

# **Operációs rendszerek BSc**

4. GYAK

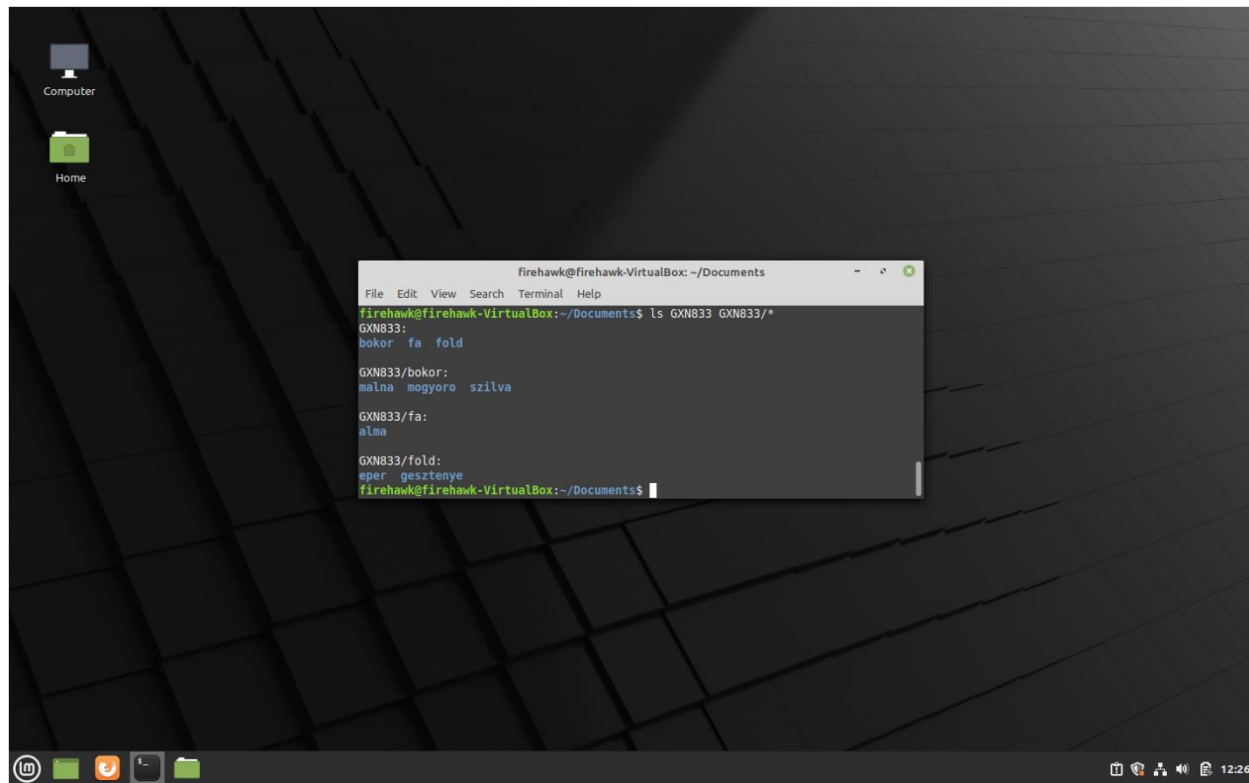
2021. 03. 03.

**Készítette:**

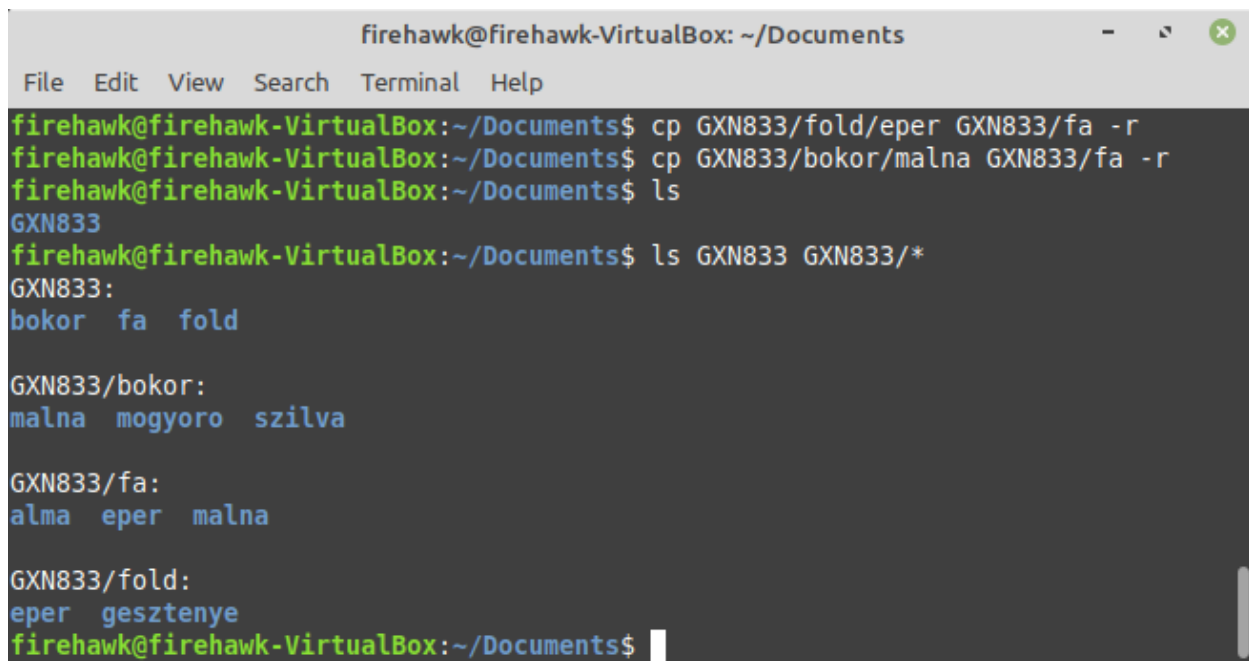
Pázmándi Erik Bsc  
Programtervező Informatikus szak  
GXN833

**Miskolc, 2021**

1. Feladat – Linux OS – Könyvtár és fájlkezelés
  - a. Jegyzékszerkezet kilistázása



- b. Másolás



c. Áthelyezés

```
firehawk@firehawk-VirtualBox: ~/Documents
File Edit View Search Terminal Help

GXN833/fold:
eper gesztenye
firehawk@firehawk-VirtualBox:~/Documents$ mv GXN833/bokor/szilva GXN833/fa
firehawk@firehawk-VirtualBox:~/Documents$ mv GXN833/fold/gesztenye GXN833/fa
firehawk@firehawk-VirtualBox:~/Documents$ ls GXN833 GXN833/*
GXN833:
bokor fa fold

GXN833/bokor:
malna mogyoro

GXN833/fa:
alma eper gesztenye malna szilva

GXN833/fold:
eper
firehawk@firehawk-VirtualBox:~/Documents$
```

d. Törlés & szöveges állomány létrehozása

```
firehawk@firehawk-VirtualBox: ~/Documents
File Edit View Search Terminal Help

--ignore-fail-on-non-empty
    ignore each failure that is solely because a directory
    is non-empty
-p, --parents  remove DIRECTORY and its ancestors; e.g., 'rmdir -p a/b/c' is
               similar to 'rmdir a/b/c a/b a'
-v, --verbose  output a diagnostic for every directory processed
--help        display this help and exit
--version     output version information and exit

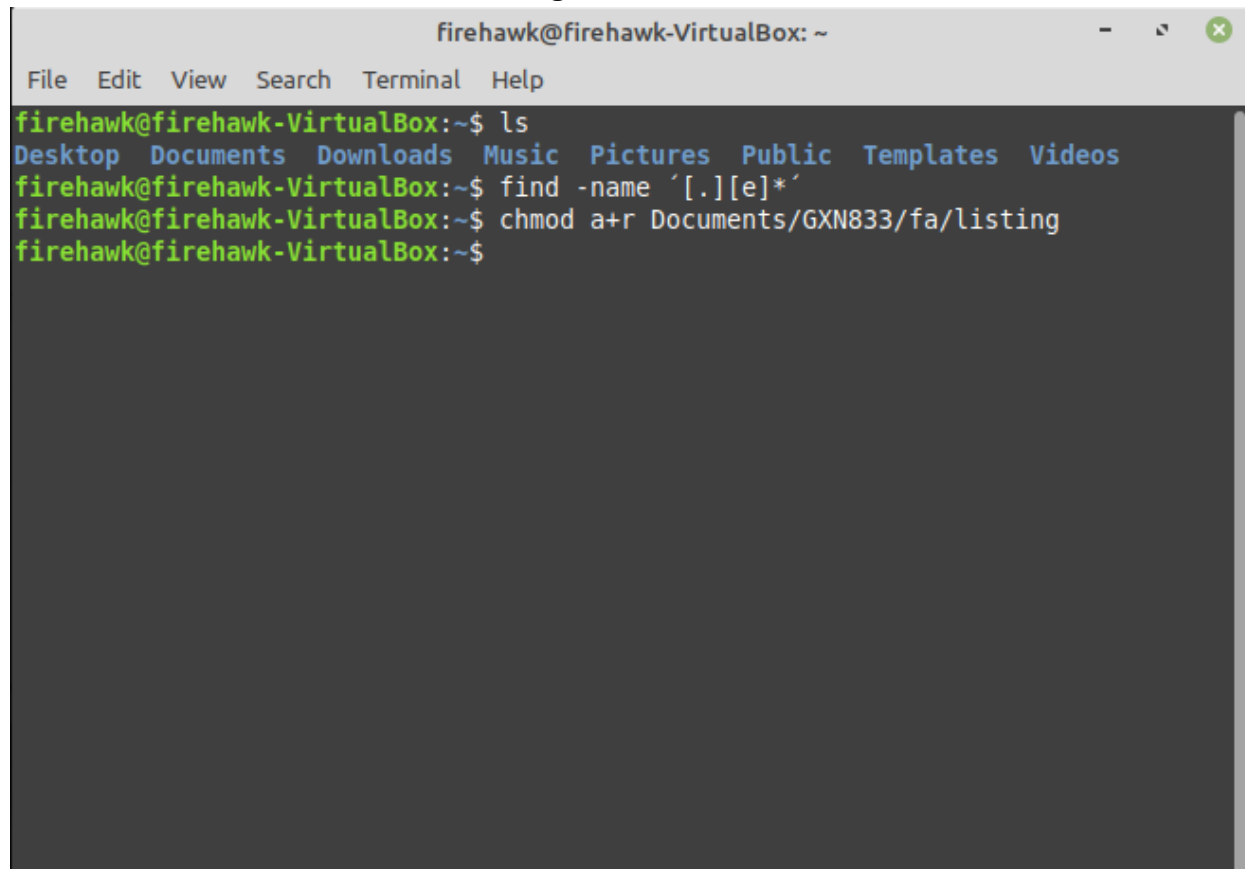
GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
Full documentation at: <https://www.gnu.org/software/coreutils/rmdir>
or available locally via: info '(coreutils) rmdir invocation'
firehawk@firehawk-VirtualBox:~/Documents$ rmdir GXN833/fold --ignore-fail-on-non-empty
firehawk@firehawk-VirtualBox:~/Documents$ touch GXN833/bokor/malna/description
firehawk@firehawk-VirtualBox:~/Documents$ touch GXN833/fa/listing
firehawk@firehawk-VirtualBox:~/Documents$
```

e. Szöveg írása a szöveges állományokba



```
firehawk@firehawk-VirtualBox: ~  
File Edit View Search Terminal Help  
firehawk@firehawk-VirtualBox:~$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos  
firehawk@firehawk-VirtualBox:~$ find -name '[.][e]*'  
firehawk@firehawk-VirtualBox:~$
```

h. Mindenki számára olvasható a listing

A terminal window titled "firehawk@firehawk-VirtualBox: ~" with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
firehawk@firehawk-VirtualBox:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
firehawk@firehawk-VirtualBox:~$ find -name '[.][e]*'
firehawk@firehawk-VirtualBox:~$ chmod a+r Documents/GXN833/fa/listing
firehawk@firehawk-VirtualBox:~$
```

- i. Listázás h mennyi helyet foglal a GXN833

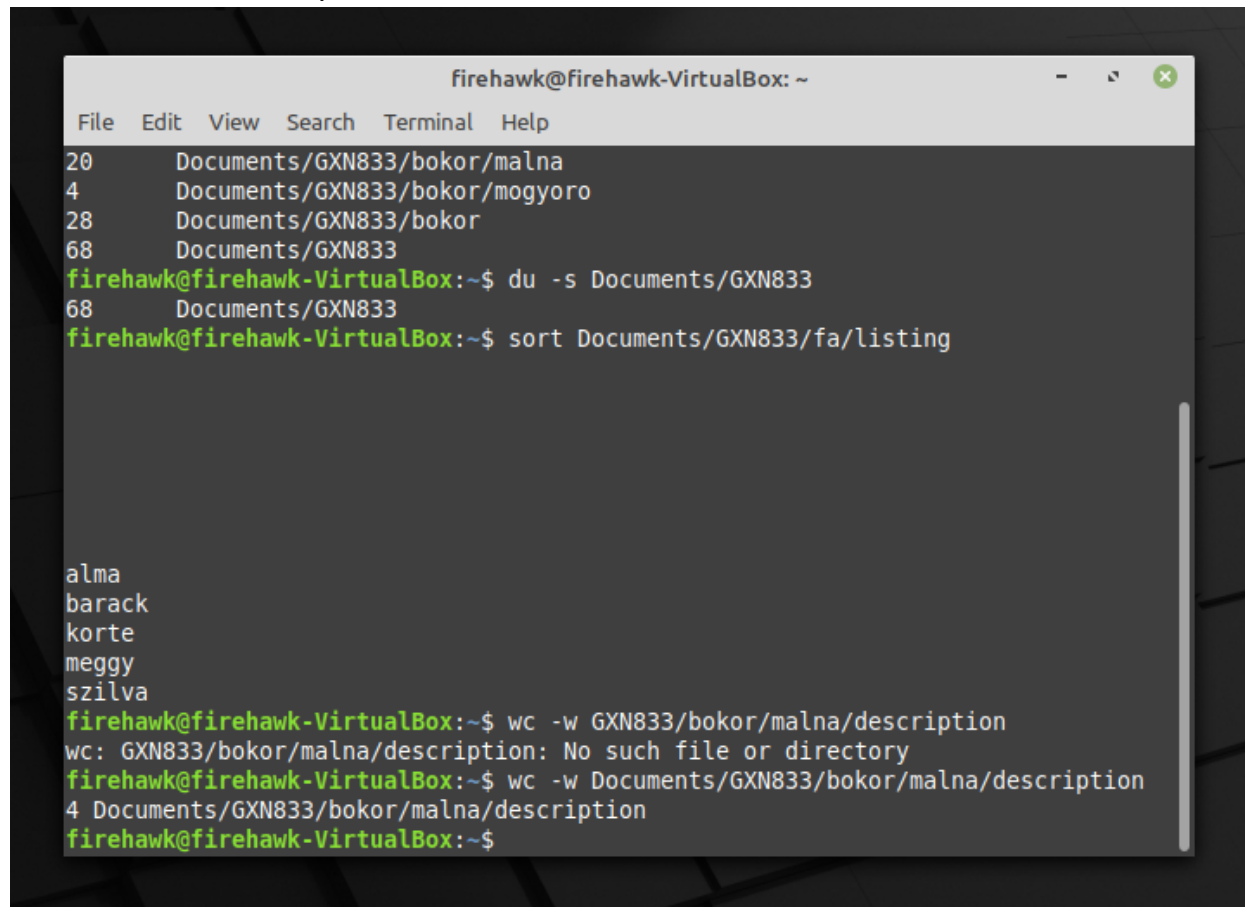
```
firehawk@firehawk-VirtualBox: ~  
File Edit View Search Terminal Help  
firehawk@firehawk-VirtualBox:~$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos  
firehawk@firehawk-VirtualBox:~$ find -name '[.][e]*'  
firehawk@firehawk-VirtualBox:~$ chmod a+r Documents/GXN833/fa/listing  
firehawk@firehawk-VirtualBox:~$ du Documents/GXN833  
4      Documents/GXN833/fold/eper  
8      Documents/GXN833/fold  
4      Documents/GXN833/fa/eper  
4      Documents/GXN833/fa/alma  
4      Documents/GXN833/fa/szilva  
4      Documents/GXN833/fa/malna  
4      Documents/GXN833/fa/gesztenye  
28     Documents/GXN833/fa  
20     Documents/GXN833/bokor/malna  
4      Documents/GXN833/bokor/mogyoro  
28     Documents/GXN833/bokor  
68     Documents/GXN833  
firehawk@firehawk-VirtualBox:~$ du -s Documents/GXN833  
68     Documents/GXN833  
firehawk@firehawk-VirtualBox:~$
```

j. Listing file tartalma listázása ABC szerint

```
firehawk@firehawk-VirtualBox: ~  
File Edit View Search Terminal Help  
4 Documents/GXN833/fa/szilva  
4 Documents/GXN833/fa/malna  
4 Documents/GXN833/fa/gesztenye  
28 Documents/GXN833/fa  
20 Documents/GXN833/bokor/malna  
4 Documents/GXN833/bokor/mogyoro  
28 Documents/GXN833/bokor  
68 Documents/GXN833  
firehawk@firehawk-VirtualBox:~$ du -s Documents/GXN833  
68 Documents/GXN833  
firehawk@firehawk-VirtualBox:~$ sort Documents/GXN833/fa/listing  
alma  
barack  
korte  
meggy  
szilva  
firehawk@firehawk-VirtualBox:~$
```



k. Számoltatás a description-ben lévő szavak számán

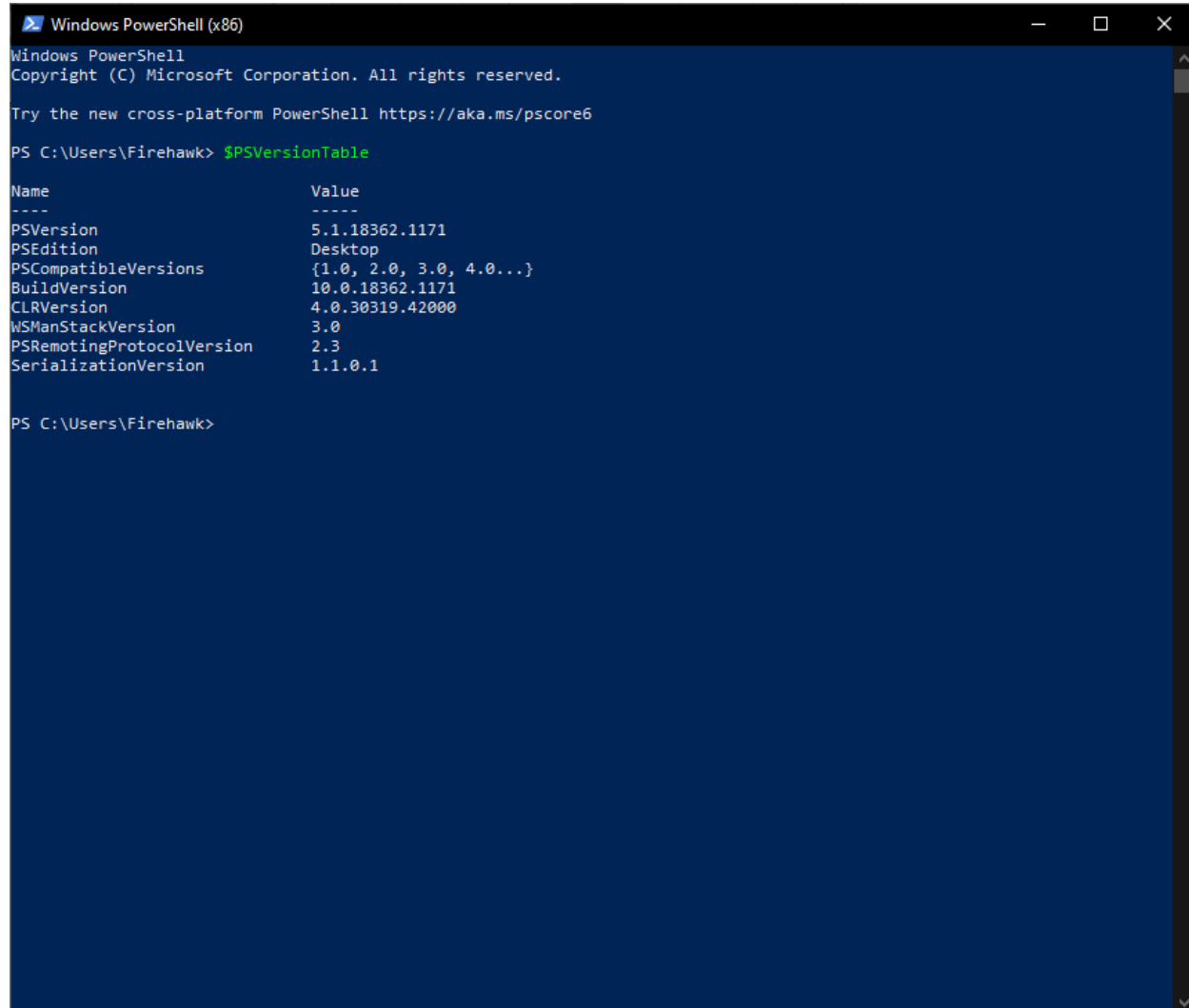


```
firehawk@firehawk-VirtualBox: ~
File Edit View Search Terminal Help
20 Documents/GXN833/bokor/malna
4 Documents/GXN833/bokor/mogyoro
28 Documents/GXN833/bokor
68 Documents/GXN833
firehawk@firehawk-VirtualBox:~$ du -s Documents/GXN833
68 Documents/GXN833
firehawk@firehawk-VirtualBox:~$ sort Documents/GXN833/fa/listing

alma
barack
korte
meggy
szilva
firehawk@firehawk-VirtualBox:~$ wc -w GXN833/bokor/malna/description
wc: GXN833/bokor/malna/description: No such file or directory
firehawk@firehawk-VirtualBox:~$ wc -w Documents/GXN833/bokor/malna/description
4 Documents/GXN833/bokor/malna/description
firehawk@firehawk-VirtualBox:~$
```

2. PowerShell feladatok

a. Verzió lekérdezése: `$PSVersionTable` – kiíratja a verziótáblát



```
Windows PowerShell (x86)
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

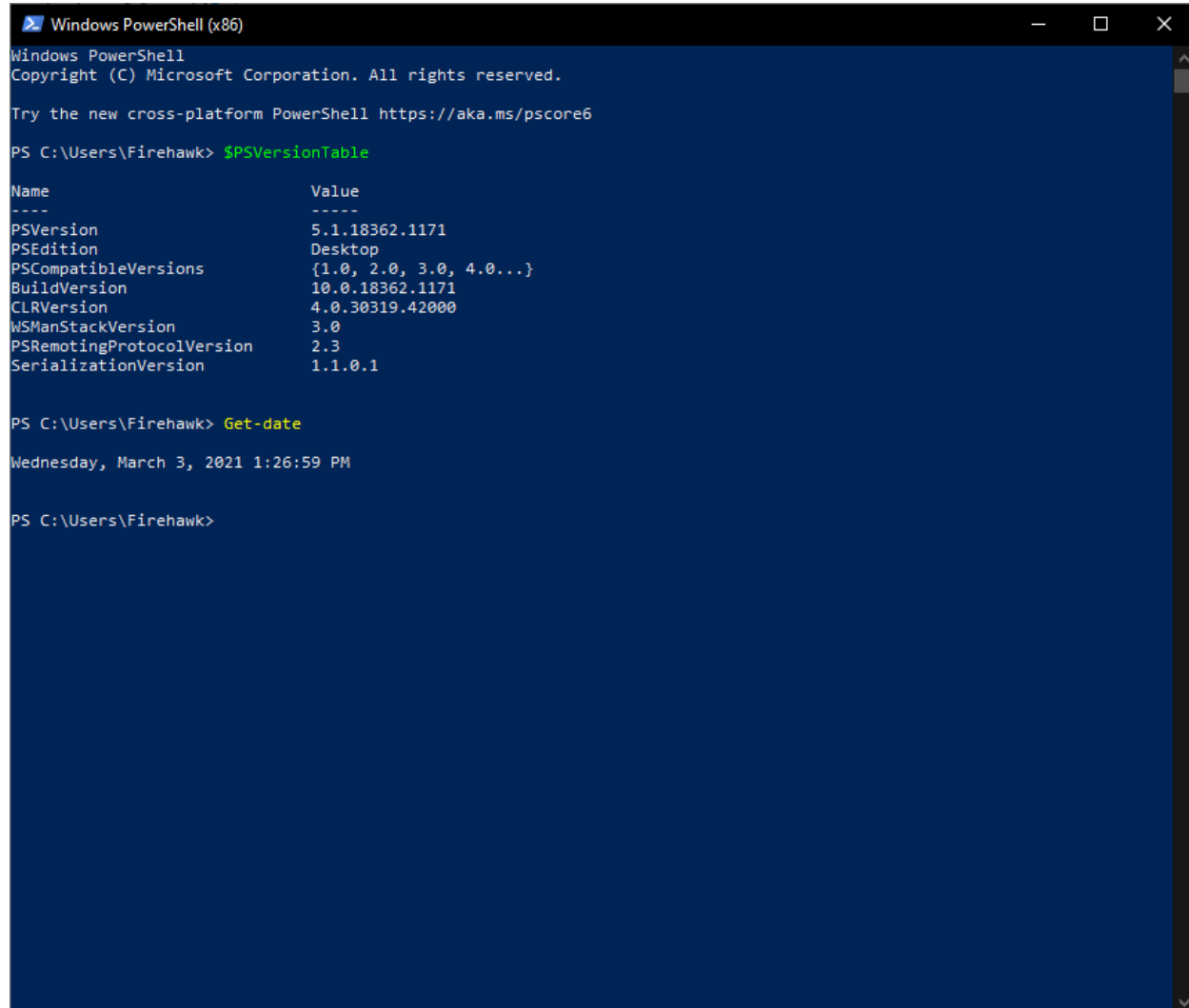
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Firehawk> $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\Firehawk>
```

b. Mai dátum: Get-date – kiiratja a mai dátumot



```
Windows PowerShell (x86)
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

PS C:\Users\Firehawk> $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\Firehawk> Get-date

Wednesday, March 3, 2021 1:26:59 PM

PS C:\Users\Firehawk>
```

c. Szolgáltatások: Get-service: kilistázza a szolgáltatásokat

```
Windows PowerShell (x86)
Stopped vmicvss Hyper-V Volume Shadow Copy Requestor
Running vpngent Cisco AnyConnect Secure Mobility Agent
Stopped VSS Volume Shadow Copy
Stopped W32Time Windows Time
Stopped WaaSMedicSvc Windows Update Medic Service
Stopped WalletService WalletService
Stopped WarpJITSvc WarpJITSvc
Stopped wbengine Block Level Backup Engine Service
Running WbioSrv Windows Biometric Service
Running WcmSvc Windows Connection Manager
Running WcncSvc Windows Connect Now - Config Registrar
Running WdiServiceHost Diagnostic Service Host
Stopped WdiSystemHost Diagnostic System Host
Stopped WdNisSvc Windows Defender Antivirus Network ...
Running WebClient WebClient
Stopped WecSvc Windows Event Collector
Stopped WEPHOSTSVC Windows Encryption Provider Host Se...
Stopped wercplsupport Problem Reports and Solutions Contr...
Stopped WerSvc Windows Error Reporting Service
Stopped WFDSConMgrSvc Wi-Fi Direct Services Connection Ma...
Stopped WiaRpc Still Image Acquisition Events
Stopped WinDefend Windows Defender Antivirus Service
Running WndscribeService WndscribeService
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
Running WlanSvc WLAN AutoConfig
Running wlidsvc Microsoft Account Sign-in Assistant
Stopped wlpasvc Local Profile Assistant Service
Stopped WManSvc Windows Management Service
Stopped wmiApSrv WMI Performance Adapter
Stopped WMPNetworkSvc Windows Media Player Network Sharin...
Stopped workfolderssvc Work Folders
Stopped WpcMonSvc Parental Controls
Stopped WPDBusEnum Portable Device Enumerator Service
Running WpnService Windows Push Notifications System S...
Running WpnUserService_... Windows Push Notifications User Ser...
Running wscsvc Security Center
Running WSearch Windows Search
Running wuauerv Windows Update
Stopped WwanSvc WMAN AutoConfig
Stopped XblAuthManager Xbox Live Auth Manager
Stopped XblGameSave Xbox Live Game Save
Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live Networking Service
Stopped zksvc Zakynthos Service

PS C:\Users\Firehawk>
```

- d. C:\ Meghajtón lévő könyvtárak & fájlok: GetChildItem – kilistázz a könyvtárakat és fájlokat

```
Windows PowerShell (x86)
Stopped wlpasvc Local Profile Assistant Service
Stopped WManSvc Windows Management Service
Stopped wmiApSrv WMI Performance Adapter
Stopped WMPNetworkSvc Windows Media Player Network Sharin...
Stopped workfolderssvc Work Folders
Stopped WpcMonSvc Parental Controls
Stopped WPDBusEnum Portable Device Enumerator Service
Running WpnService Windows Push Notifications System S...
Running WpnUserService_... Windows Push Notifications User Ser...
Running wscsvc Security Center
Running WSearch Windows Search
Running wuauserv Windows Update
Stopped WwanSvc WMAN AutoConfig
Stopped XblAuthManager Xbox Live Auth Manager
Stopped XblGameSave Xbox Live Game Save
Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live Networking Service
Stopped zksvc Zakynthos Service

PS C:\Users\Firehawk> cd ..
PS C:\Users> cd ..
PS C:\> Get-ChildItem

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
d-----          2/18/2021 10:10 AM             !Backup
d-----          3/3/2021 12:17 PM             Download
d-----          2/22/2021  7:00 PM             Firehawk
d-----          2/26/2021 10:26 AM             Games
d-----          12/9/2019  1:53 PM             Intel
d-----          7/23/2020  1:00 PM             OpenSSL-Win32
d-----          12/9/2019  1:33 PM             PerfLogs
d-----          3/5/2020  1:29 PM             PHP
d-r-----        2/24/2021 12:37 PM             Program Files
d-r-----         2/4/2021  8:30 PM             Program Files (x86)
d-----          2/10/2021  1:12 PM             qq2
d-----          2/26/2021 10:27 AM             qq3
d-----          1/31/2021  5:14 PM             qq4
d-----          12/9/2019  3:37 PM             totalcmd
d-r-----         1/20/2020  9:43 AM             Users
d-----          3/1/2021  7:55 PM             Windows
d-----          3/1/2021  6:03 PM             Work

PS C:\>
```

- e. Parancsok rövidített nevei: alias – kilistázza a rövidített parancsneveket

```
Windows PowerShell (x86)

Alias      rdr -> Remove-PSDrive
Alias      ren -> Rename-Item
Alias      ri -> Remove-Item
Alias      rjb -> Remove-Job
Alias      rm -> Remove-Item
Alias      rmdir -> Remove-Item
Alias      rmo -> Remove-Module
Alias      rni -> Rename-Item
Alias      rnp -> Rename-ItemProperty
Alias      rp -> Remove-ItemProperty
Alias      rsn -> Remove-PSSession
Alias      rsnp -> Remove-PSSnapin
Alias      rujb -> Resume-Job
Alias      rv -> Remove-Variable
Alias      rvpa -> Resolve-Path
Alias      rwmi -> Remove-WmiObject
Alias      sajb -> Start-Job
Alias      sal -> Set-Alias
Alias      saps -> Start-Process
Alias      sasv -> Start-Service
Alias      sbp -> Set-PSBreakpoint
Alias      sc -> Set-Content
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      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
Alias      sujb -> Suspend-Job
Alias      sv -> Set-Variable
Alias      swmi -> Set-WmiInstance
Alias      tee -> Tee-Object
Alias      trcm -> Trace-Command
Alias      type -> Get-Content
Alias      wget -> Invoke-WebRequest
Alias      where -> Where-Object
Alias      wjb -> Wait-Job
Alias      write -> Write-Output

PS C:\>
```

f. Processz nevű alias: Set-Alias parancs, 2 paraméterrel név és érték

```
Windows PowerShell (x86)
Alias      sleep -> Start-Sleep
Alias      sls  -> Select-String
Alias      sort -> Sort-Object
Alias      sp  -> Set-ItemProperty
Alias      spjb -> Stop-Job
Alias      sppsv -> Stop-Process
Alias      spsv -> Stop-Service
Alias      start -> Start-Process
Alias      stz  -> Set-TimeZone
Alias      sujb -> Suspend-Job
Alias      sv   -> Set-Variable
Alias      swmi -> Set-WmiInstance
Alias      tee  -> Tee-Object
Alias      trcm -> Trace-Command
Alias      type -> Get-Content
Alias      wget -> Invoke-WebRequest
Alias      where -> Where-Object
Alias      wjb  -> Wait-Job
Alias      write -> Write-Output

PS C:\> Set-Alias -Name Processz -Value Get-ChildItem
PS C:\> Processz

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
d-----          2/18/2021 10:10 AM             !Backup
d-----          3/3/2021 12:17 PM             Download
d-----          2/22/2021  7:00 PM             Firehawk
d-----          2/26/2021 10:26 AM             Games
d-----          12/9/2019  1:53 PM             Intel
d-----          7/23/2020  1:00 PM             OpenSSL-Win32
d-----          12/9/2019  1:33 PM             PerfLogs
d-----          3/5/2020  1:29 PM             PHP
d-r-----        2/24/2021 12:37 PM             Program Files
d-r-----         2/4/2021  8:30 PM             Program Files (x86)
d-----          2/10/2021  1:12 PM             qq2
d-----          2/26/2021 10:27 AM             qq3
d-----          1/31/2021  5:14 PM             qq4
d-----          12/9/2019  3:37 PM             totalcmd
d-r-----         1/20/2020  9:43 AM             Users
d-----          3/1/2021  7:55 PM             Windows
d-----          3/1/2021  6:03 PM             Work

PS C:\>
```

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

```
Windows PowerShell (x86)
DependentServices : {XblGameSave}
ServicesDependedOn : {RpcSs}
CanPauseAndContinue : False
CanShutdown : False
CanStop : True
ServiceType : Win32OwnProcess, Win32ShareProcess

Name : XblGameSave
DisplayName : Xbox Live Game Save
Status : Stopped
DependentServices : {}
ServicesDependedOn : {UserManager, XblAuthManager}
CanPauseAndContinue : False
CanShutdown : False
CanStop : False
ServiceType : Win32ShareProcess

Name : XboxGipSvc
DisplayName : Xbox Accessory Management Service
Status : Stopped
DependentServices : {}
ServicesDependedOn : {}
CanPauseAndContinue : False
CanShutdown : False
CanStop : False
ServiceType : Win32ShareProcess

Name : XboxNetApiSvc
DisplayName : Xbox Live Networking Service
Status : Stopped
DependentServices : {}
ServicesDependedOn : {BFE, mpssvc, KeyIso, IKEEXT}
CanPauseAndContinue : False
CanShutdown : False
CanStop : False
ServiceType : Win32ShareProcess

Name : zksvc
DisplayName : Zakynthos Service
Status : Stopped
DependentServices : {}
ServicesDependedOn : {}
CanPauseAndContinue : False
CanShutdown : False
CanStop : False
ServiceType : Win32OwnProcess

PS C:\>
```



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

```
Windows PowerShell (x86)
Stopped vmicvss Hyper-V Volume Shadow Copy Requestor
Running vpngent Cisco AnyConnect Secure Mobility Agent
Stopped VSS Volume Shadow Copy
Stopped W32Time Windows Time
Stopped WaaSMedicSvc Windows Update Medic Service
Stopped WalletService WalletService
Stopped WarpJITSvc WarpJITSvc
Stopped wbengine Block Level Backup Engine Service
Running WbioSrv Windows Biometric Service
Running WcmSvc Windows Connection Manager
Running WcnSvc Windows Connect Now - Config Registrar
Running WdiServiceHost Diagnostic Service Host
Running WdiSystemHost Diagnostic System Host
Stopped WdNisSvc Windows Defender Antivirus Network ...
Running WebClient WebClient
Stopped WecSvc Windows Event Collector
Stopped WEPHOSTSVC Windows Encryption Provider Host Se...
Stopped wercplsupport Problem Reports and Solutions Contr...
Stopped WerSvc Windows Error Reporting Service
Stopped WFDSCongMgrSvc Wi-Fi Direct Services Connection Ma...
Stopped WiaRpc Still Image Acquisition Events
Stopped WinDefend Windows Defender Antivirus Service
Running Wscntfy Windows Defender Security Center
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
Running WLANSvc WLAN AutoConfig
Stopped wlidsvc Microsoft Account Sign-in Assistant
Stopped wlpasvc Local Profile Assistant Service
Stopped WManSvc Windows Management Service
Stopped wmiApSrv WMI Performance Adapter
Stopped WMPNetworkSvc Windows Media Player Network Sharin...
Stopped workfolderssvc Work Folders
Stopped WpcMonSvc Parental Controls
Stopped WPDBusEnum Portable Device Enumerator Service
Running WpnService Windows Push Notifications System S...
Running WpnUserService_... Windows Push Notifications User Ser...
Running wscntfy Security Center
Running WSearch Windows Search
Running wuauclt Windows Update
Stopped WwanSvc WWAN AutoConfig
Stopped XblAuthManager Xbox Live Auth Manager
Stopped XblGameSave Xbox Live Game Save
Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live Networking Service
Stopped zksvc Zakynthos Service
PS C:\>
```

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

```
Windows PowerShell (x86)

Stopped WdNisSvc      Windows Defender Antivirus Network ...
Running WebClient     WebClient
Stopped Wecsvc        Windows Event Collector
Stopped WEPHOSTSVC    Windows Encryption Provider Host Se...
Stopped wercplsupport Problem Reports and Solutions Contr...
Stopped WerSvc        Windows Error Reporting Service
Stopped WFDSConMgrSvc Wi-Fi Direct Services Connection Ma...
Stopped WiaRpc        Still Image Acquisition Events
Stopped WinDefend     Windows Defender Antivirus Service
Running WndscribeService WndscribeService
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
Running wlanSvc       WLAN AutoConfig
Running wldsvc        Microsoft Account Sign-in Assistant
Stopped wlpasvc       Local Profile Assistant Service
Stopped WManSvc       Windows Management Service
Stopped wmiApSrv      WMI Performance Adapter
Stopped WMPNetworkSvc Windows Media Player Network Sharin...
Stopped workfolderssvc Work Folders
Stopped WpcMonSvc     Parental Controls
Stopped WPDBusEnum    Portable Device Enumerator Service
Running WpnService    Windows Push Notifications System S...
Running WpnUserService_... Windows Push Notifications User Ser...
Running wscsvc        Security Center
Running WSearch       Windows Search
Running wuauclt       Windows Update
Stopped WwanSvc       WWAN AutoConfig
Stopped XblAuthManager Xbox Live Auth Manager
Stopped XblGameSave   Xbox Live Game Save
Stopped XboxGipSvc    Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live Networking Service
Stopped zksvc         Zakyntos Service

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

Status Name                DisplayName
-----
Stopped WiaRpc            Still Image Acquisition Events
Stopped WinDefend       Windows Defender Antivirus Service
Running WndscribeService WndscribeService
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:\>
```

j. Csoportosítsa állapot szerint az objektumokat!

```
Windows PowerShell (x86)
Running WbioSrv Windows Biometric Service
Running Wcmsvc Windows Connection Manager
Running wcnscvc Windows Connect Now - Config Registrar
Running WdiServiceHost Diagnostic Service Host
Running WdiSystemHost Diagnostic System Host
Stopped WdNisSvc Windows Defender Antivirus Network ...
Running WebClient WebClient
Stopped Wecsvc Windows Event Collector
Stopped WEPHOSTSVC Windows Encryption Provider Host Se...
Stopped wercplsupport Problem Reports and Solutions Contr...
Stopped WerSvc Windows Error Reporting Service
Stopped WFDSCongMgrSvc Wi-Fi Direct Services Connection Ma...
Stopped WiaRpc Still Image Acquisition Events
Stopped WinDefend Windows Defender Antivirus Service
Running WndscribeService WndscribeService
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
Running WlanSvc WLAN AutoConfig
Stopped wldsvc Microsoft Account Sign-in Assistant
Stopped wlpasvc Local Profile Assistant Service
Stopped WManSvc Windows Management Service
Stopped wmiApSrv WMI Performance Adapter
Stopped WMPNetworkSvc Windows Media Player Network Sharin...
Stopped workfolderssvc Work Folders
Stopped WpcMonSvc Parental Controls
Stopped WPDBusEnum Portable Device Enumerator Service
Running WpnService Windows Push Notifications System S...
Running WpnUserService_... Windows Push Notifications User Ser...
Running wscsvc Security Center
Running WSearch Windows Search
Running wuauclt Windows Update
Stopped WwanSvc WWAN AutoConfig
Stopped XblAuthManager Xbox Live Auth Manager
Stopped XblGameSave Xbox Live Game Save
Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live Networking Service
Stopped zksvc Zakynthos Service

PS C:\> Get-Service | Group-Object -Property Status

Count Name Group
-----
170 Stopped {AarSvc_42e2bc64, AJRouter, ALG, AppIDSvc...}
128 Running {Appinfo, AsHidService, ASLDRService, ASUSLiveUpdateAgent...}

PS C:\>
```

k. Számolja meg az objektumokat!

```
Windows PowerShell (x86)
Stopped WiaRpc Still Image Acquisition Events
Stopped WinDefend Windows Defender Antivirus Service
Running WndscribeService WndscribeService
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
Running wlanSvc WLAN AutoConfig
Stopped wldsvc Microsoft Account Sign-in Assistant
Stopped wlpasvc Local Profile Assistant Service
Stopped WManSvc Windows Management Service
Stopped wmiApSrv WMI Performance Adapter
Stopped WMPNetworkSvc Windows Media Player Network Sharin...
Stopped workfolderssvc Work Folders
Stopped WpcMonSvc Parental Controls
Stopped WPDBusEnum Portable Device Enumerator Service
Running WpnService Windows Push Notifications System S...
Running WpnUserService_... Windows Push Notifications User Ser...
Running wscsvc Security Center
Running WSearch Windows Search
Running wuauerv Windows Update
Stopped WwanSvc WWAN AutoConfig
Stopped XblAuthManager Xbox Live Auth Manager
Stopped XblGameSave Xbox Live Game Save
Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live Networking Service
Stopped zkscv Zakyntos Service

PS C:\> Get-Service | Group-Object -Property Status

Count Name Group
-----
170 Stopped {AarSvc_42e2bc64, AJRouter, ALG, AppIDSvc...}
128 Running {Appinfo, AsHidService, ASLDRService, ASUSLiveUpdateAgent...}

PS C:\> Get-Service | measure

Count : 298
Average :
Sum :
Maximum :
Minimum :
Property :
```

l. Számolj meg az objektumok: max, min, avg, sum szerint! – Erre hibát kaptam, nem tudta ezek szerint megszámolni.

m. Számolja meg az objektumokat!

```
Windows PowerShell (x86)
Stopped WiaRpc Still Image Acquisition Events
Stopped WinDefend Windows Defender Antivirus Service
Running WndscribeService WndscribeService
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
Running wlanSvc WLAN AutoConfig
Stopped wldsvc Microsoft Account Sign-in Assistant
Stopped wlpasvc Local Profile Assistant Service
Stopped WManSvc Windows Management Service
Stopped wmiApSrv WMI Performance Adapter
Stopped WMPNetworkSvc Windows Media Player Network Sharin...
Stopped workfolderssvc Work Folders
Stopped WpcMonSvc Parental Controls
Stopped WPDBusEnum Portable Device Enumerator Service
Running WpnService Windows Push Notifications System S...
Running WpnUserService_... Windows Push Notifications User Ser...
Running wscsvc Security Center
Running WSearch Windows Search
Running wuauerv Windows Update
Stopped WwanSvc WWAN AutoConfig
Stopped XblAuthManager Xbox Live Auth Manager
Stopped XblGameSave Xbox Live Game Save
Stopped XboxGipSvc Xbox Accessory Management Service
Stopped XboxNetApiSvc Xbox Live Networking Service
Stopped zksvc Zakyntos Service

PS C:\> Get-Service | Group-Object -Property Status

Count Name Group
-----
170 Stopped {AarSvc_42e2bc64, AJRouter, ALG, AppIDSvc...}
128 Running {Appinfo, AsHidService, ASLDRService, ASUSLiveUpdateAgent...}

PS C:\> Get-Service | measure

Count : 298
Average :
Sum :
Maximum :
Minimum :
Property :
```

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

```
Windows PowerShell (x86)
measure : Input object "System.ServiceProcess.ServiceController" is not numeric.
At line:1 char:15
+ Get-Service | measure -Minimum -Maximum -Average -Sum
+ ~~~~~
+ CategoryInfo          : InvalidType: (System.ServiceProcess.ServiceController:ServiceController) [Measure-Object]
+ PSInvalidOperationException
+ FullyQualifiedErrorId : NonNumericInputObject,Microsoft.PowerShell.Commands.MeasureObjectCommand

measure : Input object "System.ServiceProcess.ServiceController" is not numeric.
At line:1 char:15
+ Get-Service | measure -Minimum -Maximum -Average -Sum
+ ~~~~~
+ CategoryInfo          : InvalidType: (System.ServiceProcess.ServiceController:ServiceController) [Measure-Object]
+ PSInvalidOperationException
+ FullyQualifiedErrorId : NonNumericInputObject,Microsoft.PowerShell.Commands.MeasureObjectCommand

Count      : 298
Average    :
Sum         :
Maximum     :
Minimum     :
Property   :

PS C:\> Get-Service | measure -Minimum
measure : Cannot compare "System.ServiceProcess.ServiceController" because it is not IComparable.
At line:1 char:15
+ Get-Service | measure -Minimum
+ ~~~~~
+ CategoryInfo          : InvalidArgument: (:) [Measure-Object], PSArgumentException
+ FullyQualifiedErrorId : Argument,Microsoft.PowerShell.Commands.MeasureObjectCommand

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

Status Name                DisplayName
-----
Stopped WiaRpc                Still Image Acquisition Events
Stopped WinDefend         Windows Defender Antivirus Service
Running WndscribeService     WndscribeService
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:\> Set-Variable -Name "szoveg" -Value "Miskolc"
PS C:\>
```

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

```
Windows PowerShell (x86)
string Replace(char oldChar, char newChar)
string Replace(string oldValue, string newValue)

PS C:\> $szoveg.Replace(m m)
At line:1 char:17
+ $szoveg.Replace(m m)
+ ~~~~~
Missing ')' in method call.
At line:1 char:17
+ $szoveg.Replace(m m)
+ ~~~~~
Unexpected token 'm' in expression or statement.
At line:1 char:20
+ $szoveg.Replace(m m)
+ ~~~~~
Unexpected token ')' in expression or statement.
+ CategoryInfo          : ParserError: (:) [], ParentContainsErrorRecordException
+ FullyQualifiedErrorId : MissingEndParenthesisInMethodCall

PS C:\> $szoveg.Replace("m" "m")
At line:1 char:20
+ $szoveg.Replace("m" "m")
+ ~~~~~
Missing ')' in method call.
At line:1 char:21
+ $szoveg.Replace("m" "m")
+ ~~~~~
Unexpected token '"m"' in expression or statement.
At line:1 char:24
+ $szoveg.Replace("m" "m")
+ ~~~~~
Unexpected token ')' in expression or statement.
+ CategoryInfo          : ParserError: (:) [], ParentContainsErrorRecordException
+ FullyQualifiedErrorId : MissingEndParenthesisInMethodCall

PS C:\> $szoveg.Replace('a', 'b');
Miskolc
PS C:\> $szoveg.length
7
PS C:\> $szoveg.ToUpper()
MISKOLC
PS C:\> $szoveg.Replace('a', 'b');
Miskolc
PS C:\> $szoveg.Contains("sk");
True
PS C:\> $szoveg.Split();
Miskolc
PS C:\>
```

- p. Fájlkezelés

- i. Definiálás: `New-Item -Path . -Name "GXN833.txt" -ItemType "file" -Value "Pázmándi Erik":`
- ii. Beolvasás: `Get-Content GXN833.txt`
- iii. Tartalom megjelenítés: `Get-Content GXN833.txt`
- iv. Sorok száma: `(Get-Content GXN833.txt).length`
- v. Fájl adatok: `Get-ItemProperty GXN833.txt`