

Operációs rendszerek BSc

4. Gyak.

2022. 02. 28.

Készítette:

Hauer Attila Árpád Bsc

Szak: Mérnökinformatikus

Neptunkód: JJL4WE

Miskolc, 2022

1. feladat

a)

```

Terminal
File Edit View Search Terminal Help
top - 12:21:30 up 14 min, 1 user, load average: 0.36, 1.17, 1.24
Tasks: 249 total, 1 running, 248 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.0 us, 0.1 sy, 0.0 ni, 99.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 8099456 total, 5502036 free, 858664 used, 1738756 buff/cache
KiB Swap: 4990972 total, 4990972 free, 0 used. 6702468 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 5520 hauer      20   0 600760 20248 91132 S   1.7   1.5   0:36.67 chrome
 4181 root        20   0 250480 70432 26968 S   1.0   0.9   0:21.00 Xorg
 7399 hauer      20   0 777588 139980 99772 S   1.0   1.7   0:10.13 chrome
 2437 mongod     20   0 388320 44452 17956 S   0.3   0.5   0:02.59 mongod
 7723 hauer      20   0 35212 3648 2980 R   0.3   0.0   0:00.03 top
   1 root        20   0 38284 6364 4000 S   0.0   0.1   0:02.64 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   0:00.00 ksoftirqd/0
   4 root        20   0    0    0    0 S   0.0   0.0   0:00.06 kworker/0:0
   5 root        0 -20    0    0    0 S   0.0   0.0   0:00.00 kworker/0:0+
   7 root        20   0    0    0    0 S   0.0   0.0   0:01.15 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   0:00.15 migration/1
  13 root        20   0    0    0    0 S   0.0   0.0   0:00.01 ksoftirqd/1

```

b)

```

Terminal
File Edit View Search Terminal Help
hauer@lab103-25 ~/Desktop $ cd
hauer@lab103-25 ~ $ vmstat
procs -----memory----- --swap-- -----io----- -system-- -----cpu-----
 r b  swpd   free   buff  cache   si   so    bi    bo    in   cs us sy id wa st
  0  0      0 5184612 177436 1623860    0    0   160   30  107  380  2  1 94  3
  0
hauer@lab103-25 ~ $

```

C)

```
Terminal
File Edit View Search Terminal Help
hauer@lab103-25 ~/Desktop $ cd
hauer@lab103-25 ~ $ vmstat
procs -----memory----- ---swap-- -----io----- -system-- -----cpu-----
 r b   swpd   free   buff  cache   si   so    bi    bo    in   cs us sy id wa st
 0 0     0 5184612 177436 1623860    0    0   160   30  107  380  2  1 94  3
 0
hauer@lab103-25 ~ $ w hauer
12:27:59 up 20 min,  1 user,  load average: 0.71, 2.34, 2.03
USER      TTY      FROM          LOGIN@  IDLE   JCPU   PCPU WHAT
hauer     tty7      :0            12:08   ?     36.04s  0.19s mate-session
hauer@lab103-25 ~ $ w
12:28:03 up 20 min,  1 user,  load average: 0.71, 2.34, 2.03
USER      TTY      FROM          LOGIN@  IDLE   JCPU   PCPU WHAT
hauer     tty7      :0            12:08   ?     36.06s  0.19s mate-session
hauer@lab103-25 ~ $
```

D)

```
zsatesz@zsatesz-VirtualBox:~$ who -b
rendszerindulás 2022-03-06 16:47
zsatesz@zsatesz-VirtualBox:~$
```

E)

```
Terminal
File Edit View Search Terminal Help
7858 ?      00:00:00 kworker/4:2H
7871 ?      00:00:00 kworker/3:1
7910 ?      00:00:00 chrome
7931 ?      00:00:00 kworker/0:2H
7932 ?      00:00:00 chrome
7988 ?      00:00:52 chrome
8000 ?      00:00:00 kworker/4:1
8035 ?      00:00:00 kworker/5:2H
8044 ?      00:00:00 kworker/6:2H
8046 ?      00:00:00 kworker/2:2H
8049 ?      00:00:00 kworker/3:2H
8093 ?      00:00:00 kworker/1:1H
8171 ?      00:00:00 kworker/u16:1
8191 ?      00:00:01 mate-terminal
8196 pts/0   00:00:00 bash
8256 ?      00:00:00 kworker/1:2
8299 ?      00:00:00 kworker/1:1
8329 ?      00:00:00 kworker/u16:0
8389 ?      00:00:00 kworker/4:0H
8393 ?      00:00:00 kworker/1:2H
8401 ?      00:00:00 kworker/2:0
8423 ?      00:00:00 kworker/5:1
8428 pts/0   00:00:00 ps
hauer@lab103-25 ~ $
```

```
Terminal
File Edit View Search Terminal Help
0:00 [kworker/1:1H]
1 S root      8171      2 0 80 0 - 0 - 0 2 12:25 ? 00:0
0:00 [kworker/u16:1]
0 S hauer     8191      1 0 80 0 - 140925 poll_s 36516 4 12:26 ? 00:0
0:01 mate-terminal
0 S hauer     8196 8191 0 80 0 - 3627 wait 3552 6 12:26 pts/0 00:0
0:00 bash
1 S root      8256      2 0 80 0 - 0 - 0 2 12:27 ? 00:0
0:00 [kworker/2:2]
1 S root      8299      2 0 80 0 - 0 - 0 1 12:28 ? 00:0
0:00 [kworker/1:1]
1 S root      8329      2 0 80 0 - 0 - 0 3 12:31 ? 00:0
0:00 [kworker/u16:0]
1 S root      8389      2 0 60 -20 - 0 - 0 4 12:32 ? 00:0
0:00 [kworker/4:0H]
1 S root      8393      2 0 60 -20 - 0 - 0 1 12:32 ? 00:0
0:00 [kworker/1:2H]
1 S root      8401      2 0 80 0 - 0 - 0 2 12:32 ? 00:0
0:00 [kworker/2:0]
1 S root      8423      2 0 80 0 - 0 - 0 5 12:33 ? 00:0
0:00 [kworker/5:1]
4 R hauer     8459 8196 0 80 0 - 7668 - 1496 1 12:34 pts/0 00:0
0:00 ps -AlF
hauer@lab103-25 ~ $
```

```
Terminal
File Edit View Search Terminal Help
1 - 0 8299 2 0 - - - 0 - ? 00:00:00 kworker/1:1
1 S 0 - - 0 80 0 - - - - 00:00:00 -
1 - 0 8329 2 0 - - - 0 - ? 00:00:00 kworker/u16:0
1 S 0 - - 0 80 0 - - - - 00:00:00 -
1 - 0 8389 2 0 - - - 0 - ? 00:00:00 kworker/4:0H
1 S 0 - - 0 60 -20 - - - - 00:00:00 -
1 - 0 8393 2 0 - - - 0 - ? 00:00:00 kworker/1:2H
1 S 0 - - 0 60 -20 - - - - 00:00:00 -
1 - 0 8401 2 0 - - - 0 - ? 00:00:00 kworker/2:0
1 S 0 - - 0 80 0 - - - - 00:00:00 -
1 - 0 8423 2 0 - - - 0 - ? 00:00:00 kworker/5:1
1 S 0 - - 0 80 0 - - - - 00:00:00 -
0 - 9208 8461 1 0 - - - 209554 - ? 00:00:00 mate-screensho
0 S 9208 - - 0 80 0 - - poll_s - 00:00:00 -
1 S 9208 - - 0 80 0 - - poll_s - 00:00:00 -
1 S 9208 - - 0 80 0 - - poll_s - 00:00:00 -
1 S 9208 - - 0 80 0 - - poll_s - 00:00:00 -
1 - 9208 8471 8461 0 - - - 212090 - ? 00:00:00 mate-screensho
1 S 9208 - - 0 80 0 - - pipe_w - 00:00:00 -
1 - 0 8492 2 0 - - - 0 - ? 00:00:00 kworker/3:0
1 S 0 - - 0 80 0 - - - - 00:00:00 -
4 - 9208 8496 8196 0 - - - 7615 - pts/0 00:00:00 ps
4 R 9208 - - 0 80 0 - - - - 00:00:00 -
hauer@lab103-25 ~ $
```

```
Terminal
File Edit View Search Terminal Help
8000 ? S 0:00 [kworker/4:1]
8035 ? S< 0:00 [kworker/5:2H]
8044 ? S< 0:00 [kworker/6:2H]
8046 ? S< 0:00 [kworker/2:2H]
8049 ? S< 0:00 [kworker/3:2H]
8093 ? S< 0:00 [kworker/1:1H]
8191 ? RL 0:01 mate-terminal
8196 pts/0 Ss 0:00 bash
8256 ? S 0:00 [kworker/2:2]
8299 ? S 0:00 [kworker/1:1]
8329 ? S 0:00 [kworker/u16:0]
8389 ? S< 0:00 [kworker/4:0H]
8393 ? S< 0:00 [kworker/1:2H]
8401 ? S 0:00 [kworker/2:0]
8423 ? S 0:00 [kworker/5:1]
8461 ? Sl 0:00 mate-screenshot --window
8471 ? S 0:00 mate-screenshot --window
8492 ? S 0:00 [kworker/3:0]
8498 ? Sl 0:00 mate-screenshot --window
8508 ? S 0:00 mate-screenshot --window
8524 ? S 0:00 [kworker/0:1]
8525 ? S 0:00 [kworker/u16:1]
8528 pts/0 R+ 0:00 ps ax
hauer@lab103-25 ~ $
```

```
Terminal
File Edit View Search Terminal Help
5499 7399 5039 5039 ? -1 SL 9208 0:22 | \_ /opt/google
5499 7414 5039 5039 ? -1 SL 9208 0:02 | \_ /opt/google
5499 7473 5039 5039 ? -1 SL 9208 0:18 | \_ /opt/google
5499 7489 5039 5039 ? -1 SL 9208 0:00 | \_ /opt/google
5499 7910 5039 5039 ? -1 SL 9208 0:00 | \_ /opt/google
5499 7988 5039 5039 ? -1 SL 9208 1:12 | \_ /opt/google
5481 5520 5039 5039 ? -1 SL 9208 1:32 \_ /opt/google/chrome/
5481 5532 5039 5039 ? -1 SL 9208 0:07 \_ /opt/google/chrome/
5481 7932 5039 5039 ? -1 SL 9208 0:00 \_ /opt/google/chrome/
1 7244 7244 7244 ? -1 Ss 0 0:00 /usr/sbin/cupsd -l
1 7246 7246 7246 ? -1 Ssl 0 0:00 /usr/sbin/cups-browsed
1 7741 5039 5039 ? -1 SL 9208 0:00 /usr/lib/gvfs/gvfsd-net
1 7755 5039 5039 ? -1 SL 9208 0:00 /usr/lib/gvfs/gvfsd-smb
1 7769 5039 5039 ? -1 SL 9208 0:00 /usr/lib/gvfs/gvfsd-dns
1 8191 4961 4961 ? -1 SL 9208 0:01 mate-terminal
8191 8196 8196 8196 pts/0 8590 Ss 9208 0:00 \_ bash
8196 8590 8590 8196 pts/0 8590 R+ 9208 0:00 \_ ps axjf
1 8461 4961 4961 ? -1 SL 9208 0:00 mate-screenshot --windo
8461 8471 4961 4961 ? -1 S 9208 0:00 \_ mate-screenshot --w
1 8498 4961 4961 ? -1 SL 9208 0:00 mate-screenshot --windo
8498 8508 4961 4961 ? -1 S 9208 0:00 \_ mate-screenshot --w
1 8530 4961 4961 ? -1 SL 9208 0:00 mate-screenshot --windo
8530 8540 4961 4961 ? -1 S 9208 0:00 \_ mate-screenshot --w
hauer@lab103-25 ~ $
```

f)

```
Terminal
File Edit View Search Terminal Help
5499 7910 5039 5039 ? -1 SL 9208 0:00 | \_ /opt/google
5499 7988 5039 5039 ? -1 SL 9208 1:12 | \_ /opt/google
5481 5520 5039 5039 ? -1 SL 9208 1:32 \_ /opt/google/chrome/
5481 5532 5039 5039 ? -1 SL 9208 0:07 \_ /opt/google/chrome/
5481 7932 5039 5039 ? -1 SL 9208 0:00 \_ /opt/google/chrome/
1 7244 7244 7244 ? -1 Ss 0 0:00 /usr/sbin/cupsd -l
1 7246 7246 7246 ? -1 Ssl 0 0:00 /usr/sbin/cups-browsed
1 7741 5039 5039 ? -1 SL 9208 0:00 /usr/lib/gvfs/gvfsd-net
1 7755 5039 5039 ? -1 SL 9208 0:00 /usr/lib/gvfs/gvfsd-smb
1 7769 5039 5039 ? -1 SL 9208 0:00 /usr/lib/gvfs/gvfsd-dns
1 8191 4961 4961 ? -1 SL 9208 0:01 mate-terminal
8191 8196 8196 8196 pts/0 8590 Ss 9208 0:00 \_ bash
8196 8590 8590 8196 pts/0 8590 R+ 9208 0:00 \_ ps axjf
1 8461 4961 4961 ? -1 SL 9208 0:00 mate-screenshot --windo
8461 8471 4961 4961 ? -1 S 9208 0:00 \_ mate-screenshot --w
1 8498 4961 4961 ? -1 SL 9208 0:00 mate-screenshot --windo
8498 8508 4961 4961 ? -1 S 9208 0:00 \_ mate-screenshot --w
1 8530 4961 4961 ? -1 SL 9208 0:00 mate-screenshot --windo
8530 8540 4961 4961 ? -1 S 9208 0:00 \_ mate-screenshot --w
hauer@lab103-25 ~ $ free
              total        used        free      shared  buff/cache   available
Mem:           8099456       1112836       5305812         119376       1680808       6544184
Swap:          4990972           0       4990972
hauer@lab103-25 ~ $
```

g)

```
zsatesz@zsatesz-VirtualBox: ~
Fájl Szerkesztés Nézet Keresés Terminál Súgó

update-alternatives: /usr/bin/sar.sysstat használata /usr/bin/sar (sar) biztosít
ásához automatikus módban
Created symlink /etc/systemd/system/multi-user.target.wants/sysstat.service → /l
ib/systemd/system/sysstat.service.
Aktiválók feldolgozása: systemd (245.4-4ubuntu3.6) ...
Aktiválók feldolgozása: man-db (2.9.1-1) ...
Aktiválók feldolgozása: doc-base (0.10.9) ...
Processing 1 added doc-base file...
zsatesz@zsatesz-VirtualBox:~$ iostat
Linux 5.4.0-74-generic (zsatesz-VirtualBox)      2022-03-06      _x86_64_      (
6 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
            1,52    0,01    0,99    0,27    0,00   97,22

Device            tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_w
rtn    kB_dscd
sda                95,48        2610,74        225,04          0,00       907991       78
265                0
scd0                0,18          0,66          0,00          0,00         228
0                0

zsatesz@zsatesz-VirtualBox:~$
```

h)

```
zsatesz@zsatesz-VirtualBox:~$ ps -sar
  UID        PID  PENDING   BLOCKED   IGNORED   CAUGHT  STAT TTY      TIME COMMA
ND
  1000        3191  00000000  00000000  00000000 <f3d1fef9 R+    pts/0      0:00 ps -s
zsatesz@zsatesz-VirtualBox:~$
```

i)

```
zsatesz@zsatesz-VirtualBox:~$ mpstat
Linux 5.4.0-74-generic (zsatesz-VirtualBox)      2022-03-06      _x86_64_      (
6 CPU)

16:54:17      CPU    %usr   %nice    %sys %iowait    %irq   %soft  %steal  %guest
      %gnice   %idle
16:54:17    all     1,41    0,01    0,71    0,21    0,00    0,10    0,00    0,00
      0,00   97,56
zsatesz@zsatesz-VirtualBox:~$
```


J)

```
zsatesz@zsatesz-VirtualBox: ~  
Fájl Szerkesztés Nézet Keresés Terminál Súgó  
00007f20d2535000      4K rw--- /usr/lib/x86_64-linux-gnu/libgobject-2.0.so.0.6400.6  
00007f20d2536000    224K r---- /usr/lib/x86_64-linux-gnu/libgio-2.0.so.0.6400.6  
00007f20d256e000   1100K r-x-- /usr/lib/x86_64-linux-gnu/libgio-2.0.so.0.6400.6  
00007f20d2681000    552K r---- /usr/lib/x86_64-linux-gnu/libgio-2.0.so.0.6400.6  
00007f20d270b000    36K r---- /usr/lib/x86_64-linux-gnu/libgio-2.0.so.0.6400.6  
00007f20d2714000    4K rw--- /usr/lib/x86_64-linux-gnu/libgio-2.0.so.0.6400.6  
00007f20d2715000    16K rw--- [ anon ]  
00007f20d271a000    28K r--s- /usr/lib/x86_64-linux-gnu/gconv/gconv-modules.cache  
00007f20d2721000    40K r---- /usr/share/locale-langpack/hu/LC_MESSAGES/gvfs.mo  
00007f20d272b000    4K r---- /usr/lib/x86_64-linux-gnu/ld-2.31.so  
00007f20d272c000   140K r-x-- /usr/lib/x86_64-linux-gnu/ld-2.31.so  
00007f20d274f000    32K r---- /usr/lib/x86_64-linux-gnu/ld-2.31.so  
00007f20d2757000    4K r--s- /run/user/1000/dconf/user  
00007f20d2758000    4K r---- /usr/lib/x86_64-linux-gnu/ld-2.31.so  
00007f20d2759000    4K rw--- /usr/lib/x86_64-linux-gnu/ld-2.31.so  
00007f20d275a000    4K rw--- [ anon ]  
00007ffe4a534000   132K rw--- [ stack ]  
00007ffe4a5ca000    12K r---- [ anon ]  
00007ffe4a5cd000    4K r-x-- [ anon ]  
fffffffff600000    4K --x-- [ anon ]  
total          468184K  
zsatesz@zsatesz-VirtualBox:~$
```

II.Rész

1)

```
C:\Users\Ati\AppData\Roaming' x + v  
Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.  
  
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows  
  
PS C:\Users\Ati> $PSVersionTable  
  
Name Value  
----  
PSVersion 5.1.22563.1  
PSEdition Desktop  
PSCompatibleVersions {1.0, 2.0, 3.0, 4.0...}  
BuildVersion 10.0.22563.1  
CLRVersion 4.0.30319.42000  
WSManStackVersion 3.0  
PSRemotingProtocolVersion 2.3  
SerializationVersion 1.1.0.1  
  
PS C:\Users\Ati> |
```

2)


```
C:\Users\Ati\AppData\Roaming' x + v - □ x
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Ati> $PSVersionTable

Name                           Value
----                           -
PSVersion                      5.1.22563.1
PSEdition                      Desktop
PSCompatibleVersions           {1.0, 2.0, 3.0, 4.0...}
BuildVersion                   10.0.22563.1
CLRVersion                     4.0.30319.42000
WSManStackVersion              3.0
PSRemotingProtocolVersion      2.3
SerializationVersion           1.1.0.1

PS C:\Users\Ati> get-date

2022. március 6., vasárnap 16:13:17

PS C:\Users\Ati> |
```

3)

```
C:\Users\Ati\AppData\Roaming' x + v - □ x
Stopped SensorDataService Érzékelőadat-szolgáltatás
Stopped SensorService Érzékelőszolgáltatás
Stopped SensrSvc Érzékelőfigyelési szolgáltatás
Stopped SessionEnv Távoli asztal beállítása
Running SgrmBroker Rendszerőr futásidejű figyelésszerv...
Stopped SharedAccess Internetkapcsolat megosztása (ICS)
Stopped SharedRealitySvc Térbeli adatszolgáltatás
Running ShellHWDetection Felület hardverfigyelése
Stopped shpamsvc Shared PC Account Manager
Stopped smphost Microsoft Tárolóhelyek tárfelügyele...
Stopped SmsRouter Microsoft Windows SMS-útválasztó sz...
Stopped SNMPTrap SNMP-trap
Stopped spectrum Windows Perception Service
Running Spooler Nyomtatási várólista
Stopped sppsvc Szoftvervédelem
Running SSDPSRV SSDP kereső
Stopped ssh-agent OpenSSH Authentication Agent
Running SstpSvc Secure Socket Tunneling Protocol (S...
Running StateRepository Állapottárház szolgáltatás
Stopped Steam Client Se... Steam Client Service
Stopped StiSvc Windows képbevitel (WIA)
Running StorSvc Társzolgáltatás
Stopped svsvc Szektorhiba-kereső
Stopped swprv Microsoft Kötet árnyékmásolata szol...
Running SysMain SysMain
Running SystemEventsBroker Rendszeresemény-szervező
Running SystemUsageRepo... Intel(R) System Usage Report Servic...
Stopped TapiSrv Telefonos szolgáltatások
Running TermService Távoli asztali szolgáltatások
Running TextInputManage... Szövegbevitel-kezelő szolgáltatás
```

4)

```

C:\Users\Ati\AppData\Roaming' x + v
d----- 2022. 02. 27. 10:21 .cache
d----- 2021. 09. 28. 11:17 .config
d----- 2022. 02. 27. 10:21 .eclipse
d----- 2021. 01. 15. 7:57 .Origin
d----- 2022. 02. 27. 10:21 .p2
d----- 2020. 10. 24. 20:23 .QtWebEngineProcess
d----- 2021. 09. 28. 11:17 .ssh
d----- 2022. 02. 27. 17:35 .VirtualBox
d----- 2021. 09. 10. 10:29 .vscode
d-r--- 2020. 10. 23. 15:30 3D Objects
d----- 2020. 10. 24. 20:23 ansel
d-r--- 2022. 02. 27. 19:21 Contacts
d-r--- 2022. 02. 27. 19:21 Desktop
d-r--- 2022. 02. 27. 19:21 Documents
d-r--- 2022. 03. 06. 16:09 Downloads
d----- 2022. 02. 27. 10:11 eclipse
d-r--- 2022. 02. 27. 19:21 Favorites
d-r--- 2022. 02. 27. 19:21 Links
d-r--- 2022. 02. 27. 19:21 Music
d----- 2021. 09. 19. 18:59 NCH Software Suite
dar--l 2021. 11. 28. 20:00 OneDrive
d-r--- 2022. 02. 27. 19:21 Pictures
d-r--- 2022. 02. 27. 19:21 Saved Games
d-r--- 2022. 02. 27. 19:21 Searches
d-r--- 2022. 03. 06. 9:47 Videos
d----- 2021. 11. 28. 10:57 VirtualBox VMs
-a---- 2022. 02. 13. 15:05 218 .gitconfig

PS C:\Users\Ati> |

```

5)

```

C:\Users\Ati\AppData\Roaming' x + v
Alias sbp -> Set-PSBreakpoint
Alias sc -> Set-Content
Alias scb -> Set-Clipboard 3.1.0.0 Microsoft.PowerShell.Management
Alias select -> Select-Object
Alias set -> Set-Variable
Alias shcm -> Show-Command
Alias si -> Set-Item
Alias sl -> Set-Location
Alias sleep -> Start-Sleep
Alias sls -> Select-String
Alias sort -> Sort-Object
Alias sp -> Set-ItemProperty
Alias spjb -> Stop-Job
Alias spps -> Stop-Process
Alias spsv -> Stop-Service
Alias start -> Start-Process
Alias stz -> Set-TimeZone 3.1.0.0 Microsoft.PowerShell.Management
Alias sujb -> Suspend-Job
Alias sv -> Set-Variable
Alias swmi -> Set-WmiInstance
Alias tee -> Tee-Object
Alias trem -> 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\Ati> |

```

6)

```
C:\Users\Ati\AppData\Roaming' X + v - □

PS C:\Users\Ati> New-Alias „processz” Get-Process
PS C:\Users\Ati> processz

Handles NPM(K) PM(K) WS(K) CPU(s) Id SI ProcessName
-----
124 9 2272 9824 5932 0 AggregatorHost
470 182 65276 22084 30,31 8660 1 AISuite3
301 19 5516 30268 0,72 16440 1 ApplicationFrameHost
152 9 1800 8144 4176 0 AppVShNotify
158 9 2108 9032 0,08 12360 1 AppVShNotify
130 10 1664 6612 3124 0 armsvc
401 24 42452 176840 3,97 5492 1 AsusDownloadLicense
250 18 3184 17788 728 0 AsusFanControlService
298 15 3236 14268 4092 0 AsusUpdateCheck
769 31 98556 138000 6784 0 aswEngSrv
1050 284 54696 63424 7648 0 aswidsagent
1301 38 83840 56712 3424 0 aswToolsSvc
209 15 7768 12000 4148 0 atkexComSvc
255 18 16944 28624 3 535,80 13268 0 audiodg
6311 155 251272 220764 2344 0 AvastSvc
650 32 26648 37860 0,53 1840 1 AvastUI
464 27 20516 29672 0,36 9516 1 AvastUI
538 32 22124 36784 0,45 12104 1 AvastUI
2223 54 47052 75520 244,30 13196 1 AvastUI
327 20 97336 148688 4,28 1196 1 chrome
855 23 88964 148212 10,11 1724 1 chrome
265 17 16444 45500 0,20 2928 1 chrome
230 11 2536 8516 0,03 5264 1 chrome
362 21 71628 138088 11,52 8800 1 chrome
1722 64 94568 186988 92,81 11300 1 chrome

C:\Users\Ati\AppData\Roaming' X + v - □ X

292 24 10832 21184 0,06 14204 1 UplayWebCore
354 25 10140 27064 2,95 14416 1 UplayWebCore
392 60 78260 70164 5,44 14916 1 UplayWebCore
358 59 80952 96296 6,89 14948 1 UplayWebCore
368 38 38208 63000 1,83 15056 1 UplayWebCore
269 20 7224 16804 0,22 15076 1 UplayWebCore
208 12 14132 21624 4664 0 vgc
270 16 5028 11392 0,33 3016 1 wargamingerrormonitor
940 56 49152 68148 20,55 7644 1 wgc
657 43 51408 45144 11,67 8532 1 wgc_renderer_host
484 45 61516 82480 44,48 10488 1 wgc_renderer_host
420 30 11352 25264 0,47 10936 1 wgc_renderer_host
737 29 8632 43984 1,72 7880 1 Widgets
766 44 52652 91360 7,66 18928 1 WindowsTerminal
140 12 1504 15096 912 0 wininit
271 12 2456 24456 1120 1 winlogon
1644 68 151612 230048 25,31 14516 1 WINWORD
192 13 3244 10184 2692 0 WmiPrvSE
177 12 2760 10604 12472 0 WmiPrvSE
543 24 7788 38644 2096 0 wsc_proxy

PS C:\Users\Ati> Get-Alias processz

CommandType Name Version Source
-----
Alias processz -> Get-Process

PS C:\Users\Ati> |
```

7)

```

C:\Users\Ati\AppData\Roaming' x + v
Name : WpnUserService_417c0
Status : Running

Name : wscsvc
Status : Running

Name : WSearch
Status : Running

Name : wuauserv
Status : Stopped

Name : WwanSvc
Status : Stopped

Name : XblAuthManager
Status : Stopped

Name : XblGameSave
Status : Stopped

Name : XboxGipSvc
Status : Stopped

Name : XboxNetApiSvc
Status : Stopped

Name : zksvc
Status : Stopped

```

8)

```

C:\Users\Ati\AppData\Roaming' x + v
Running WCAssistantService WC Assistant
Running WcmSvc Windows Csatlakozáskezelő
Stopped wcnscvc Windows azonnali csatlakozás - konf...
Stopped WdiServiceHost Diagnosztikai gazdaszolgáltatás
Running WdiSystemHost Diagnosztikagazda
Stopped WdNisSvc A Microsoft Defender víruskereső há...
Stopped WebClient WebClient
Running webthreatdefsvc Web Threat Defense szolgáltatás
Running webthreatdefuse... webthreatdefusersvc_417c0
Stopped WecSvc Windows Eseménygyűjtő
Stopped WEPHOSTSVC Windows titkosítás-szolgáltatói gazd...
Stopped Wercplsupport Hibajelentések vezérlőpult támogatása
Stopped WerSvc Windows hibajelentési szolgáltatás
Stopped WFDSCongMgrSvc Wi-Fi Direct-szolgáltatások csatlak...
Stopped WiaRpc Állókép-beviteli események
Stopped WinDefend Microsoft Defender víruskereső szol...
Running WinHttpAutoProx... WinHTTP automatikus webproxy-kereső...
Running Winmgmt Windows Management Instrumentation
Stopped WinRM Rendszerfelügyeleti webszolgáltatások
Stopped wisvc Windows Insider szolgáltatás
Running WlanSvc WLAN hálózat automatikus beállítása
Stopped wlidsvc Microsoft-fiók bejelentkezési segédje
Stopped wlpasvc Helyi profilkezelő szolgáltatás
Stopped WManSvc A Windows felügyeleti szolgáltatása
Stopped wmiApSrv WMI teljesítményadapter
Stopped WMPNetworkSvc A Windows Media Player hálózati megos...
Stopped workfolderssvc Munkahelyi mappák
Stopped WpcMonSvc Szülői felügyelet

```

9)

```

C:\Users\Ati\AppData\Roaming' x + v
Stopped WpcMonSvc Szülői felügyelet
Stopped WPDBusEnum Hordozható eszközök számbavételi sz...
Running WpnService A Windows leküldéses értesítéseit k...
Running WpnUserService_... WpnUserService_417c0
Running wscsvc Biztonsági központ
Running WSearch Windows Search
Stopped wuauerv Windows Update
Stopped WwanSvc WWAN automatikus konfigurálás
Stopped XblAuthManager Xbox Live engedélykezelő
Stopped XblGameSave Xbox Live játékmentés
Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live hálózati szolgáltatás
Stopped zksvc Zakynthos Service

PS C:\Users\Ati> Get-Service | Where-Object { $_.name -like "wi*" }

Status Name DisplayName
-----
Stopped WiaRpc Állókép-beviteli események
Stopped WinDefend Microsoft Defender víruskereső szol...
Running WinHttpAutoProx... WinHTTP automatikus webproxy-kereső...
Running Winmgmt Windows Management Instrumentation
Stopped WinRM Rendszerfelügyeleti webszolgáltatások
Stopped wisvc Windows Insider szolgáltatás

PS C:\Users\Ati> |

```

10)

```

C:\Users\Ati\AppData\Roaming' x + v
-----
Stopped WiaRpc Állókép-beviteli események
Stopped WinDefend Microsoft Defender víruskereső szol...
Running WinHttpAutoProx... WinHTTP automatikus webproxy-kereső...
Running Winmgmt Windows Management Instrumentation
Stopped WinRM Rendszerfelügyeleti webszolgáltatások
Stopped wisvc Windows Insider szolgáltatás

PS C:\Users\Ati> (Get-Service)-count
At line:1 char:14
+ (Get-Service)-count
+ ~~~~~
Unexpected token '-count' in expression or statement.
+ CategoryInfo          : ParserError: (:) [], ParentContainsErrorRecordE
+ FullyQualifiedErrorId : UnexpectedToken

PS C:\Users\Ati> (Get-Service).count
314
PS C:\Users\Ati> Get-service | group-object status

Count Name Group
-----
191 Stopped {AarSvc_417c0, AJRouter, ALG, AppIDSvc...}
123 Running {AdobeARMservice, Appinfo, AppMgmt, AppXSvc..

PS C:\Users\Ati> |

```

11)

```

C:\Users\Ati\AppData\Roaming' x + v

Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live hálózati szolgáltatás
Stopped zksvc Zakynthos Service

PS C:\Users\Ati> Get-Service | Where-Object { $_.name -like "wi*" }

Status Name DisplayName
-----
Stopped WiaRpc Állókép-beviteli események
Stopped WinDefend Microsoft Defender víruskereső szol...
Running WinHttpAutoProx... WinHTTP automatikus webproxy-kereső...
Running Winmgmt Windows Management Instrumentation
Stopped WinRM Rendszerfelügyeleti webszolgáltatások
Stopped wisvc Windows Insider szolgáltatás

PS C:\Users\Ati> (Get-Service)-count
At line:1 char:14
+ (Get-Service)-count
+ ~~~~~
Unexpected token '-count' in expression or statement.
+ CategoryInfo : ParserError: (:) [], ParentContainsErrorRecordException
+ FullyQualifiedErrorId : UnexpectedToken

PS C:\Users\Ati> (Get-Service).count
314
PS C:\Users\Ati> |

```

12)

```

C:\Users\Ati\AppData\Roaming' x + v - □ x

Measure-Object : A parameter cannot be found that matches parameter name 'average'.
At line:1 char:61
+ ... process | measure-object -property id -maximum -minimum -average -sum
+ ~~~~~
+ CategoryInfo : InvalidArgument: (:) [Measure-Object], ParameterBindingException
+ FullyQualifiedErrorId : NamedParameterNotFound,Microsoft.PowerShell.Commands.MeasureObjectCommand

PS C:\Users\Ati> Get-Process | Measure-Object -property id -Maximum -Minimum -Average -Sum
Measure-Object : A parameter cannot be found that matches parameter name 'Average'.
At line:1 char:61
+ ... Process | Measure-Object -property id -Maximum -Minimum -Average -Sum
+ ~~~~~
+ CategoryInfo : InvalidArgument: (:) [Measure-Object], ParameterBindingException
+ FullyQualifiedErrorId : NamedParameterNotFound,Microsoft.PowerShell.Commands.MeasureObjectCommand

PS C:\Users\Ati> Get-Process | Measure-Object -property id -Maximum -Minimum -Average -Sum

Count : 239
Average : 7661.05439330544
Sum : 1830992
Maximum : 20376
Minimum : 0
Property : Id

PS C:\Users\Ati> |

```

13)

```
C:\Users\Ati\AppData\Roaming' X + v
PS C:\Users\Ati> Get-Process | Measure-Object -property id -Maximum -Minimum -Average -Sum
Measure-Object : A parameter cannot be found that matches parameter name 'Avarage'.
At line:1 char:61
+ ... Process | Measure-Object -property id -Maximum -Minimum -Average -Sum
+ ~~~~~
+ CategoryInfo          : InvalidArgument: (:) [Measure-Object], ParameterBindingException
+ FullyQualifiedErrorId : NamedParameterNotFound,Microsoft.PowerShell.Commands.MeasureObject

PS C:\Users\Ati> Get-Process | Measure-Object -property id -Maximum -Minimum -Average -Sum

Count      : 239
Average    : 7661,05439330544
Sum        : 1830992
Maximum    : 20376
Minimum    : 0
Property   : Id

PS C:\Users\Ati> Get-Service | Where-Object { $_.name -eq "w32time" }

Status      Name      DisplayName
-----
Running     W32Time   Windows Time

PS C:\Users\Ati> |
```

14)

```
C:\Users\Ati\AppData\Roaming' X + v
Measure-Object : A parameter cannot be found that matches parameter name 'Avarage'.
At line:1 char:61
+ ... Process | Measure-Object -property id -Maximum -Minimum -Average -Sum
+ ~~~~~
+ CategoryInfo          : InvalidArgument: (:) [Measure-Object], ParameterBindingException
+ FullyQualifiedErrorId : NamedParameterNotFound,Microsoft.PowerShell.Commands.MeasureObjectCommand

PS C:\Users\Ati> Get-Process | Measure-Object -property id -Maximum -Minimum -Average -Sum

Count      : 239
Average    : 7661,05439330544
Sum        : 1830992
Maximum    : 20376
Minimum    : 0
Property   : Id

PS C:\Users\Ati> Get-Service | Where-Object { $_.name -eq "w32time" }

Status      Name      DisplayName
-----
Running     W32Time   Windows Time

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


15)

```
CA\Users\Ati\AppData\Roaming' X + v
Average : 7661,05439330544
Sum : 1830992
Maximum : 20376
Minimum : 0
Property : Id

PS C:\Users\Ati> Get-Service | Where-Object { $_.name -eq "w32time" }

Status Name DisplayName
-----
Running W32Time Windows Time

PS C:\Users\Ati> $szoveg = "Miskolc"
PS C:\Users\Ati> $szoveg.length
7
PS C:\Users\Ati> $szoveg.ToUpper()
MISKOLC
PS C:\Users\Ati> $szoveg.Replace("kolc", "ka")
Miska
PS C:\Users\Ati> $szoveg.split("S")
Miskolc
PS C:\Users\Ati> $szoveg.split("s")
Mi
kolc
PS C:\Users\Ati> |
```

16)Definiálás:

```
CA\Users\Ati\AppData\Roaming' X + v

PS C:\Users\Ati> $szoveg = "Miskolc"
PS C:\Users\Ati> $szoveg.length
7
PS C:\Users\Ati> $szoveg.ToUpper()
MISKOLC
PS C:\Users\Ati> $szoveg.Replace("kolc", "ka")
Miska
PS C:\Users\Ati> $szoveg.split("S")
Miskolc
PS C:\Users\Ati> $szoveg.split("s")
Mi
kolc
PS C:\Users\Ati> New-Item C:\JJL4WE.txt

Directory: C:\

Mode LastWriteTime Length Name
----
-a---- 2022. 03. 06. 16:37 0 JJL4WE.txt

PS C:\Users\Ati> Set-Content C:\JJL4WE.txt 'Hauer Attila'
PS C:\Users\Ati> $n = "C:\JJL4WE.txt"
PS C:\Users\Ati> |
```

Beolvasás:

```
C:\Users\Ati\AppData\Roaming' X + v

PS C:\Users\Ati> $szoveg = "Miskolc"
PS C:\Users\Ati> $szoveg.length
7
PS C:\Users\Ati> $szoveg.ToUpper()
MISKOLC
PS C:\Users\Ati> $szoveg.Replace("kolc", "ka")
Miska
PS C:\Users\Ati> $szoveg.split("S")
Miskolc
PS C:\Users\Ati> $szoveg.split("s")
Mi
kolc
PS C:\Users\Ati> New-Item C:\JJL4WE.txt

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
-a----          2022. 03. 06.   16:37             0 JJL4WE.txt

PS C:\Users\Ati> Set-Content C:\JJL4WE.txt 'Hauer Attila'
PS C:\Users\Ati> $n = "C:\JJL4WE.txt"
PS C:\Users\Ati> $JJL4WE = Get-Content $n
PS C:\Users\Ati> |
```

megjelenítés:

```
C:\Users\Ati\AppData\Roaming' X + v
PS C:\Users\Ati> $szoveg.length
7
PS C:\Users\Ati> $szoveg.ToUpper()
MISKOLC
PS C:\Users\Ati> $szoveg.Replace("kolc", "ka")
Miska
PS C:\Users\Ati> $szoveg.split("S")
Miskolc
PS C:\Users\Ati> $szoveg.split("s")
Mi
kolc
PS C:\Users\Ati> New-Item C:\JJL4WE.txt

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
-a----          2022. 03. 06.      16:37             0 JJL4WE.txt

PS C:\Users\Ati> Set-Content C:\JJL4WE.txt 'Hauer Attila'
PS C:\Users\Ati> $n = "C:\JJL4WE.txt"
PS C:\Users\Ati> $JJL4WE = Get-Content $n
PS C:\Users\Ati> $JJL4WE
Hauer Attila
PS C:\Users\Ati> |
```

sorok:

```
PS C:\Users\Ati> $szoveg.ToUpper()
MISKOLC
PS C:\Users\Ati> $szoveg.Replace("kolc","ka")
Miska
PS C:\Users\Ati> $szoveg.split("S")
Miskolc
PS C:\Users\Ati> $szoveg.split("s")
Mi
kolc
PS C:\Users\Ati> New-Item C:\JJL4WE.txt

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
-a-----      2022. 03. 06.      16:37             0 JJL4WE.txt

PS C:\Users\Ati> Set-Content C:\JJL4WE.txt 'Hauer Attila'
PS C:\Users\Ati> $n = "C:\JJL4WE.txt"
PS C:\Users\Ati> $JJL4WE = Get-Content $n
PS C:\Users\Ati> $JJL4WE
Hauer Attila
PS C:\Users\Ati> $JJL4WE.count
1
PS C:\Users\Ati> |
```

Adatok:

```
C:\Users\Ati\AppData\Roaming' X + v

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
-a----          2022. 03. 06.      16:37             0 JJL4WE.txt

PS C:\Users\Ati> Set-Content C:\JJL4WE.txt 'Hauer Attila'
PS C:\Users\Ati> $n = "C:\JJL4WE.txt"
PS C:\Users\Ati> $JJL4WE = Get-Content $n
PS C:\Users\Ati> $JJL4WE
Hauer Attila
PS C:\Users\Ati> $JJL4WE.count
1
PS C:\Users\Ati> Get-Item C:\JJL4WE.txt

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
-a----          2022. 03. 06.      16:38            14 JJL4WE.txt

PS C:\Users\Ati> |
```