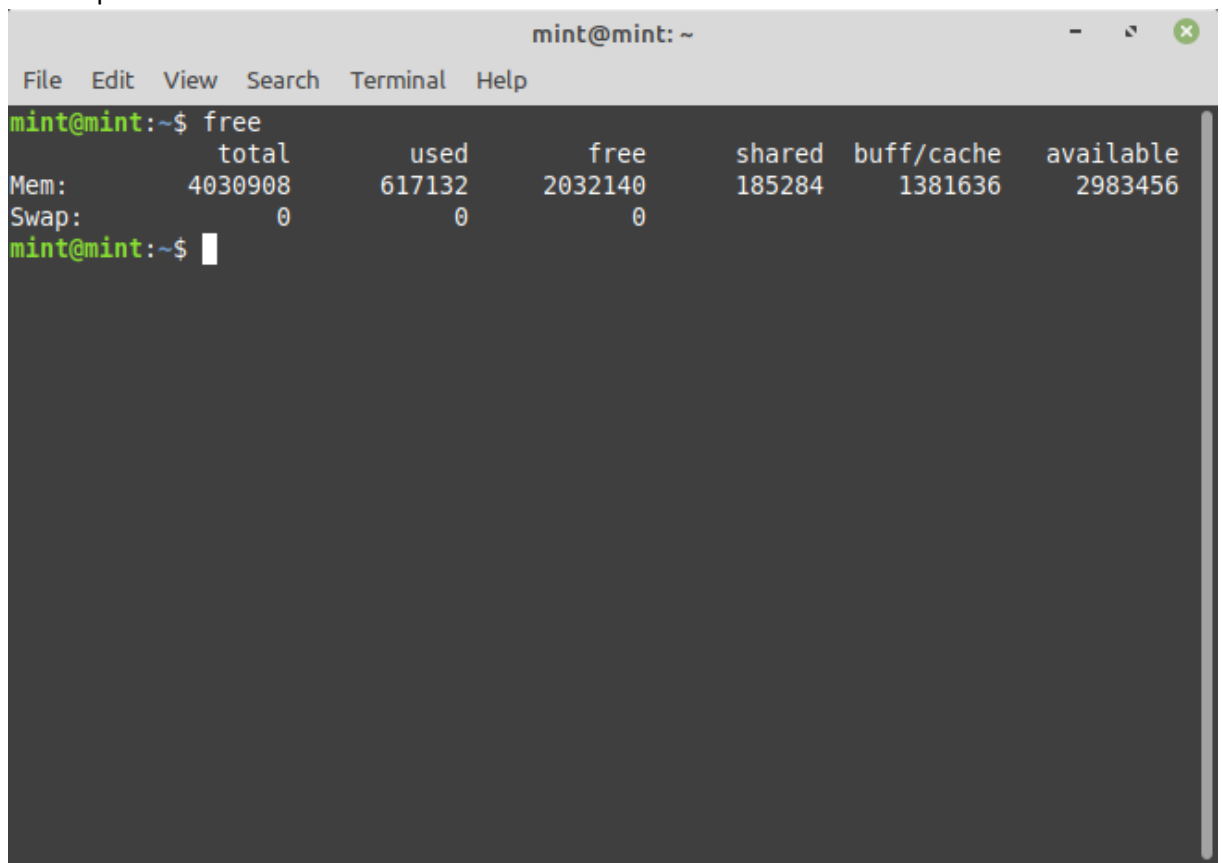
```
mint@mint: ~  
File Edit View Search Terminal Help  
mint@mint:~$ uname  
Linux  
mint@mint:~$
```

A terminal window titled 'mint@mint: ~' with a menu bar containing 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal shows the command 'uname' being executed, which returns 'Linux'. The prompt 'mint@mint:~\$' is shown again on the next line.

e) ps: aktuális processzekről készít jelentést, több opciója is van

```
mint@mint: ~  
File Edit View Search Terminal Help  
mint@mint:~$ ps  
  PID TTY          TIME CMD  
 2758 pts/0    00:00:00 bash  
 2764 pts/0    00:00:00 ps  
mint@mint:~$ ps -a  
  PID TTY          TIME CMD  
 2783 pts/0    00:00:00 ps  
mint@mint:~$ ps -al  
 F S  UID        PID      PPID  C PRI  NI ADDR SZ WCHAN  TTY          TIME CMD  
 0 R   999        2784      2758  0  80   0  -  3284 -          pts/0    00:00:00 ps  
mint@mint:~$ ps -alf  
 F S UID        PID      PPID  C PRI  NI ADDR SZ WCHAN  STIME TTY          TIME C  
MD  
 0 R mint        2785      2758  0  80   0  -  3304 -          14:15 pts/0    00:00:00 p  
s -alf  
mint@mint:~$ pa -ax  
pa: command not found  
mint@mint:~$ ps -ax  
  PID TTY          STAT      TIME COMMAND  
    1 ?           Ss        0:02 /sbin/init splash  
    2 ?           S          0:00 [kthreadd]  
    3 ?           I<         0:00 [rcu_gp]  
    4 ?           I<         0:00 [rcu_par_gp]  
    6 ?           I<         0:00 [kworker/0:0H-kblockd]  
  
mint@mint: ~  
File Edit View Search Terminal Help  
mint@mint:~$ ps -auxf | sort -nr -k 3 | head -5  
mint      1622  9.1  4.6 3275680 188912 ?      Sl   14:04  1:22      |  
\_ cinnamon --replace  
root      996  1.5  2.0 285096 81616 tty7    Ssl+ 14:03  0:14 \_ /usr/lib/  
xorg/Xorg -core :0 -seat seat0 -auth /var/run/lightdm/root/:0 -nolisten tcp vt7  
-novtswitch  
mint      2873  0.8  0.9 465572 39664 ?      Ssl  14:18  0:00 \_ /usr/libe  
xec/gnome-terminal-server  
mint      1661  0.5  1.7 714020 72192 ?      Sl   14:04  0:04      \_ n  
emo-desktop  
root      1  0.2  0.2 102092 11472 ?      Ss   14:03  0:02 /sbin/init sp  
lash  
mint@mint:~$
```

f) free: fizikai memória és a swap által használt és szabad terület, ezek összege, pufferek, szabad pufferek száma



A terminal window titled 'mint@mint: ~' with a menu bar containing 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal shows the command 'free' being executed, resulting in a table of memory statistics. The table has columns for 'total', 'used', 'free', 'shared', 'buff/cache', and 'available'. The rows are for 'Mem:' and 'Swap:'. The 'Mem:' row shows values 4030908, 617132, 2032140, 185284, 1381636, and 2983456. The 'Swap:' row shows values 0, 0, 0, and empty cells for the other columns. The prompt 'mint@mint:~\$' is shown at the bottom.

```
mint@mint:~$ free
```

	total	used	free	shared	buff/cache	available
Mem:	4030908	617132	2032140	185284	1381636	2983456
Swap:	0	0	0			

```
mint@mint:~$
```

g) iostat: CPU statisztika és a számítógép I/O eszközei, a hálózati fájlrendszerek és a partíciókat kijelzi

```
mint@mint: ~  
File Edit View Search Terminal Help  
auto mode  
Created symlink /etc/systemd/system/multi-user.target.wants/sysstat.service → /lib/systemd/system/sysstat.service.  
Processing triggers for systemd (245.4-4ubuntu3.3) ...  
Processing triggers for man-db (2.9.1-1) ...  
Processing triggers for doc-base (0.10.9) ...  
Processing 44 changed doc-base files, 1 added doc-base file...  
mint@mint:~$ iostat  
Linux 5.4.0-58-generic (mint)    02/23/21    _x86_64_    (1 CPU)  
  
avg-cpu:  %user   %nice %system %iowait  %steal   %idle  
           16.39    0.00    2.15    0.03    0.00   81.42  
  
Device            tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_wrtn  
rtn    kB_dscd  
loop0           114.55         115.47          0.00          0.00      264587  
0          0  
sda              0.09          1.90          0.00          0.00        4364  
0          0  
sdd0             3.76         161.78          0.00          0.00     370694  
0          0  
  
mint@mint:~$
```

h) sar: aktivitási adatok jelzése és összegyűjtése, mentés

```
mint@mint: ~  
File Edit View Search Terminal Help  
mint@mint:~$ sar  
Linux 5.4.0-58-generic (mint)    02/23/21    _x86_64_    (1 CPU)  
mint@mint:~$
```

i) mpstat: több processzoros számítógép esetén használják

```
mint@mint: ~  
File Edit View Search Terminal Help  
mint@mint:~$ mpstat  
Linux 5.4.0-58-generic (mint) 02/23/21 _x86_64_ (1 CPU)  
  
14:57:05 CPU %usr %nice %sys %iowait %irq %soft %steal %guest  
%gnice %idle  
14:57:05 all 18.86 0.00 1.79 0.02 0.00 0.05 0.00 0.00  
0.00 79.28  
mint@mint:~$
```

j) pmap: processz memória használatát jelzi

```
mint@mint: ~  
File Edit View Search Terminal Help  
16 root 0 -20 0 0 0 I 0.0 0.0 0:00.00 netns  
17 root 20 0 0 0 0 S 0.0 0.0 0:00.00 rcu_tas+  
mint@mint:~$ pmap 4859  
4859: /usr/libexec/gnome-terminal-server  
000055962a633000 80K r---- gnome-terminal-server  
000055962a647000 172K r-x-- gnome-terminal-server  
000055962a672000 92K r---- gnome-terminal-server  
000055962a689000 16K r---- gnome-terminal-server  
000055962a68d000 4K rw--- gnome-terminal-server  
000055962a68e000 4K rw--- [ anon ]  
000055962c3e5000 6920K rw--- [ anon ]  
00007f51b4000000 132K rw--- [ anon ]  
00007f51b4021000 65404K ----- [ anon ]  
00007f51b8000000 132K rw--- [ anon ]  
00007f51b8021000 65404K ----- [ anon ]  
00007f51bc000000 132K rw--- [ anon ]  
00007f51bc021000 65404K ----- [ anon ]  
00007f51c27fd000 4K ----- [ anon ]  
00007f51c27fe000 8192K rw--- [ anon ]  
00007f51c2ffe000 4K ----- [ anon ]  
00007f51c2fff000 8192K rw--- [ anon ]  
00007f51c37ff000 4K ----- [ anon ]  
00007f51c3800000 8192K rw--- [ anon ]  
00007f51c4000000 132K rw--- [ anon ]
```