

Operációs rendszerek BSc

4. Gyak

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Készítette:

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Gazdaságinformatikus

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1. a.) Jelenítse meg a futó processzek listáját terhelés szerint!
Monitorozza a terhelést folyamatosan!

b.) Jelenítse meg a rendszer aktivitásról és a hardverről az információkat (a jelentések a folyamatokra, memóriára, blokk input/outputra, CPU tevékenységre és trap-re vonatkoznak.)

- használjon a parancshoz kapcsolót, amely memória kihasználtságot és a lemez információkat mutatja.
- használjon a parancshoz kapcsolót, amely aktív és inaktív memória lapokat mutatja!

```
Terminal
File Edit View Search Terminal Help

1 0 0 1386976 185012 1236844 0 0 500 111 191 610 6 2 78 14 0
tamas20@lab101-15 ~ $ top

top - 16:33:14 up 10 min, 1 user, load average: 0.88, 1.15, 0.83
Tasks: 212 total, 1 running, 211 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.2 us, 0.1 sy, 0.0 ni, 99.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 3841644 total, 1442488 free, 1028064 used, 1371092 buff/cache
KiB Swap: 4990972 total, 4990972 free, 0 used, 2333520 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 5646 tamas20   20   0  563612  36656 28884 S   1.0   1.0   0:00.85 mate-terminal
    7 root       20   0        0        0      0 S   0.3   0.0   0:00.62 rcu_sched
4063 root       20   0  378448 108624 97796 S   0.3   2.8   0:15.20 Xorg
5582 tamas20   20   0 2853316 199908 107248 S   0.3   5.2   0:09.54 Web Content
    1 root       20   0 1859000  6536  4032 S   0.0   0.2   0:02.18 systemd
    2 root       20   0        0        0      0 S   0.0   0.0   0:00.00 kthreadd
    3 root       20   0        0        0      0 S   0.0   0.0   0:00.01 ksoftirqd/0
    5 root       0 -20        0        0      0 S   0.0   0.0   0:00.04 kworker/0:0H
    8 root       20   0        0        0      0 S   0.0   0.0   0:00.00 rcu_bh
    9 root       rt   0        0        0      0 S   0.0   0.0   0:00.00 migration/0
   10 root       rt   0        0        0      0 S   0.0   0.0   0:00.00 watchdog/0
   11 root       rt   0        0        0      0 S   0.0   0.0   0:00.00 watchdog/1
   12 root       rt   0        0        0      0 S   0.0   0.0   0:00.00 migration/1
   13 root       20   0        0        0      0 S   0.0   0.0   0:00.01 ksoftirqd/1
   14 root       20   0        0        0      0 S   0.0   0.0   0:00.10 kworker/1:0
   15 root       0 -20        0        0      0 S   0.0   0.0   0:00.00 kworker/1:0H
   16 root       rt   0        0        0      0 S   0.0   0.0   0:00.00 watchdog/2
   17 root       rt   0        0        0      0 S   0.0   0.0   0:00.00 migration/2
   18 root       20   0        0        0      0 S   0.0   0.0   0:00.01 ksoftirqd/2
   19 root       20   0        0        0      0 S   0.0   0.0   0:00.20 kworker/2:0
   20 root       0 -20        0        0      0 S   0.0   0.0   0:00.00 kworker/2:0H
   21 root       rt   0        0        0      0 S   0.0   0.0   0:00.00 watchdog/3
   22 root       rt   0        0        0      0 S   0.0   0.0   0:00.00 migration/3
   23 root       20   0        0        0      0 S   0.0   0.0   0:00.01 ksoftirqd/3
   25 root       0 -20        0        0      0 S   0.0   0.0   0:00.00 kworker/3:0H
   26 root       20   0        0        0      0 S   0.0   0.0   0:00.00 kdevtmpfs
   27 root       0 -20        0        0      0 S   0.0   0.0   0:00.00 netns
```

```
Terminal
File Edit View Search Terminal Help

tamas20@lab101-15 ~ $ vnstat
The program 'vnstat' is currently not installed. To run 'vnstat' please ask your administrator to install the package 'vnstat'
tamas20@lab101-15 ~ $ vmstat
procs -----memory-----swap-----io-----system-- -----cpu-----
 r b   swpd   free   buff  cache   si   so    bi    bo    in   cs us sy id wa st
  1  0       0 1386976 185012 1236844    0    0    500   111 191 610  6  2 78 14  0
tamas20@lab101-15 ~ $
```

c.) Jelenítse meg ki van bejelentkezve a rendszerbe, és éppen mit csinál.

```
Terminal
File Edit View Search Terminal Help

PID USER      PR  NI    VIRT    RES    SHR  S  %CPU  %MEM    TIME+  COMMAND
5646 tamas20    20   0   563612   36656  28884 S   1.7   1.0    0:01.09 mate-terminal
4063 root        20   0   380868  110032  99204 S   1.3   2.9    0:16.50 Xorg
2913 mysql      20   0  1169280  135420  15604 S   0.3   3.5    0:00.58 mysqld
5157 tamas20    20   0   206864   4932   4464 S   0.3   0.1    0:00.14 at-spi2-registr
6612 tamas20    20   0   35112    3524   2988 R   0.3   0.1    0:00.29 top
   1 root        20   0   185900    6536   4032 S   0.0   0.2    0:02.19 systemd
   2 root        20   0           0         0       0 S   0.0   0.0    0:00.00 kthreadd
   3 root        20   0           0         0       0 S   0.0   0.0    0:00.02 ksoftirqd/0
   5 root        0  -20          0         0       0 S   0.0   0.0    0:00.04 kworker/0:0H
   7 root        20   0           0         0       0 S   0.0   0.0    0:00.66 rcu_sched
   8 root        20   0           0         0       0 S   0.0   0.0    0:00.00 rcu_bh
   9 root        rt    0           0         0       0 S   0.0   0.0    0:00.00 migration/0
  10 root        rt    0           0         0       0 S   0.0   0.0    0:00.00 watchdog/0
  11 root        rt    0           0         0       0 S   0.0   0.0    0:00.00 watchdog/1
  12 root        rt    0           0         0       0 S   0.0   0.0    0:00.00 migration/1
  13 root        20   0           0         0       0 S   0.0   0.0    0:00.01 ksoftirqd/1
  14 root        20   0           0         0       0 S   0.0   0.0    0:00.10 kworker/1:0
  15 root        0  -20          0         0       0 S   0.0   0.0    0:00.00 kworker/1:0H
  16 root        rt    0           0         0       0 S   0.0   0.0    0:00.00 watchdog/2
  17 root        rt    0           0         0       0 S   0.0   0.0    0:00.00 migration/2
  18 root        20   0           0         0       0 S   0.0   0.0    0:00.01 ksoftirqd/2
  19 root        20   0           0         0       0 R   0.0   0.0    0:00.22 kworker/2:0
  20 root        0  -20          0         0       0 S   0.0   0.0    0:00.00 kworker/2:0H
  21 root        rt    0           0         0       0 S   0.0   0.0    0:00.00 watchdog/3
  22 root        rt    0           0         0       0 S   0.0   0.0    0:00.00 migration/3
  23 root        20   0           0         0       0 S   0.0   0.0    0:00.01 ksoftirqd/3
  25 root        0  -20          0         0       0 S   0.0   0.0    0:00.00 kworker/3:0H
  26 root        20   0           0         0       0 S   0.0   0.0    0:00.00 kdevtmpfs
  27 root        0  -20          0         0       0 S   0.0   0.0    0:00.00 netns
  28 root        0  -20          0         0       0 S   0.0   0.0    0:00.00 perf
  29 root        20   0           0         0       0 S   0.0   0.0    0:00.00 khungtaskd
  30 root        0  -20          0         0       0 S   0.0   0.0    0:00.00 writeback
  31 root        25   5           0         0       0 S   0.0   0.0    0:00.00 ksmd

tamas20@lab101-15 ~ $ w
16:34:35 up 11 min,  1 user,  load average: 0.42, 0.94, 0.78
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU   WHAT
tamas20   tty7     :0               16:25    ?      17.05s  0.19s  mate-session
tamas20@lab101-15 ~ $
```

d.) Jelenítse meg a szerver futásának kezdő idejét.

```
tamas20@lab101-15 ~ $ uname
Linux
```

e.) ps - aktuális processzekről készít jelentést. Opciói:

Jelenítse meg az összes processz kiválasztását! ps -A

```
tamas20@lab101-15 ~ $ ps -A
  PID TTY          TIME CMD
    1 ?            00:00:02 systemd
    2 ?            00:00:00 kthreadd
    3 ?            00:00:00 ksoftirqd/0
    5 ?            00:00:00 kworker/0:0H
    7 ?            00:00:00 rcu_sched
    8 ?            00:00:00 rcu_bh
    9 ?            00:00:00 migration/0
   10 ?            00:00:00 watchdog/0
   11 ?            00:00:00 watchdog/1
   12 ?            00:00:00 migration/1
   13 ?            00:00:00 ksoftirqd/1
   14 ?            00:00:00 kworker/1:0
   15 ?            00:00:00 kworker/1:0H
   16 ?            00:00:00 watchdog/2
   17 ?            00:00:00 migration/2
   18 ?            00:00:00 ksoftirqd/2
   19 ?            00:00:00 kworker/2:0
   20 ?            00:00:00 kworker/2:0H
   21 ?            00:00:00 watchdog/3
   22 ?            00:00:00 migration/3
   23 ?            00:00:00 ksoftirqd/3
   25 ?            00:00:00 kworker/3:0H
   26 ?            00:00:00 kdevtmpfs
   27 ?            00:00:00 netns
   28 ?            00:00:00 perf
   29 ?            00:00:00 khungtaskd
   30 ?            00:00:00 writeback
   31 ?            00:00:00 ksm
```

Jelenítse meg az egyes processzek paramétereit!

```
Terminal
File Edit View Search Terminal Help
6730 ?            00:00:00 kworker/1:1
6731 pts/0        00:00:00 ps
tamas20@lab101-15 ~ $ ps -Alf
F S UID          PID    PPID    C  PRI  NI ADDR SZ WCHAN  STIME TTY          TIME CMD
1 S root           1      0  0  80   0 - 46475 -   16:22 ?            00:00:02 /sbin/init
1 S root           2      0  0  80   0 -   0 -   16:22 ?            00:00:00 [kthreadd]
1 S root           3      2  0  80   0 -   0 -   16:22 ?            00:00:00 [ksoftirqd/0]
1 S root           5      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [kworker/0:0H]
1 S root           7      2  0  80   0 -   0 -   16:22 ?            00:00:00 [rcu_sched]
1 S root           8      2  0  80   0 -   0 -   16:22 ?            00:00:00 [rcu_bh]
1 S root           9      2  0 -40   0 -   0 -   16:22 ?            00:00:00 [migration/0]
5 S root          10      2  0 -40   0 -   0 -   16:22 ?            00:00:00 [watchdog/0]
5 S root          11      2  0 -40   0 -   0 -   16:22 ?            00:00:00 [watchdog/1]
1 S root          12      2  0 -40   0 -   0 -   16:22 ?            00:00:00 [migration/1]
1 S root          13      2  0  80   0 -   0 -   16:22 ?            00:00:00 [ksoftirqd/1]
1 S root          14      2  0  80   0 -   0 -   16:22 ?            00:00:00 [kworker/1:0]
1 S root          15      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [kworker/1:0H]
5 S root          16      2  0 -40   0 -   0 -   16:22 ?            00:00:00 [watchdog/2]
1 S root          17      2  0 -40   0 -   0 -   16:22 ?            00:00:00 [migration/2]
1 S root          18      2  0  80   0 -   0 -   16:22 ?            00:00:00 [ksoftirqd/2]
1 S root          19      2  0  80   0 -   0 -   16:22 ?            00:00:00 [kworker/2:0]
1 S root          20      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [kworker/2:0H]
5 S root          21      2  0 -40   0 -   0 -   16:22 ?            00:00:00 [watchdog/3]
1 S root          22      2  0 -40   0 -   0 -   16:22 ?            00:00:00 [migration/3]
1 S root          23      2  0  80   0 -   0 -   16:22 ?            00:00:00 [ksoftirqd/3]
1 S root          25      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [kworker/3:0H]
5 S root          26      2  0  80   0 -   0 -   16:22 ?            00:00:00 [kdevtmpfs]
1 S root          27      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [netns]
1 S root          28      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [perf]
1 S root          29      2  0  80   0 -   0 -   16:22 ?            00:00:00 [khungtaskd]
1 S root          30      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [writeback]
1 S root          31      2  0  85   5 -   0 -   16:22 ?            00:00:00 [ksmd]
1 S root          32      2  0  99  19 -   0 -   16:22 ?            00:00:00 [khugepaged]
1 S root          33      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [crypto]
1 S root          34      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [kintegrityd]
1 S root          35      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [bioaset]
1 S root          36      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [kblockd]
1 S root          37      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [ata_sff]
1 S root          38      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [md]
1 S root          39      2  0  60 -20   0 -   0 -   16:22 ?            00:00:00 [devfreq_wq]
```

Jelenítse meg az egyes processzek szálait is! ps -AlfH

```
1 - 0 3248 1 - 0 - - 31100 - ? 00:00:00 sensord
1 S 0 - - 3248 0 80 0 - - 00:00:00 -
5 - 108 3319 1 - 0 - - 24550 - ? 00:00:00 ntpd
5 S 108 - - 3319 0 80 0 - - 00:00:00 -
4 - 0 3580 1 - 0 - - 2311 - tty1 00:00:00 agetty
4 S 0 - - 3580 0 80 0 - - 00:00:00 -
4 - 0 3581 1 - 0 - - 33718 - ? 00:00:00 mdm
4 S 0 - - 3581 0 80 0 - - 00:00:00 -
5 - 0 4058 3581 - 0 - - 47866 - ? 00:00:00 mdm
5 S 0 - - 4058 0 80 0 - - 00:00:00 -
4 - 0 4063 4058 - 2 - - 98902 - tty7 00:00:23 Xorg
4 S 0 - - 4063 2 80 0 - - 00:00:23 -
5 S 0 - - 4160 0 80 0 - - 00:00:00 -
4 - 0 4652 1 - 0 - - 14989 - ? 00:00:00 master
4 S 0 - - 4652 0 80 0 - - 00:00:00 -
4 - 124 4663 4652 - 0 - - 15400 - ? 00:00:00 pickup
4 S 124 - - 4663 0 80 0 - - 00:00:00 -
4 - 124 4664 4652 - 0 - - 15440 - ? 00:00:00 qmgr
4 S 124 - - 4664 0 80 0 - - 00:00:00 -
5 - 129 4733 1 - 0 - - 10489 - ? 00:00:00 dnsmasq
5 S 129 - - 4733 0 80 0 - - 00:00:00 -
1 - 0 4734 4733 - 0 - - 10482 - ? 00:00:00 dnsmasq
1 S 0 - - 4734 0 80 0 - - 00:00:00 -
4 - 9281 4977 1 - 0 - - 9260 - ? 00:00:00 systemd
4 S 9281 - - 4977 0 80 0 - - ep_pol 00:00:00 -
5 - 9281 4979 4977 - 0 - - 23710 - ? 00:00:00 (sd-pam)
5 S 9281 - - 4979 0 80 0 - - 00:00:00 -
1 - 9281 4984 1 - 0 - - 51689 - ? 00:00:00 gnome-keyring-d
1 S 9281 - - 4984 0 80 0 - - 00:00:00 -
1 S 9281 - - 4985 0 80 0 - - 00:00:00 -
1 S 9281 - - 5194 0 80 0 - - 00:00:00 -
1 S 9281 - - 5195 0 80 0 - - 00:00:00 -
4 - 0 4989 1 - 0 - - 525029 - ? 00:00:00 console-kit-dae
4 S 0 - - 4989 0 80 0 - - 00:00:00 -
1 S 0 - - 4991 0 80 0 - - 00:00:00 -
5 S 0 - - 4992 0 80 0 - - 00:00:00 -
5 S 0 - - 4993 0 80 0 - - 00:00:00 -
5 S 0 - - 4994 0 80 0 - - 00:00:00 -
5 S 0 - - 4995 0 80 0 - - 00:00:00 -
5 S 0 - - 4996 0 80 0 - - 00:00:00 -
5 S 0 - - 4997 0 80 0 - - 00:00:00 -
5 S 0 - - 4998 0 80 0 - - 00:00:00 -
5 S 0 - - 4999 0 80 0 - - 00:00:00 -
5 S 0 - - 5000 0 80 0 - - 00:00:00 -
5 S 0 - - 5001 0 80 0 - - 00:00:00 -
5 S 0 - - 5002 0 80 0 - - 00:00:00 -
5 S 0 - - 5003 0 80 0 - - 00:00:00 -
5 S 0 - - 5004 0 80 0 - - 00:00:00 -
```

Jelenítse meg a szerver összes processzeit!

```
tamas20@lab101-15 ~ $ ps ax
PID TTY STAT TIME COMMAND
1 ? Ss 0:02 /sbin/init
2 ? S 0:00 [kthreadd]
3 ? S 0:00 [ksoftirqd/0]
5 ? S< 0:00 [kworker/0:0H]
7 ? S 0:00 [rcu_sched]
8 ? S 0:00 [rcu_bh]
9 ? S 0:00 [migration/0]
10 ? S 0:00 [watchdog/0]
11 ? S 0:00 [watchdog/1]
12 ? S 0:00 [migration/1]
13 ? S 0:00 [ksoftirqd/1]
14 ? S 0:00 [kworker/1:0]
15 ? S< 0:00 [kworker/1:0H]
16 ? S 0:00 [watchdog/2]
17 ? S 0:00 [migration/2]
18 ? S 0:00 [ksoftirqd/2]
19 ? S 0:00 [kworker/2:0]
20 ? S< 0:00 [kworker/2:0H]
21 ? S 0:00 [watchdog/3]
22 ? S 0:00 [migration/3]
23 ? S 0:00 [ksoftirqd/3]
25 ? S< 0:00 [kworker/3:0H]
26 ? S 0:00 [kdevtmpfs]
27 ? S< 0:00 [netns]
28 ? S< 0:00 [perf]
29 ? S 0:00 [khungtaskd]
30 ? S< 0:00 [writeback]
31 ? SN 0:00 [ksmd]
32 ? SN 0:00 [khugepaged]
33 ? S< 0:00 [crypto]
34 ? S< 0:00 [kintegrityd]
35 ? S< 0:00 [bioset]
36 ? S< 0:00 [kblockd]
37 ? S< 0:00 [ata_sff]
38 ? S< 0:00 [md]
39 ? S< 0:00 [devfreq_wq]
44 ? S 0:00 [kswapd0]
```


Jelenítse meg milyen processzek futnak a rendszerben

```
6863 ? Ss 0:00 /lib/systemd/systemd-hostnamed
6888 pts/0 R+ 0:00 ps ax
tamas20@lab101-15 ~ $ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.1  0.1 185900 6536 ?        Ss   16:22   0:02 /sbin/init
root         2  0.0  0.0      0     0 ?        S    16:22   0:00 [kthreadd]
root         3  0.0  0.0      0     0 ?        S    16:22   0:00 [ksoftirqd/0]
root         7  0.0  0.0      0     0 ?        S    16:22   0:00 [rcu_sched]
root         8  0.0  0.0      0     0 ?        S    16:22   0:00 [rcu_bh]
root         9  0.0  0.0      0     0 ?        S    16:22   0:00 [migration/0]
root        10  0.0  0.0      0     0 ?        S    16:22   0:00 [watchdog/0]
root        11  0.0  0.0      0     0 ?        S    16:22   0:00 [watchdog/1]
root        12  0.0  0.0      0     0 ?        S    16:22   0:00 [migration/1]
root        13  0.0  0.0      0     0 ?        S    16:22   0:00 [ksoftirqd/1]
root        15  0.0  0.0      0     0 ?        S<   16:22   0:00 [kworker/1:0H]
root        16  0.0  0.0      0     0 ?        S    16:22   0:00 [watchdog/2]
root        17  0.0  0.0      0     0 ?        S    16:22   0:00 [migration/2]
root        18  0.0  0.0      0     0 ?        S    16:22   0:00 [ksoftirqd/2]
root        19  0.0  0.0      0     0 ?        S    16:22   0:00 [kworker/2:0]
root        20  0.0  0.0      0     0 ?        S<   16:22   0:00 [kworker/2:0H]
root        21  0.0  0.0      0     0 ?        S    16:22   0:00 [watchdog/3]
root        22  0.0  0.0      0     0 ?        S    16:22   0:00 [migration/3]
root        23  0.0  0.0      0     0 ?        S    16:22   0:00 [ksoftirqd/3]
root        25  0.0  0.0      0     0 ?        S<   16:22   0:00 [kworker/3:0H]
root        26  0.0  0.0      0     0 ?        S    16:22   0:00 [kdevtmpfs]
root        27  0.0  0.0      0     0 ?        S<   16:22   0:00 [netns]
root        28  0.0  0.0      0     0 ?        S<   16:22   0:00 [perf]
root        29  0.0  0.0      0     0 ?        S    16:22   0:00 [khungtaskd]
root        30  0.0  0.0      0     0 ?        S<   16:22   0:00 [writeback]
root        31  0.0  0.0      0     0 ?        SN   16:22   0:00 [ksmd]
root        32  0.0  0.0      0     0 ?        SN   16:22   0:00 [khugepaged]
root        33  0.0  0.0      0     0 ?        S<   16:22   0:00 [crypto]
root        34  0.0  0.0      0     0 ?        S<   16:22   0:00 [kintegrityd]
root        35  0.0  0.0      0     0 ?        S<   16:22   0:00 [bioset]
root        36  0.0  0.0      0     0 ?        S<   16:22   0:00 [kblockd]
root        37  0.0  0.0      0     0 ?        S<   16:22   0:00 [ata_sff]
root        38  0.0  0.0      0     0 ?        S<   16:22   0:00 [md]
root        39  0.0  0.0      0     0 ?        S<   16:22   0:00 [devfreq_wq]
root        44  0.0  0.0      0     0 ?        S    16:22   0:00 [kswapd0]
root        45  0.0  0.0      0     0 ?        S<   16:22   0:00 [vmstat]
```

Jelenítse meg a futó processzek listáját fa elrendezésben

```
amas20@lab101-15 ~ $ pstree
systemd--ModemManager--{gdbus}
                        {gmain}
--accounts-daemon--{gdbus}
                    {gmain}
--acpid
--agetty
--anacron
--at-spi-bus-laun--dbus-daemon
                  {dconf worker}
                  {gdbus}
                  {gmain}
--at-spi2-registr--{gdbus}
                  {gmain}
--avahi-daemon--avahi-daemon
--cgmanager
--clock-applet--{dconf worker}
                {gdbus}
                {gmain}
--console-kit-dae--62*[{console-kit-dae}]
                  {gdbus}
                  {gmain}
--cron
--cups-browsed--{gdbus}
                {gmain}
--cupsd
--2*[dbus-daemon]
--dbus-launch
--dconf-service--{gdbus}
                 {gmain}
--dhclient
--dnsmasq--dnsmasq
--gnome-keyring-d--{gdbus}
                  {gmain}
                  {timer}
--gpm
--gvfs-afc-volume--{gdbus}
                  {gmain}
                  {gvfs-afc-volume}
--gvfs-goa-volume--{gdbus}
                  {gmain}
--gvfs-gphoto2-vo--{gdbus}
                   {gmain}
--gvfs-mtp-volume--{gdbus}
                   {gmain}
--gvfs-udisks2-vo--{gdbus}
                   {gmain}
```

ps -auxf | sort -nr -k 3 | head -5 – 5 legtöbb CPU memóriát

fogyasztó folyamat azonosítása.

```
tamas20@lab101-15 ~ $ ps -auxf | sort -nr -k 3 | head -10
tamas20 5436 6.7 9.4 3172472 363392 ? SL 16:25 1:41 | \ /usr/lib/firefox/firefox
root 4063 2.9 2.8 392712 111160 tty7 Ssl+ 16:23 0:48 \ /usr/lib/xorg/Xorg :0 -audit 0 -auth /var/lib/mdm/:0.Xauth -nolisten tcp vt7
tamas20 5817 2.2 6.0 2761156 231692 ? SL 16:27 0:30 | | \ /usr/lib/firefox/firefox -contentproc -childID 4 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20 6365 1.7 4.9 2975048 191144 ? SL 16:29 0:21 | | \ /usr/lib/firefox/firefox -contentproc -childID 6 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20 6479 0.8 4.3 2622964 167840 ? SL 16:31 0:09 | | \ /usr/lib/firefox/firefox -contentproc -childID 8 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20 5210 0.5 1.0 495120 40804 ? SL 16:25 0:08 \ marco
tamas20 5646 0.3 0.9 561716 38164 ? SL 16:25 0:05 \ mate-terminal
tamas20 6516 0.1 3.7 2590696 142620 ? SL 16:31 0:02 | | \ /usr/lib/firefox/firefox -contentproc -childID 9 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20 5252 0.1 0.7 547292 30596 ? SL 16:25 0:02 /usr/lib/mate-panel/wnck-applet
tamas20 5250 0.1 1.5 740264 60728 ? SL 16:25 0:02 mintmenu
tamas20@lab101-15 ~ $ ps -auxf | sort -nr -k 3 | head -5
tamas20 5436 6.7 9.7 3178180 374676 ? SL 16:25 1:42 | \ /usr/lib/firefox/firefox
root 4063 3.0 2.8 382028 109684 tty7 Ssl+ 16:23 0:48 \ /usr/lib/xorg/Xorg :0 -audit 0 -auth /var/lib/mdm/:0.Xauth -nolisten tcp vt7
tamas20 5817 2.2 6.5 2783044 253128 ? SL 16:27 0:30 | | \ /usr/lib/firefox/firefox -contentproc -childID 4 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20 6365 1.7 4.9 2975048 191144 ? SL 16:29 0:21 | | \ /usr/lib/firefox/firefox -contentproc -childID 6 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20 6479 0.8 3.9 2606784 151836 ? SL 16:31 0:09 | | \ /usr/lib/firefox/firefox -contentproc -childID 8 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20@lab101-15 ~ $
tamas20@lab101-15 ~ $
tamas20@lab101-15 ~ $
tamas20@lab101-15 ~ $
tamas20@lab101-15 ~ $
tamas20@lab101-15 ~ $
tamas20@lab101-15 ~ $
tamas20@lab101-15 ~ $
tamas20@lab101-15 ~ $ ps -auxf | sort -nr -k 3 | head -5
tamas20 5436 6.6 9.7 3163996 372780 ? SL 16:25 1:42 | \ /usr/lib/firefox/firefox
root 4063 2.9 2.8 389812 109568 tty7 Ssl+ 16:23 0:49 \ /usr/lib/xorg/Xorg :0 -audit 0 -auth /var/lib/mdm/:0.Xauth -nolisten tcp vt7
tamas20 5817 2.2 6.2 2768860 239648 ? SL 16:27 0:31 | | \ /usr/lib/firefox/firefox -contentproc -childID 4 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20 6365 1.6 4.9 2975048 191144 ? SL 16:29 0:21 | | \ /usr/lib/firefox/firefox -contentproc -childID 6 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20 6479 0.8 3.9 2606784 151836 ? SL 16:31 0:09 | | \ /usr/lib/firefox/firefox -contentproc -childID 8 -isForBrowser -
/omni.ja -appomni /usr/lib/firefox/browser/omni.ja -appdir /usr/lib/firefox/browser 5436 true tab
tamas20@lab101-15 ~ $
```

ps -p 1286 -o comm= - egy adott PID neve jelenjen meg

```
tamas20 5378 0.0 0.2 150300 10036 ? S 16:25 0:00 /usr/lib/bluetooth/obexd
tamas20 5380 0.0 0.1 278756 7436 ? SL 16:25 0:00 /usr/lib/gvfs/gvfs-udisks2-volume-monit
root 5384 0.0 0.1 358556 7376 ? Ssl 16:25 0:00 /usr/lib/udisks2/udisksd --no-debug
tamas20 5395 0.0 0.1 259076 4888 ? SL 16:25 0:00 /usr/lib/gvfs/gvfs-goa-volume-monitor
tamas20 5400 0.0 0.1 273260 6036 ? SL 16:25 0:00 /usr/lib/gvfs/gvfs-gphoto2-volume-monit
tamas20 5405 0.0 0.2 405152 8792 ? SL 16:25 0:00 /usr/lib/gvfs/gvfs-afc-volume-monitor
tamas20 5411 0.0 0.1 261064 4624 ? SL 16:25 0:00 /usr/lib/gvfs/gvfs-mtp-volume-monitor
tamas20 5416 0.0 0.1 352220 6520 ? SL 16:25 0:00 /usr/lib/gvfs/gvfsd-trash --spawner :l
tamas20 5436 6.6 9.7 3164928 375272 ? SL 16:25 1:45 /usr/lib/firefox/firefox
tamas20 5469 0.0 0.3 45964 12380 ? S 16:25 0:00 /usr/bin/python3 /usr/bin/mintupdate-la
tamas20 5475 0.0 0.0 4504 748 ? S 16:25 0:00 sh -c /usr/lib/linuxmint/mintUpdate/min
tamas20 5476 0.0 1.4 725536 56836 ? SL 16:25 0:00 mintUpdate
tamas20 5613 0.0 2.6 2558040 103204 ? SL 16:25 0:01 /usr/lib/firefox/firefox -contentproc -
tamas20 5646 0.3 0.9 561716 38284 ? SL 16:25 0:05 mate-terminal
tamas20 5653 0.0 0.0 14780 3808 pts/0 Ss 16:25 0:00 bash
root 5684 0.0 0.0 0 0 ? S< 16:26 0:00 [kworker/0:2H]
tamas20 5749 0.0 0.1 428256 6568 ? SL 16:27 0:00 /usr/lib/gvfs/gvfsd-network --spawner :
tamas20 5781 0.0 0.1 363256 6792 ? SL 16:27 0:00 /usr/lib/gvfs/gvfsd-dnssd --spawner :l
tamas20 5797 0.0 0.1 187556 5468 ? SL 16:27 0:00 /usr/lib/gvfs/gvfsd-metadata
tamas20 5817 2.1 6.2 2768860 239880 ? SL 16:27 0:31 /usr/lib/firefox/firefox -contentproc -
root 6080 0.0 0.1 86812 6936 ? Ss 16:28 0:00 /usr/sbin/cupsd -l
root 6082 0.0 0.2 266576 9044 ? Ssl 16:28 0:00 /usr/sbin/cups-browsed
root 6184 0.0 0.0 0 0 ? S 16:28 0:00 [kworker/1:2]
tamas20 6350 0.0 0.1 354380 7036 ? SL 16:29 0:00 /usr/lib/gvfs/gvfsd-computer --spawner
tamas20 6365 1.6 4.9 2975520 191996 ? SL 16:29 0:21 /usr/lib/firefox/firefox -contentproc -
root 6438 0.0 0.0 0 0 ? S 16:30 0:00 [kworker/u16:0]
tamas20 6479 0.8 3.9 2606724 151904 ? SL 16:31 0:10 /usr/lib/firefox/firefox -contentproc -
tamas20 6516 0.1 3.6 2590696 140704 ? SL 16:31 0:02 /usr/lib/firefox/firefox -contentproc -
root 6672 0.0 0.0 0 0 ? S 16:33 0:00 [kworker/0:2]
root 6706 0.0 0.0 0 0 ? S< 16:34 0:00 [kworker/0:1H]
root 6771 0.0 0.0 0 0 ? S< 16:36 0:00 [kworker/2:2H]
root 6892 0.0 0.0 0 0 ? S 16:38 0:00 [kworker/0:1]
root 6926 0.0 0.0 0 0 ? S< 16:39 0:00 [kworker/1:1H]
root 6951 0.0 0.0 0 0 ? S 16:39 0:00 [kworker/3:2]
root 7021 0.0 0.0 0 0 ? S 16:40 0:00 [kworker/2:2]
tamas20 7121 0.0 1.9 2534288 76736 ? SL 16:44 0:00 /usr/lib/firefox/firefox -contentproc -
root 7156 0.0 0.0 0 0 ? S< 16:45 0:00 [kworker/3:2H]
root 7161 0.0 0.0 0 0 ? S 16:46 0:00 [kworker/u16:2]
root 7191 0.0 0.0 0 0 ? S 16:46 0:00 [kworker/1:0]
root 7227 0.0 0.0 0 0 ? S< 16:47 0:00 [kworker/0:0H]
root 7242 0.0 0.0 0 0 ? S 16:48 0:00 [kworker/2:1]
root 7302 0.0 0.0 0 0 ? S 16:50 0:00 [kworker/0:0]
tamas20 7349 0.0 0.0 30672 1540 pts/0 R+ 16:52 0:00 ps -aux
tamas20@lab101-15 ~ $ ps -p 5155 -o comm=
dbus-daemon
tamas20@lab101-15 ~ $
```

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

szabad pufferek száma.

g.) iostat – jelenítse meg átlagos CPU terhelést vagy lemez aktivitást.

h.) sar - aktivitási adatok jelzése és összegyűjtése, mentés.

i.) mpstat - több processzoros sz.gép esetén használják.

j.) pmap - processz memória használatát jelzi.

```
root      6926  0.0  0.0      0      0 ?      S<  16:39  0:00 [kworker/1:1H]
root      6951  0.0  0.0      0      0 ?      S   16:39  0:00 [kworker/3:2]
root      7021  0.0  0.0      0      0 ?      S   16:40  0:00 [kworker/2:2]
tamas20   7121  0.0  1.9 2534288 76736 ?      Sl  16:44  0:00 /usr/lib/firefox/firefox -contentproc -
root      7156  0.0  0.0      0      0 ?      S<  16:45  0:00 [kworker/3:2H]
root      7161  0.0  0.0      0      0 ?      S   16:46  0:00 [kworker/u16:2]
root      7191  0.0  0.0      0      0 ?      S   16:46  0:00 [kworker/1:0]
root      7227  0.0  0.0      0      0 ?      S<  16:47  0:00 [kworker/0:0H]
root      7242  0.0  0.0      0      0 ?      S   16:48  0:00 [kworker/2:1]
root      7302  0.0  0.0      0      0 ?      S   16:50  0:00 [kworker/0:0]
tamas20   7349  0.0  0.0 30672 1540 pts/0    R+  16:52  0:00 ps -aux
tamas20@lab101-15 ~ $ ps -p 5155 -o comm=
dbus-daemon
tamas20@lab101-15 ~ $ free
              total        used        free      shared  buff/cache   available
Mem:           3841644       1030220       1390780        214824       1420644       2297108
Swap:          4990972           0       4990972

tamas20@lab101-15 ~ $ iostat
The program 'iostat' is currently not installed. To run 'iostat' please ask your administrator to install the package 'sysstat'
tamas20@lab101-15 ~ $ sar
The program 'sar' is currently not installed. To run 'sar' please ask your administrator to install the package 'sysstat'
tamas20@lab101-15 ~ $ mpstat
The program 'mpstat' is currently not installed. To run 'mpstat' please ask your administrator to install the package 'sysstat'
tamas20@lab101-15 ~ $ pmap

Usage:
pmap [options] PID [PID ...]

Options:
-x, --extended          show details
-X                      show even more details
                        WARNING: format changes according to /proc/PID/smaps
-XX                     show everything the kernel provides
-c, --read-rc           read the default rc
-C, --read-rc-from=<file> read the rc from file
-n, --create-rc         create new default rc
-N, --create-rc-to=<file> create new rc to file
                        NOTE: pid arguments are not allowed with -n, -N
-d, --device           show the device format
-q, --quiet            do not display header and footer
-p, --show-path        show path in the mapping
-A, --range=<low>[,<high>] limit results to the given range

-h, --help            display this help and exit
-V, --version         output version information and exit

For more details see pmap(1).
tamas20@lab101-15 ~ $
```

2. Feladatok

Készítse el Windows OS a saját gépen az alábbi feladatokat.

Minden egyes lekérdezés eredményét illessze be egy dokumentumba, írja le a parancs

funkcióját (1-1 mondat) a kép alá és mentse el.

1. Kérdezze le a PowerShellVerzió!

2. Kérdezze le a mai dátumot?

3. Kérdezze le a szolgáltatásokat

Windows PowerShell (x86)

Windows PowerShell
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Try the new cross-platform PowerShell <https://aka.ms/pscore6>

PS C:\Users\TEMP.IIT.005> **\$PSVersionTable**

Name	Value
PSVersion	5.1.18362.1171
PSEdition	Desktop
PSCompatibleVersions	{1.0, 2.0, 3.0, 4.0...}
BuildVersion	10.0.18362.1171
CLRVersion	4.0.30319.42000
WSManStackVersion	3.0
PSRemotingProtocolVersion	2.3
SerializationVersion	1.1.0.1

PS C:\Users\TEMP.IIT.005> **Get-Date**

2022. február 28., hétfő 17:07:46

PS C:\Users\TEMP.IIT.005> **Get-Service**

Status	Name	DisplayName
Stopped	AarSvc_11143b	Agent Activation Runtime_11143b
Running	AdobeARMSvc	Adobe Acrobat Update Service
Stopped	AJRouter	AllJoyn Router Service
Stopped	ALG	Application Layer Gateway Service
Stopped	AppIDSvc	Application Identity
Stopped	Appinfo	Application Information
Stopped	AppMgmt	Application Management
Running	AppReadiness	App Readiness
Stopped	AppVClient	Microsoft App-V Client
Running	AppXSvc	AppX Deployment Service (AppXSVC)
Stopped	aspnet_state	ASP.NET State Service
Stopped	AssignedAccessM...	AssignedAccessManager Service
Running	AudioEndpointBu...	Windows Audio Endpoint Builder
Running	Audiosrv	Windows Audio
Stopped	autotimesvc	Cellular Time
Stopped	AxInstSV	ActiveX Installer (AxInstSV)
Stopped	BcastDVRUserSer...	GameDVR and Broadcast User Service...
Stopped	BDESVC	BitLocker Drive Encryption Service
Running	BFE	Base Filtering Engine
Running	BITS	Background Intelligent Transfer Ser...
Stopped	BluetoothUserSe...	Bluetooth User Support Service_11143b
Running	BrokerInfrastru...	Background Tasks Infrastructure Ser...
Running	Browser	Computer Browser
Stopped	BTAGService	Bluetooth Audio Gateway Service
Stopped	BthAvctpSvc	AVCTP service
Stopped	bthserv	Bluetooth Support Service
Running	camsvc	Capability Access Manager Service
Stopped	CaptureService_...	CaptureService_11143b
Running	cbdhsvc_11143b	Clipboard User Service_11143b
Running	CDPSvc	Connected Devices Platform Service
Running	CDPUserSvc_11143b	Connected Devices Platform User Ser...
Running	CertPropSvc	Certificate Propagation
Running	ClipSVC	Client License Service (ClipSVC)
Stopped	COMSysApp	COM+ System Application
Stopped	ConsentUxUserSv...	ConsentUX_11143b
Running	CoreMessagingRe...	CoreMessaging
Stopped	CredentialEnrol...	CredentialEnrollmentManagerUserSvc...
Running	CryptSvc	Cryptographic Services
Stopped	CscService	Offline Files
Running	DcomLaunch	DCOM Server Process Launcher
Stopped	defragsvc	Optimize drives
Stopped	DeviceAssociati...	DeviceAssociationBroker_11143b
Stopped	DeviceAssociati...	Device Association Service
Stopped	DeviceInstall	Device Install Service



Type here to search



5. Kérdezze a parancsok rövidített neveit? (alias)

```
Windows PowerShell (x86)
Stopped XblGameSave Xbox Live Game Save
Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live Networking Service

PS C:\Users\TEMP.IIT.005> ^C
PS C:\Users\TEMP.IIT.005> Get-Alias

CommandType Name Version Source
-----
Alias % -> ForEach-Object
Alias ? -> Where-Object
Alias ac -> Add-Content
Alias asnp -> Add-PSSnapin
Alias cat -> Get-Content
Alias cd -> Set-Location
Alias CFS -> ConvertFrom-String 3.1.0.0 Microsoft.PowerShell.Utility
Alias chdir -> Set-Location
Alias clc -> Clear-Content
Alias clear -> Clear-Host
Alias clhy -> Clear-History
Alias cli -> Clear-Item
Alias clp -> Clear-ItemProperty
Alias cls -> Clear-Host
Alias clv -> Clear-Variable
Alias cnsn -> Connect-PSSession
Alias compare -> Compare-Object
Alias copy -> Copy-Item
Alias cp -> Copy-Item
Alias cpi -> Copy-Item
Alias cpp -> Copy-ItemProperty
Alias curl -> Invoke-WebRequest
Alias cvpa -> Convert-Path
Alias dbp -> Disable-PSBreakpoint
Alias del -> Remove-Item
Alias diff -> Compare-Object
Alias dir -> Get-ChildItem
Alias dnsn -> Disconnect-PSSession
Alias ebp -> Enable-PSBreakpoint
Alias echo -> Write-Output
Alias epal -> Export-Alias
Alias epsv -> Export-Csv
Alias epsn -> Export-PSSession
Alias erase -> Remove-Item
Alias etns -> Enter-PSSession
Alias exsn -> Exit-PSSession
Alias fc -> Format-Custom
Alias fhx -> Format-Hex 3.1.0.0 Microsoft.PowerShell.Utility
Alias fl -> Format-List
Alias foreach -> ForEach-Object
Alias ft -> Format-Table
Alias fw -> Format-Wide
Alias gal -> Get-Alias
Alias gbp -> Get-PSBreakpoint
Alias gc -> Get-Content
Alias gcb -> Get-Clipboard 3.1.0.0 Microsoft.PowerShell.Management
Alias gci -> Get-ChildItem
Alias gcm -> Get-Command
Alias gcs -> Get-PSCallStack
Alias gdr -> Get-PSDrive
Alias ghy -> Get-History
Alias gi -> Get-Item
Alias gin -> Get-ComputerInfo 3.1.0.0 Microsoft.PowerShell.Management
Alias gjb -> Get-Job
Alias gl -> Get-Location
Alias gm -> Get-Member
Alias gmo -> Get-Module
Alias gp -> Get-ItemProperty
Alias gps -> Get-Process
Alias gpv -> Get-ItemPropertyValue
Alias group -> Group-Object
Alias gsn -> Get-PSSession
```

6. Készítsen egy „processz” nevű Alias, majd futtassa és kérdezze le?!

```
Windows PowerShell (x86)
Alias rm -> Remove-Item
Alias rmdir -> Remove-Item
Alias rmw -> Remove-Module
Alias rni -> Remove-Item
Alias rnp -> Remove-ItemProperty
Alias rp -> Remove-ItemProperty
Alias rsn -> Remove-PSSession
Alias rsnp -> Remove-PSSnapin
Alias rjb -> Remove-Job
Alias rv -> Remove-Variable
Alias rupa -> Resolve-Path
Alias rwt -> Remove-WebObject
Alias sagb -> Start-Job
Alias sal -> Set-Alias
Alias saps -> Start-Process
Alias scsv -> Start-Service
Alias sbp -> Set-PSBreakpoint
Alias sc -> Set-Content 3.1.0.0 Microsoft.PowerShell.Management
Alias scb -> Set-Clipboard
Alias select -> Select-Object
Alias set -> Set-Variable
Alias shcm -> Show-Command
Alias si -> Set-Item
Alias sl -> Set-Location
Alias slasp -> Start-Sleep
Alias sls -> Select-String
Alias sort -> Sort-Object
Alias sp -> Set-ItemProperty
Alias spjb -> Stop-Job
Alias spps -> Stop-Process
Alias spsr -> Stop-Service
Alias start -> Start-Process 3.1.0.0 Microsoft.PowerShell.Management
Alias stc -> Set-Timeline
Alias tsjb -> Test-Job
Alias sv -> Set-Variable
Alias smi -> Set-ModuleInstance
Alias tee -> Tee-Object
Alias trace -> Trace-Command
Alias type -> Get-Content
Alias wget -> Invoke-WebRequest
Alias where -> Where-Object
Alias wjb -> Wait-Job
Alias write -> Write-Output

PS C:\Users\TEMP.IIT.005> ^C
PS C:\Users\TEMP.IIT.005> New-Alias -Name processz -Value { }
cmdlet New-Alias at command pipeline position 1
Supply values for the following parameters:
Value:
PS C:\Users\TEMP.IIT.005> Get-Alias "processz"
Get-Alias : This command cannot find a matching alias because an alias with the name "processz" does not exist.
At line:1 char:1
+ Get-Alias "processz"
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (processz:String) [Get-Alias], ItemNotFoundException
+ FullyQualifiedErrorId : ItemNotFoundException,Microsoft.PowerShell.Commands.GetAliasCommand

PS C:\Users\TEMP.IIT.005> New-Alias -Name processz -Value { }
cmdlet New-Alias at command pipeline position 1
Supply values for the following parameters:
Value:
PS C:\Users\TEMP.IIT.005> Get-Alias "processz"

CommandType Name Version Source
-----
Alias processz -> {}
```

```
Windows PowerShell (x86)
Supply values for the following parameters:
Value:
PS C:\Users\TEMP.IIT.005> Get-Alias "process"
Get-Alias : This command cannot find a matching alias because an alias with the name "process" does not exist.
At line:1 char:1
+ Get-Alias "process"
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (process:String) [Get-Alias], ItemNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\TEMP.IIT.005> New-Alias "process"
cmdlet New-Alias at command pipeline position 1
Supply values for the following parameters:
Value:
PS C:\Users\TEMP.IIT.005> Get-Alias "process"

CommandType      Name
-----
Alias             process -> 5

PS C:\Users\TEMP.IIT.005> Get-Alias "process" Get-Process
Get-Alias : A positional parameter cannot be found that accepts argument 'Get-Process'.
At line:1 char:1
+ Get-Alias "process" Get-Process
+ ~~~~~
+ CategoryInfo          : InvalidArgument: (:) [Get-Alias], ParameterBindingException
+ FullyQualifiedErrorId : PositionalParameterNotFound, Microsoft.PowerShell.Commands.GetAliasCommand

PS C:\Users\TEMP.IIT.005> process
process : The term 'process' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
At line:1 char:1
+ process
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (String:String) [CommandNotFoundException]
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\TEMP.IIT.005> New-Alias "process" Get-Process
New-Alias : New alias is not allowed, because an alias with the name "process" already exists.
At line:1 char:1
+ New-Alias "process" Get-Process
+ ~~~~~
+ CategoryInfo          : ResourceExists: (process:String) [New-Alias], ResourceExistsException
+ FullyQualifiedErrorId : AliasAlreadyExists, Microsoft.PowerShell.Commands.NewAliasCommand

PS C:\Users\TEMP.IIT.005> process
process : The term 'process' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
At line:1 char:1
+ process
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (String:String) [CommandNotFoundException]
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\TEMP.IIT.005> Get-Alias process

CommandType      Name
-----
Alias             process -> 5

PS C:\Users\TEMP.IIT.005>
```

7. Listázza ki az adott meghajtón lévő szolgáltatásokat - formázott lista/tábla?

```
Windows PowerShell (x86)
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\TEMP.IIT.005> cd ..
PS C:\Users> cd ..
PS C:\> cd Windows
PS C:\Windows> cd system32
PS C:\Windows\system32> Get-Service | fl formazottlista, status

Status : Stopped
Status : Running
Status : Stopped
Status : Stopped
Status : Stopped
Status : Stopped
Status : Stopped
Status : Stopped
Status : Stopped
Status : Stopped
Status : Stopped
Status : Running
Status : Running
Status : Stopped
Status : Stopped
Status : Stopped
Status : Running
Status : Running
Status : Stopped
Status : Stopped
Status : Stopped
Status : Stopped
Status : Running
Status : Running
Status : Running
Status : Running
```

8. Rendezze sorba név szerint (növekvő/csökkenő) az objektumokat!

```
Windows PowerShell (x86)

PS C:\Windows\system32> ^C
PS C:\Windows\system32> Get-Service | Sort-Object name

Status  Name                DisplayName
-----
Stopped AarSvc_11143b       Agent Activation Runtime_11143b
Running AdobeARMService Adobe Acrobat Update Service
Stopped AJRouter      AllJoyn Router Service
Stopped ALG           Application Layer Gateway Service
Stopped AppIDSvc      Application Identity
Stopped Appinfo       Application Information
Stopped AppMgmt       Application Management
Stopped AppReadiness  App Readiness
Stopped AppVClient    Microsoft App-V Client
Stopped AppXSvc       AppX Deployment Service (AppXSVC)
Stopped aspnet_state  ASP.NET State Service
Stopped AssignedAccessM... AssignedAccessManager Service
Running AudioEndpointBu... Windows Audio Endpoint Builder
Running Audiosrv      Windows Audio
Stopped autotimesvc   Cellular Time
Stopped AxInstSV      ActiveX Installer (AxInstSV)
Stopped BcastDVRUserSer... GameDVR and Broadcast User Service_...
Stopped BDESVC        BitLocker Drive Encryption Service
Running BFE           Base Filtering Engine
Running BITS          Background Intelligent Transfer Ser...
Stopped BluetoothUserSe... Bluetooth User Support Service_11143b
Running BrokerInfrastru... Background Tasks Infrastructure Ser...
Running Browser       Computer Browser
Stopped BTAGService   Bluetooth Audio Gateway Service
Stopped BthAvctpSvc   AVCTP service
Stopped bthserv       Bluetooth Support Service
Stopped camsvc        Capability Access Manager Service
Stopped CaptureService_... CaptureService_11143b
Running cbdhsvc_11143b Clipboard User Service_11143b
Running CDPSvc        Connected Devices Platform Service
Running CDPUserSvc_11143b Connected Devices Platform User Ser...
Running CertPropSvc   Certificate Propagation
Stopped ClipSVC       Client License Service (ClipSVC)
Stopped COMSysApp     COM+ System Application
Stopped ConsentUxUserSv... ConsentUX_11143b
Running CoreMessagingRe... CoreMessaging
Stopped CredentialEnrol... CredentialEnrollmentManagerUserSvc_...
Running CryptSvc      Cryptographic Services
Stopped CscService    Offline Files
Running DcomLaunch    DCOM Server Process Launcher
Stopped defragsvc     Optimize drives
Stopped DeviceAssociati... DeviceAssociationBroker_11143b
Stopped DeviceAssociati... Device Association Service
Stopped DeviceInstall  Device Install Service
Stopped DevicePickerUse... DevicePicker_11143b
Stopped DevicesFlowUser... DevicesFlow_11143b
Stopped DevQueryBroker DevQuery Background Discovery Broker
Running Dhcp          DHCP Client
Stopped diagnosticshub.... Microsoft (R) Diagnostics Hub Stand...
Stopped diagsvc       Diagnostic Execution Service
Running DiagTrack     Connected User Experiences and Tele...
Running DispBrokerDeskt... Display Policy Service
Stopped DisplayEnhancem... Display Enhancement Service
Stopped DmEnrollmentSvc Device Management Enrollment Service
Stopped dmwappushservice Device Management Wireless Applicat...
Running Dnscache      DNS Client
Running DoSvc         Delivery Optimization
Stopped dot3svc       Wired AutoConfig
Running DPS           Diagnostic Policy Service
Stopped DsmSvc        Device Setup Manager
Stopped DsSvc         Data Sharing Service
Running DusbSvc       Data Usage
Stopped Eaphost       Extensible Authentication Protocol
Stopped EFS           Encrypting File System (EFS)
```


9. Kérdezze le azokat a neveket melynek első két betűje wi!

```
PS C:\Windows\system32> ^C
PS C:\Windows\system32> Get-Service | Where-Object { $_.name -like "wi*"}

Status      Name                DisplayName
-----
Stopped     WiaRpc              Still Image Acquisition Events
Running     WinDefend           Windows Defender Antivirus Service
Running     WinHttpAutoProx...  WinHTTP Web Proxy Auto-Discovery Se...
Running     Winmgmt             Windows Management Instrumentation
Stopped     WinRM               Windows Remote Management (WS-Manag...
Stopped     wisvc               Windows Insider Service

PS C:\Windows\system32>
```

10. Csoportosítsa állapot szerint az objektumokat!

```
PS C:\Windows\system32> Get-Service | Group-Object status

Count Name                Group
-----
180 Stopped              {AarSvc_11143b, AJRouter, ALG, AppIDSvc...}
95 Running              {AdobeARMservice, AudioEndpointBuilder, Audiosrv, BFE...}
2 StartPending          {SQLPBDMS, SQLPBENGINE}
```

11. Számolja meg az objektumokat!

```
PS C:\Windows\system32> Get-Service | Measure-Object

Count      : 277
Average    :
Sum        :
Maximum    :
Minimum    :
Property   :
```

12. Számolj meg az objektumok: max, min, avg, sum szerint!

```
PS C:\Windows\system32> Get-Process | Measure-Object -Property id -Maximum -Minimum -Average -Sum

Count      : 143
Average    : 4362,88111888112
Sum        : 623892
Maximum    : 10564
Minimum    : 0
Property   : Id
```

13. Hozzon létre egy szoveg nevű változót, melynek értéke: Miskolc

```
PS C:\Users\Kinga> $szoveg="Miskolc"  
PS C:\Users\Kinga>
```

15. Végezze el a következő műveleteket ((length, ToUpper, Replace, Contains, Split) a \$szoveg változó értékeivel

```
PS C:\Users\Kinga> $szoveg="Miskolc"  
PS C:\Users\Kinga>  
PS C:\Users\Kinga>  
PS C:\Users\Kinga>  
PS C:\Users\Kinga>  
PS C:\Users\Kinga>  
PS C:\Users\Kinga>  
PS C:\Users\Kinga> $szoveg="Miskolc"  
PS C:\Users\Kinga> $szoveg.length  
7  
PS C:\Users\Kinga> $szoveg.ToUpper()  
MISKOLC  
PS C:\Users\Kinga> $szoveg.Replace("kol", "***")  
Mis***c  
PS C:\Users\Kinga> $szoveg -contains "mama"  
False  
PS C:\Users\Kinga> $szoveg.Split("l")  
Misko  
c  
PS C:\Users\Kinga>
```

16. Készítsen a C:\ meghajtóra egy neptunkod.txt fájl, melynek tartalma a teljes neve.

Végezze el a következő feladatokat!

- a) Definiálás:
- b) Beolvasás:
- c) Tartalom megjelenítés:
- d) Sorok száma:
- e) Fájl adatok:

```
PS C:\Users\Kinga> $f= "C:\Users\Kinga\F75CP6.txt"
PS C:\Users\Kinga> $tartalom = Get-Content $f
PS C:\Users\Kinga> $tartalom
Tamas Kinga
PS C:\Users\Kinga> $tartalom.Count
1
PS C:\Users\Kinga> Get-Item $f
```

Directory: C:\Users\Kinga

Mode		LastWriteTime	Length	Name
----		-----	-----	----
-a----	2022. 03. 01.	20:37	13	F75CP6.txt

```
PS C:\Users\Kinga>
```