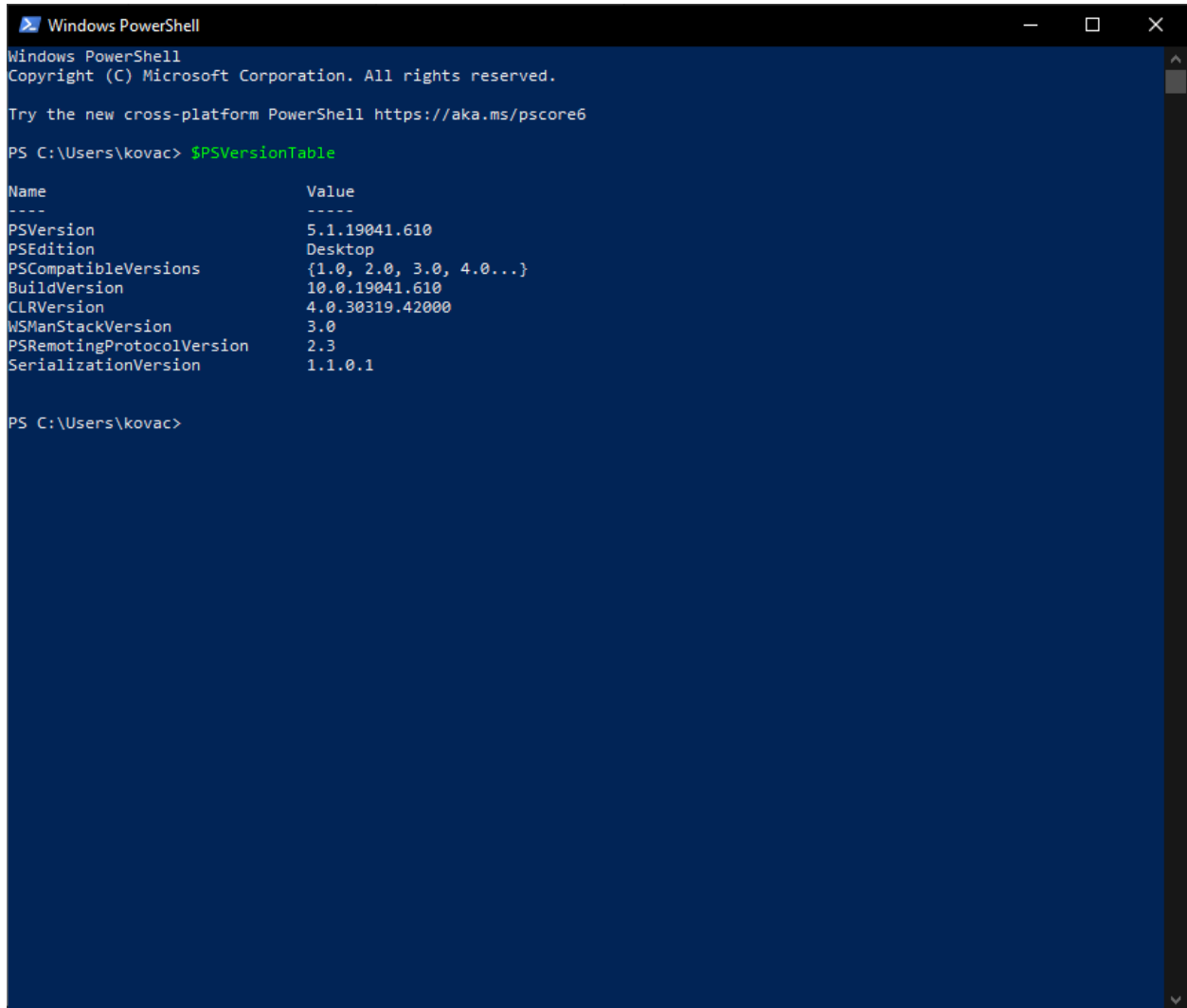


Operációs Rendszerek 3 gyakorlat:

1 feladat:

A kód kiadja mi a PowerShell verzió száma, hogy PC-re való, milyen verziókkal kompatibilis, illetve a Beépített, CLR, WSMANStack, PSRemoting, Serialization verziókat.



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

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

PS C:\Users\kovac> $PSVersionTable

Name                           Value
----                           -
PSVersion                      5.1.19041.610
PSEdition                      Desktop
PSCompatibleVersions            {1.0, 2.0, 3.0, 4.0...}
BuildVersion                   10.0.19041.610
CLRVersion                     4.0.30319.42000
WSManStackVersion               3.0
PSRemotingProtocolVersion      2.3
SerializationVersion            1.1.0.1

PS C:\Users\kovac>
```

2. Feladat:

Típus szerint rendezve a parancsok neveit, majd definiálja azok, kerva, hogy hogyan működnek.

```
Windows PowerShell
BuildVersion      10.0.19041.610
CLRVersion        4.0.30319.42000
WSManStackVersion 3.0
PSRemotingProtocolVersion 2.3
SerializationVersion 1.1.0.1

PS C:\Users\kovac> Get-Service | Get-Member

TypeName: System.ServiceProcess.ServiceController

Name           MemberType      Definition
----           -
Name           AliasProperty  Name = ServiceName
RequiredServices AliasProperty  RequiredServices = ServicesDependedOn
Disposed       Event          System.EventHandler Disposed(System.Object, System.EventArgs)
Close          Method         void Close()
Continue       Method         void Continue()
CreateObjRef   Method         System.Runtime.Remoting.ObjRef CreateObjRef(type requestedType)
Dispose        Method         void Dispose(), void IDisposable.Dispose()
Equals         Method         bool Equals(System.Object obj)
ExecuteCommand Method         void ExecuteCommand(int command)
GetHashCode    Method         int GetHashCode()
GetLifetimeService Method      System.Object GetLifetimeService()
GetType        Method         type GetType()
InitializeLifetimeService Method      System.Object InitializeLifetimeService()
Pause          Method         void Pause()
Refresh        Method         void Refresh()
Start          Method         void Start(), void Start(string[] args)
Stop           Method         void Stop()
WaitForStatus  Method         void WaitForStatus(System.ServiceProcess.ServiceControllerStatus desiredStat...
CanPauseAndContinue Property      bool CanPauseAndContinue {get;}
CanShutdown    Property      bool CanShutdown {get;}
CanStop        Property      bool CanStop {get;}
Container       Property      System.ComponentModel.IContainer Container {get;}
DependentServices Property      System.ServiceProcess.ServiceController[] DependentServices {get;}
DisplayName     Property      string DisplayName {get;set;}
MachineName     Property      string MachineName {get;set;}
ServiceHandle   Property      System.Runtime.InteropServices.SafeHandle ServiceHandle {get;}
ServiceName     Property      string ServiceName {get;set;}
ServicesDependedOn Property      System.ServiceProcess.ServiceController[] ServicesDependedOn {get;}
ServiceType     Property      System.ServiceProcess.ServiceType ServiceType {get;}
Site            Property      System.ComponentModel.ISite Site {get;set;}
StartType       Property      System.ServiceProcess.ServiceStartMode StartType {get;}
Status          Property      System.ServiceProcess.ServiceControllerStatus Status {get;}
ToString        ScriptMethod   System.Object ToString();

PS C:\Users\kovac> Get-Service
```

3. feladat:

Leírja az összes processznek a nevét, milyen állapotban vannak (futnak e vagy sem) illetve azok megjelenített nevüket.

```
Windows PowerShell
PS C:\Users\kovac> Get-Service

Status Name DisplayName
-----
Stopped AarSvc_490e4 AarSvc_490e4
Running AdobeARMSvc Adobe Acrobat Update Service
Stopped AJORouter AllJoyn Router Service
Stopped ALG Application Layer Gateway Service
Stopped AppIDSvc Application Identity
Running AppInfo Application Information
Stopped AppReadiness App Readiness
Stopped AppXSvc AppX Deployment Service (AppXSVC)
Running aswbIDSvc aswbIDSvc
Running AtherosSvc AtherosSvc
Running AudioEndpointBu... Windows Audio Endpoint Builder
Running Audiosrv Windows Audio
Stopped autotimesvc Cellular Time
Running avast! Antivirus Avast Antivirus
Running avast! Firewall Avast Firewall Service
Running avast! Tools Avast Tools
Running AvastWscReporter AvastWscReporter
Stopped AxInstSV ActiveX Installer (AxInstSV)
Stopped BcastDVRUserService... BcastDVRUserService_490e4
Stopped BDESVC BitLocker Drive Encryption Service
Running BFE Base Filtering Engine
Stopped BITS Background Intelligent Transfer Ser...
Stopped BluetoothUserService... BluetoothUserService_490e4
Running BrokerInfrastru... Background Tasks Infrastructure Ser...
Running BTAGService Bluetooth Audio Gateway Service
Running BthAvctpSvc AVCTP service
Running bthserv Bluetooth Support Service
Running camsvc Capability Access Manager Service
Stopped CaptureService_... CaptureService_490e4
Running cbdhsvc_490e4 cbdhsvc_490e4
Running CDPsvc Connected Devices Platform Service
Running CDPUserSvc_490e4 CDPUserSvc_490e4
Stopped CertPropSvc Certificate Propagation
Running CleanupSvc Avast Cleanup
Stopped ClipSvc Client License Service (ClipSvc)
Stopped COMSysApp COM+ System Application
Stopped ConsentUxUserSvc... ConsentUxUserSvc_490e4
Running CoreMessagingRe... CoreMessaging
Running cphs Intel(R) Content Protection HECI Se...
Running cplspcon Intel(R) Content Protection HDCP Se...
Stopped CredentialEnrol... CredentialEnrollmentManagerUserSvc...
Running CryptSvc Cryptographic Services
Running DcomLaunch DCOM Server Process Launcher
Stopped defragsvc Optimize drives
Stopped DeviceAssociati... DeviceAssociationBrokerSvc_490e4
```

4. feladat:

Mappa megadás után megadja a Get-ChildItem megadja a fájlok milyen módban vannak (írás vagy olvasási, ki láthatja), mikor lettek utoljára használva, ha a fájl alkalmazás a tartalma hány karakterből áll illetve a nevét.

```
Windows PowerShell
PS C:\> Get-ChildItem

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
d-----         10/8/2020    4:20 PM          $WINDOWS.BT
d-----        11/12/2020    5:45 PM          Balu kapitány kalandjai 1
d-----        11/16/2020    5:33 PM          Balu kapitány kalandjai 2
d-----         4/19/2020    3:17 PM           C
d-----        11/22/2020    1:12 PM        Desmume
d-----        12/12/2020    4:02 PM          ESD
d-----         2/24/2021    7:24 PM         Games
d-----          3/1/2021    3:38 PM         Intel
d-----         4/19/2020    3:32 PM         MinGW
d-----         2/22/2021    4:01 PM        Miskolc 2.0
d-----         4/19/2020    2:59 PM        NetBeans
d-----        12/7/2019   10:14 AM        PerfLogs
d-r-----        2/22/2021    4:38 PM       Program Files
d-r-----        2/22/2021    4:39 PM       Program Files (x86)
d-----         3/28/2020   11:12 AM        SQLite
d-----         2/28/2021    6:14 PM         temp
d-----         2/2/2020    1:47 PM       totalcmd
d-----         2/22/2021    6:42 PM        Ubuntu
d-r-----         8/11/2020   10:21 PM         Users
d-----          3/1/2021    3:38 PM        Windows
-a-----         3/18/2020    7:17 PM      1261 AiOLog.txt
-a-----          3/1/2021    5:09 PM         0 c00ksi.txt
-a-----        11/7/2007    8:00 AM     17734 eula.1028.txt
-a-----        11/7/2007    8:00 AM     17734 eula.1031.txt
-a-----        11/7/2007    8:00 AM     10134 eula.1033.txt
-a-----        11/7/2007    8:00 AM     17734 eula.1036.txt
-a-----        11/7/2007    8:00 AM     17734 eula.1040.txt
-a-----        11/7/2007    8:00 AM      118 eula.1041.txt
-a-----        11/7/2007    8:00 AM     17734 eula.1042.txt
-a-----        11/7/2007    8:00 AM     17734 eula.2052.txt
-a-----        11/7/2007    8:00 AM     17734 eula.3082.txt
-a-----        11/7/2007    8:00 AM     1110 globdata.ini
-a-----        11/7/2007    8:03 AM    562688 install.exe
-a-----        11/7/2007    8:00 AM      843 install.ini
-a-----        11/7/2007    8:03 AM    76304 install.res.1028.dll
-a-----        11/7/2007    8:03 AM    96272 install.res.1031.dll
-a-----        11/7/2007    8:03 AM    91152 install.res.1033.dll
-a-----        11/7/2007    8:03 AM    97296 install.res.1036.dll
-a-----        11/7/2007    8:03 AM    95248 install.res.1040.dll
-a-----        11/7/2007    8:03 AM    81424 install.res.1041.dll
-a-----        11/7/2007    8:03 AM    79888 install.res.1042.dll
-a-----        11/7/2007    8:03 AM    75792 install.res.2052.dll
```

5. feladat:

A Get-Alias minden további parancs nélkül megadja a jelenleg használható rövidítés teljes azonosítóját

```
Windows PowerShell

PS C:\Users\kovac> 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
```

6. feladat:

A New-Alias parancsal egy új nevet tudunk adni egy már meglévő parancsnek, ezáltal hivatkozva rá könnyebben előhívhatjuk. A Get-Alias-al pedig megtudhatjuk, hogy az adott név melyik parancsra utal.

```
Windows PowerShell

PS C:\Users\kovac> New-Alias "processz" Get-Process
PS C:\Users\kovac> processz
```

Handles	NPM(K)	PM(K)	WS(K)	CPU(s)	Id	SI	ProcessName
702	30	35576	42560	2.33	11904	1	AcroRd32
694	69	150080	171564	117.50	14704	1	AcroRd32
160	9	2368	7812		8932	0	AdminService
2655	20	5372	20556	34.81	7672	1	AdobeARM
644	32	13344	29196		8840	0	afwServ
330	20	9276	24324	0.17	10980	1	ApplicationFrameHost
124	9	1712	7560		8252	0	armsvc
616	28	62004	118312		4604	0	aswEngSrv
1035	28	89340	107768		5256	0	aswidsagent
1326	49	38324	66220		3848	0	aswToolsSvc
313	19	11976	20632	110.19	3324	0	audiodg
5937	114	118572	197164		3600	0	AvastSvc
2262	51	38952	47888	63.03	11724	1	AvastUI
569	32	14212	2868	0.47	14732	1	AvastUI
644	31	19396	2964	0.31	17380	1	AvastUI
400	241	118192	85128	21.11	12800	1	Bloody7
279	18	27008	53388	1.11	2016	1	chrome
210	16	12296	25900	0.11	2288	1	chrome
225	17	17372	35568	0.91	2808	1	chrome
246	19	37296	60520	0.86	3164	1	chrome
282	18	7424	19572	2.16	3396	1	chrome
351	34	165404	211624	14.97	3728	1	chrome
352	25	18816	37684	11.31	4144	1	chrome
538	45	251680	233204	29.06	4252	1	chrome
343	25	68928	114760	2.55	4440	1	chrome
240	20	50268	73300	11.63	4540	1	chrome
253	20	43552	75556	1.58	5096	1	chrome
233	20	116228	53676	6.73	5824	1	chrome
235	19	33932	58656	3.72	6568	1	chrome
221	14	8040	16748	1.05	8068	1	chrome
1123	41	384220	333904	67.20	10532	1	chrome
348	26	69648	106300	4.94	11324	1	chrome
222	17	15444	29340	0.23	12136	1	chrome
232	19	37540	60148	5.09	13896	1	chrome
2313	77	160760	184456	119.19	14676	1	chrome
346	29	80312	67972	14.25	15444	1	chrome
316	20	32520	61320	2.52	16372	1	chrome
232	19	83368	91832	6.39	16468	1	chrome
288	10	2200	7032	0.05	16868	1	chrome
188	14	7132	16560	0.08	16904	1	chrome
230	18	25824	39128	0.25	17172	1	chrome
317	23	53600	53072	2.09	17180	1	chrome
69	5	2164	4796	0.02	7132	1	cmd

```
Windows PowerShell

622      27      15212      28108      0.28      12192      1 TuneupUI
668      33      10364      27996      0.28      12404      1 TuneupUI
149       9       1936       8640           0       7328      0 unsecapp
347      23       5968      21488           0       3536      0 updater-ws
124      10       1996       8816      0.06      5832      1 UserOOBEBroker
189      11       2384      10284           0       2616      0 VBoxSDS
1239     18       7808      19796      0.58      6668      1 VBoxSVC
443      22      61592      51336      2.52      1980      1 VirtualBox
550      22      45744      84724      5.67      3644      1 VirtualBoxVM
69       4       2064       7152      0.19      7016      1 VirtualBoxVM
70       4       1988       5072      0.28      8536      1 VirtualBoxVM
124      11       2160       6196           0       8848      0 vmnat
83       9       7844       5116           0       7052      0 vmnetdhcp
165      11       1356       6416           0       896       0 wininit
275      13       2868      11376           0       1064      1 winlogon
439      28       8400      25644      1.47      4748      1 WinRAR
448      29       8524      27360      1.44      6596      1 WinRAR
1358     65     141556     208732     49.06      3304      1 WINWORD
283      20       4700      19140           0      10608      0 ws
325      13       4648      13076           0       2472      0 wsc_proxy
247      11       1932       7012      0.66      15964      0 WUDFHost
773      48      26984      60848           0       7932      1 YourPhone

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

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

PS C:\Users\kovac>
```

7/a Feladat:

Kilistázza a szolgáltatásokat, aszerint, hogy milyen adataira vagyunk kíváncsiak listában

```
Windows PowerShell
PS C:\Users\kovac> Get-Service | fl name, status

Name      : AarSvc_490e4
Status    : Stopped

Name      : AdobeARMService
Status    : Running

Name      : AJRouter
Status    : Stopped

Name      : ALG
Status    : Stopped

Name      : AppIDSvc
Status    : Stopped

Name      : Appinfo
Status    : Running

Name      : AppReadiness
Status    : Stopped

Name      : AppXSvc
Status    : Stopped

Name      : aswbIDSAgent
Status    : Running

Name      : AtherosSvc
Status    : Running

Name      : AudioEndpointBuilder
Status    : Running

Name      : Audiosrv
Status    : Running

Name      : autotimesvc
Status    : Stopped

Name      : avast! Antivirus
Status    : Running

Name      : avast! Firewall
Status    : Running

Name      : avast! Tools
Status    : Running
```


7/b Feladat:

Kilistázza a szolgáltatásokat, aszerint, hogy milyen adataira vagyunk kíváncsiak táblában

```
Windows PowerShell
PS C:\Users\kovac> Get-Service | ft name, status

Name                                     Status
----
AarSvc_490e4                            Stopped
AdobeARMservice                         Running
AJRouter                               Stopped
ALG                                     Stopped
AppIDSvc                               Stopped
Appinfo                                 Running
AppReadiness                           Stopped
AppSvc                                  Running
aswbIDSAgent                           Running
AtherosSvc                             Running
AudioEndpointBuilder                   Running
Audiosrv                               Running
autotimesvc                            Stopped
avast! Antivirus                       Running
avast! Firewall                        Running
avast! Tools                           Running
AvastWscReporter                       Running
AxInstSV                               Stopped
BcastDVRUserService_490e4              Stopped
BDESVC                                 Stopped
BFE                                     Running
BITS                                   Stopped
BluetoothUserService_490e4             Stopped
BrokerInfrastructure                   Running
BTAGService                            Running
BthAvctpSvc                           Running
bthserv                                Running
camsvc                                 Running
CaptureService_490e4                  Stopped
cbdhsvc_490e4                         Running
CDPSvc                                 Running
CDPUserService_490e4                  Running
CertPropSvc                           Stopped
CleanupSvc                             Running
ClipSvc                               Stopped
COMSysApp                              Stopped
ConsentUxUserService_490e4            Stopped
CoreMessagingRegistrar                 Running
cphs                                   Running
cplspcon                               Running
CredentialEnrollmentManagerUserSvc_490e4 Stopped
CryptSvc                               Running
DcomLaunch                             Running
defragsvc                             Stopped
DeviceAssociationBrokerSvc_490e4        Stopped
DeviceAssociationService                Running
```

7/c feladat:

Kilistázza a szolgáltatásokat, aszerint, hogy milyen adataira vagyunk kíváncsiak formázott táblában (oszlopszélességet a megjelenítő ablakhöz mérten formázza)

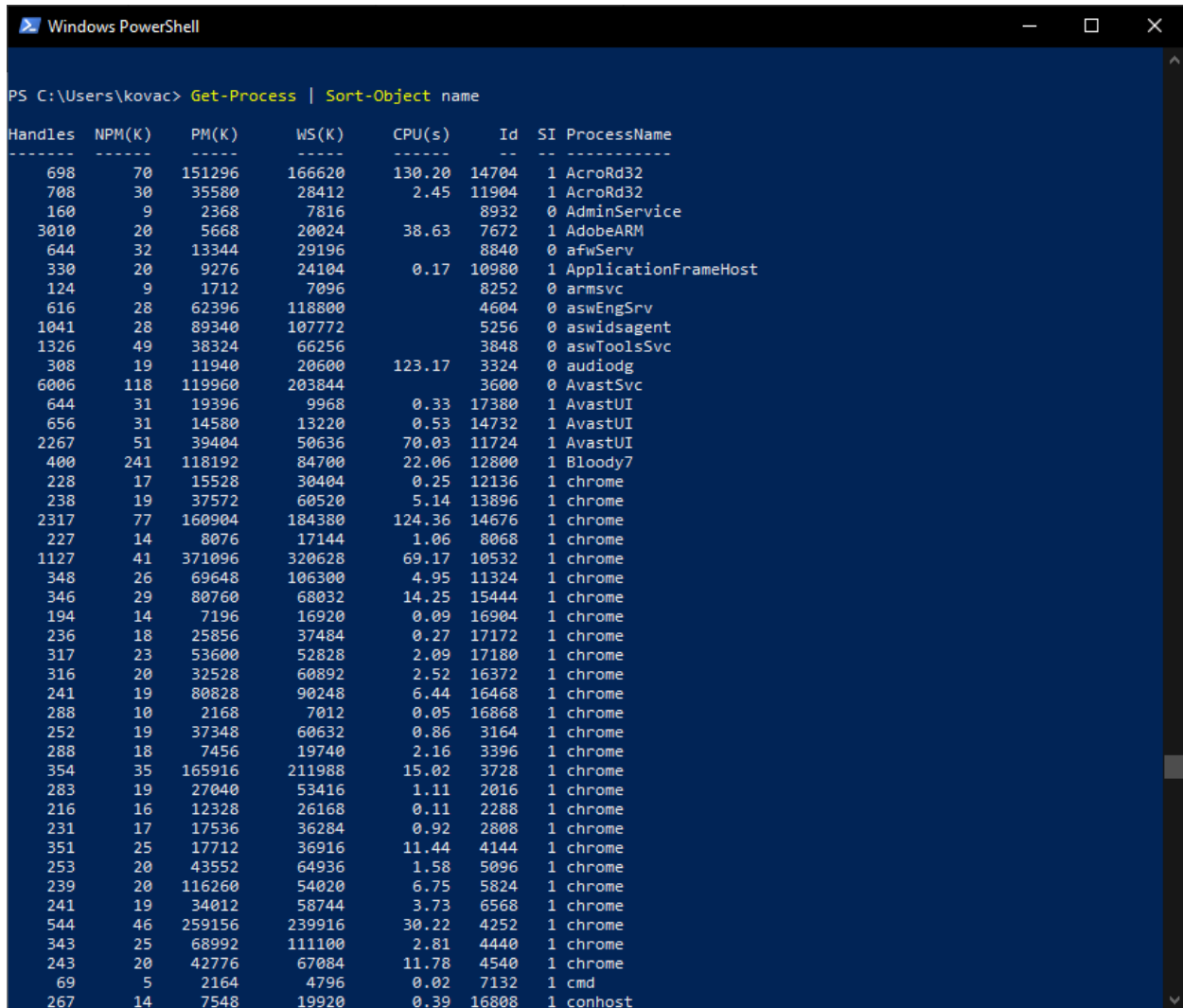
```
Windows PowerShell

PS C:\Users\kovac> Get-Service | ft name, status -AutoSize

Name                                     Status
----
AarSvc_490e4                           Stopped
AdobeARMservice                        Running
AJRouter                               Stopped
ALG                                     Stopped
AppIDSvc                               Stopped
Appinfo                                Running
AppReadiness                           Stopped
AppSvc                                  Running
aswbIDSagent                           Running
AtherosSvc                             Running
AudioEndpointBuilder                   Running
Audiosrv                               Running
autotimesvc                            Stopped
avast! Antivirus                       Running
avast! Firewall                        Running
avast! Tools                           Running
AvastWscReporter                       Running
AxInstSV                               Stopped
BcastDVRUserService_490e4              Stopped
BDESVC                                 Stopped
BFE                                     Running
BITS                                   Stopped
BluetoothUserService_490e4             Stopped
BrokerInfrastructure                   Running
BTAGService                            Running
BthAvctpSvc                            Running
bthserv                                Running
camsvc                                  Running
CaptureService_490e4                   Stopped
cbdhsvc_490e4                           Running
CDPSvc                                 Running
CDPUserService_490e4                   Running
CertPropSvc                            Stopped
CleanupSvc                             Running
ClipSvc                                Stopped
COMSysApp                              Stopped
ConsentUxUserService_490e4             Stopped
CoreMessagingRegistrar                 Running
cphs                                    Running
cplspcon                               Running
CredentialEnrollmentManagerUserSvc_490e4 Stopped
CryptSvc                               Running
DcomLaunch                             Running
defragsvc                              Stopped
```

8/a feladat:

A sort-Object abc sorrendben rendezi a Get-Process által lehívott adatokat

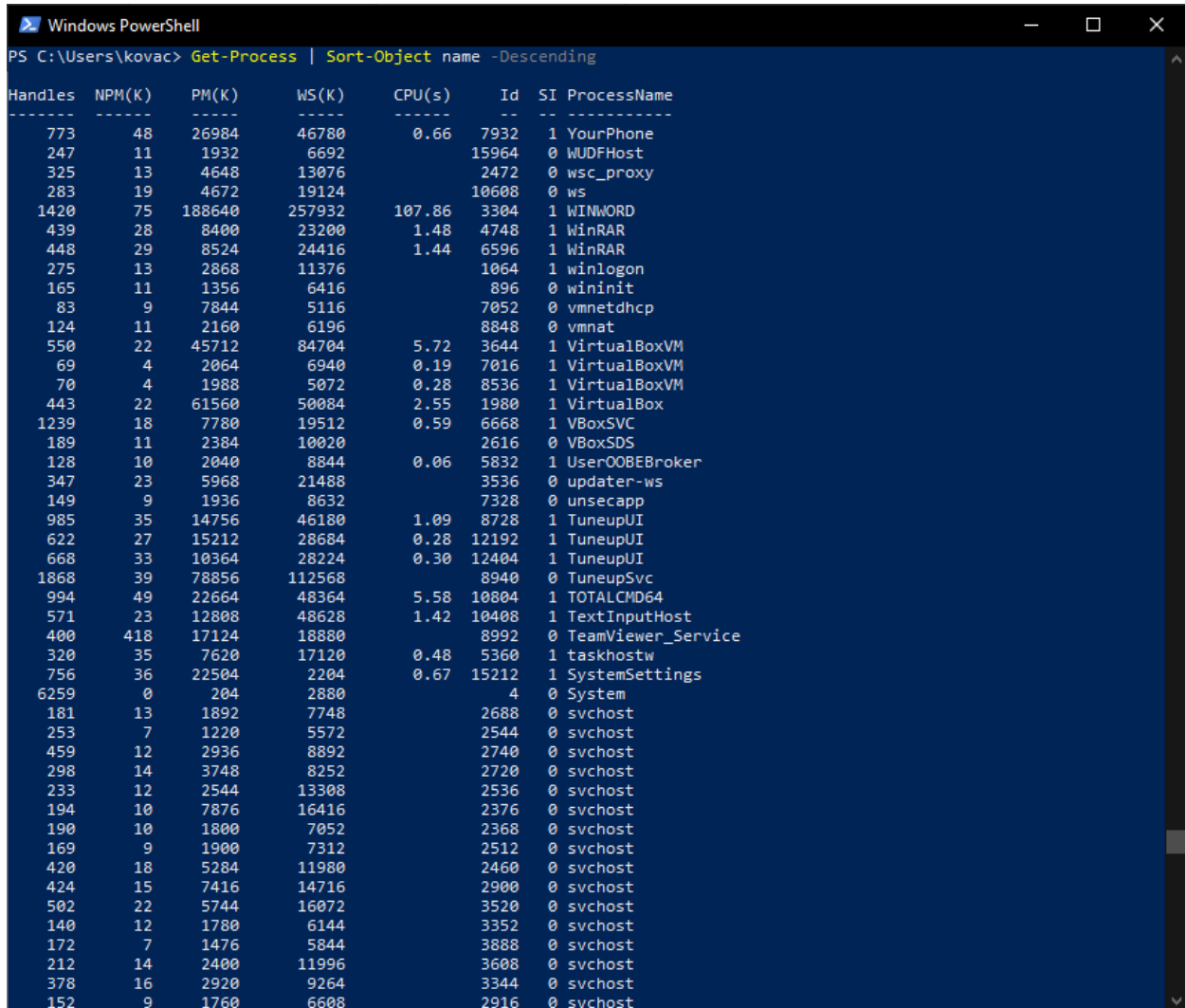


```
PS C:\Users\kovac> Get-Process | Sort-Object name
```

Handles	NPM(K)	PM(K)	WS(K)	CPU(s)	Id	SI	ProcessName
698	70	151296	166620	130.20	14704	1	AcroRd32
708	30	35580	28412	2.45	11904	1	AcroRd32
160	9	2368	7816		8932	0	AdminService
3010	20	5668	20024	38.63	7672	1	AdobeARM
644	32	13344	29196		8840	0	afwServ
330	20	9276	24104	0.17	10980	1	ApplicationFrameHost
124	9	1712	7096		8252	0	armsvc
616	28	62396	118800		4604	0	aswEngSrv
1041	28	89340	107772		5256	0	aswidsagent
1326	49	38324	66256		3848	0	aswToolsSvc
308	19	11940	20600	123.17	3324	0	audiodg
6006	118	119960	203844		3600	0	AvastSvc
644	31	19396	9968	0.33	17380	1	AvastUI
656	31	14580	13220	0.53	14732	1	AvastUI
2267	51	39404	50636	70.03	11724	1	AvastUI
400	241	118192	84700	22.06	12800	1	Bloody7
228	17	15528	30404	0.25	12136	1	chrome
238	19	37572	60520	5.14	13896	1	chrome
2317	77	160904	184380	124.36	14676	1	chrome
227	14	8076	17144	1.06	8068	1	chrome
1127	41	371096	320628	69.17	10532	1	chrome
348	26	69648	106300	4.95	11324	1	chrome
346	29	80760	68032	14.25	15444	1	chrome
194	14	7196	16920	0.09	16904	1	chrome
236	18	25856	37484	0.27	17172	1	chrome
317	23	53600	52828	2.09	17180	1	chrome
316	20	32528	60892	2.52	16372	1	chrome
241	19	80828	90248	6.44	16468	1	chrome
288	10	2168	7012	0.05	16868	1	chrome
252	19	37348	60632	0.86	3164	1	chrome
288	18	7456	19740	2.16	3396	1	chrome
354	35	165916	211988	15.02	3728	1	chrome
283	19	27040	53416	1.11	2016	1	chrome
216	16	12328	26168	0.11	2288	1	chrome
231	17	17536	36284	0.92	2808	1	chrome
351	25	17712	36916	11.44	4144	1	chrome
253	20	43552	64936	1.58	5096	1	chrome
239	20	116260	54020	6.75	5824	1	chrome
241	19	34012	58744	3.73	6568	1	chrome
544	46	259156	239916	30.22	4252	1	chrome
343	25	68992	111100	2.81	4440	1	chrome
243	20	42776	67084	11.78	4540	1	chrome
69	5	2164	4796	0.02	7132	1	cmd
267	14	7548	19920	0.39	16808	1	conhost

8/b feladat:

A sort-Object fordított sorrendben rendezi a Get-Process által lehívott adatokat



Windows PowerShell

```
PS C:\Users\kovac> Get-Process | Sort-Object name -Descending
```

Handles	NPM(K)	PM(K)	WS(K)	CPU(s)	Id	SI	ProcessName
773	48	26984	46780	0.66	7932	1	YourPhone
247	11	1932	6692		15964	0	WUDFHost
325	13	4648	13076		2472	0	wsc_proxy
283	19	4672	19124		10608	0	ws
1420	75	188640	257932	107.86	3304	1	WINWORD
439	28	8400	23200	1.48	4748	1	WinRAR
448	29	8524	24416	1.44	6596	1	WinRAR
275	13	2868	11376		1064	1	winlogon
165	11	1356	6416		896	0	wininit
83	9	7844	5116		7052	0	vmnetdhcp
124	11	2160	6196		8848	0	vmnat
550	22	45712	84704	5.72	3644	1	VirtualBoxVM
69	4	2064	6940	0.19	7016	1	VirtualBoxVM
70	4	1988	5072	0.28	8536	1	VirtualBoxVM
443	22	61560	50084	2.55	1980	1	VirtualBox
1239	18	7780	19512	0.59	6668	1	VBoxSVC
189	11	2384	10020		2616	0	VBoxSDS
128	10	2040	8844	0.06	5832	1	UserOOBEBroker
347	23	5968	21488		3536	0	updater-ws
149	9	1936	8632		7328	0	unsecapp
985	35	14756	46180	1.09	8728	1	TuneupUI
622	27	15212	28684	0.28	12192	1	TuneupUI
668	33	10364	28224	0.30	12404	1	TuneupUI
1868	39	78856	112568		8940	0	TuneupSvc
994	49	22664	48364	5.58	10804	1	TOTALCMD64
571	23	12808	48628	1.42	10408	1	TextInputHost
400	418	17124	18880		8992	0	TeamViewer_Service
320	35	7620	17120	0.48	5360	1	taskhostw
756	36	22504	2204	0.67	15212	1	SystemSettings
6259	0	204	2880		4	0	System
181	13	1892	7748		2688	0	svchost
253	7	1220	5572		2544	0	svchost
459	12	2936	8892		2740	0	svchost
298	14	3748	8252		2720	0	svchost
233	12	2544	13308		2536	0	svchost
194	10	7876	16416		2376	0	svchost
190	10	1800	7052		2368	0	svchost
169	9	1900	7312		2512	0	svchost
420	18	5284	11980		2460	0	svchost
424	15	7416	14716		2900	0	svchost
502	22	5744	16072		3520	0	svchost
140	12	1780	6144		3352	0	svchost
172	7	1476	5844		3888	0	svchost
212	14	2400	11996		3608	0	svchost
378	16	2920	9264		3344	0	svchost
152	9	1760	6608		2916	0	svchost

9. feladat:

A kód a Windows belső órájának idejét adja meg. (az én esetemben ez valamiért nem működött)

```
Windows PowerShell

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

Status      Name      DisplayName
-----
Stopped     W32Time   Windows Time

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

Status      Name      DisplayName
-----
Stopped     W32Time   Windows Time

PS C:\>
```

10. feladat:

Kíírja azokat a fájlokat amelyeknek a szűrésnek megfelelő karaktereket tartalmaz

```
Windows PowerShell

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

Status  Name                DisplayName
-----  ----                -
Stopped WiaRpc              Still Image Acquisition Events
Stopped WinDefend          Microsoft 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:\>
```

11. feladat:

Csoportosítja a futó és leállt szolgáltatásokat egy csoportba, kiírja mennyi szolgáltatás van egy csoportba illetve elkezd kiírni neveiket.

```
Windows PowerShell

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

Count Name Group
-----
170 Stopped {AarSvc_490e4, AJRouter, ALG, AppIDSvc...}
117 Running {AdobeARMservice, Appinfo, AppXSvc, aswbIDSAgent...}

PS C:\>
```

A kód kiírja a PID-et és értéküket szorozza 2-vel

```
Windows PowerShell

PS C:\> Get-Process | ForEach-Object { $_.id*2 }

23808
29408
17864
15344
17680
21960
16504
9208
10512
7696
6648
7200
23448
29464
34760
25600
4032
4576
5616
6328
6792
7456
8288
8504
8880
9080
10192
11648
13136
16136
21064
22648
24272
27792
29352
30888
32744
32936
33736
33808
34344
34360
14264
6136
22480
33616
1592
1808
```

12. feladat:

Megszámolja, hogy az adott mappában mennyi objektum van

```
PS C:\> Get-Process | Measure-Object

Count      : 237
Average    :
Sum        :
Maximum    :
Minimum    :
Property   :
```

PS C:\>

13. Feladat:

Megszámolja, hogy az adott mappában mennyi ID tartalmú objektum van, majd megadja azok értékének átlagát, minimumát és maximumát

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

Count      : 236
Average    : 6965.72881355932
Sum        : 1643912
Maximum    : 17380
Minimum    : 0
Property   : Id
```

PS C:\>

14. Feladat:

Megszámolja a szolgáltatások számát

```
Windows PowerShell

PS C:\> (Get-Service).count
287
PS C:\> $x = (Get-Service)
PS C:\> $x.count
287
PS C:\>
```


15. feladat:

Megadja a változók módosításához szükséges parancsok neveit és leírását

```
Windows PowerShell
PS C:\> $x = 5
PS C:\> $x | Get-Member

TypeName: System.Int32

Name      MemberType Definition
-----
CompareTo Method      int CompareTo(System.Object value), int CompareTo(int value), int IComparable.CompareTo(Syste...
Equals     Method      bool Equals(System.Object obj), bool Equals(int obj), bool IEquatable[int].Equals(int other)
GetHashCode Method     int GetHashCode()
GetType    Method      type GetType()
GetTypeCode Method    System.TypeCode GetTypeCode(), System.TypeCode IConvertible.GetTypeCode()
ToBoolean  Method      bool IConvertible.ToBoolean(System.IFormatProvider provider)
ToByte     Method      byte IConvertible.ToByte(System.IFormatProvider provider)
ToChar     Method      char IConvertible.ToChar(System.IFormatProvider provider)
ToDateTime Method     datetime IConvertible.ToDateTime(System.IFormatProvider provider)
ToDecimal  Method      decimal IConvertible.ToDecimal(System.IFormatProvider provider)
ToDouble   Method      double IConvertible.ToDouble(System.IFormatProvider provider)
ToInt16    Method      int16 IConvertible.ToInt16(System.IFormatProvider provider)
ToInt32    Method      int IConvertible.ToInt32(System.IFormatProvider provider)
ToInt64    Method      long IConvertible.ToInt64(System.IFormatProvider provider)
ToSByte    Method      sbyte IConvertible.ToSByte(System.IFormatProvider provider)
ToSingle   Method      float IConvertible.ToSingle(System.IFormatProvider provider)
ToString   Method      string ToString(), string ToString(string format), string ToString(System.IFormatProvider pro...
ToType     Method      System.Object IConvertible.ToType(type conversionType, System.IFormatProvider provider)
ToUInt16   Method      uint16 IConvertible.ToUInt16(System.IFormatProvider provider)
ToUInt32   Method      uint32 IConvertible.ToUInt32(System.IFormatProvider provider)
ToUInt64   Method      uint64 IConvertible.ToUInt64(System.IFormatProvider provider)
```

16. Feladat:

String megadása majd ezen szöveg módosítása behelyettesítéssel

```
Windows PowerShell
PS C:\> $szoveg = "Miskolc"
PS C:\> "$szoveg-on élek."
Miskolc-on élek.
PS C:\> '$szoveg-on élek.'
$szoveg-on élek.
PS C:\>
```

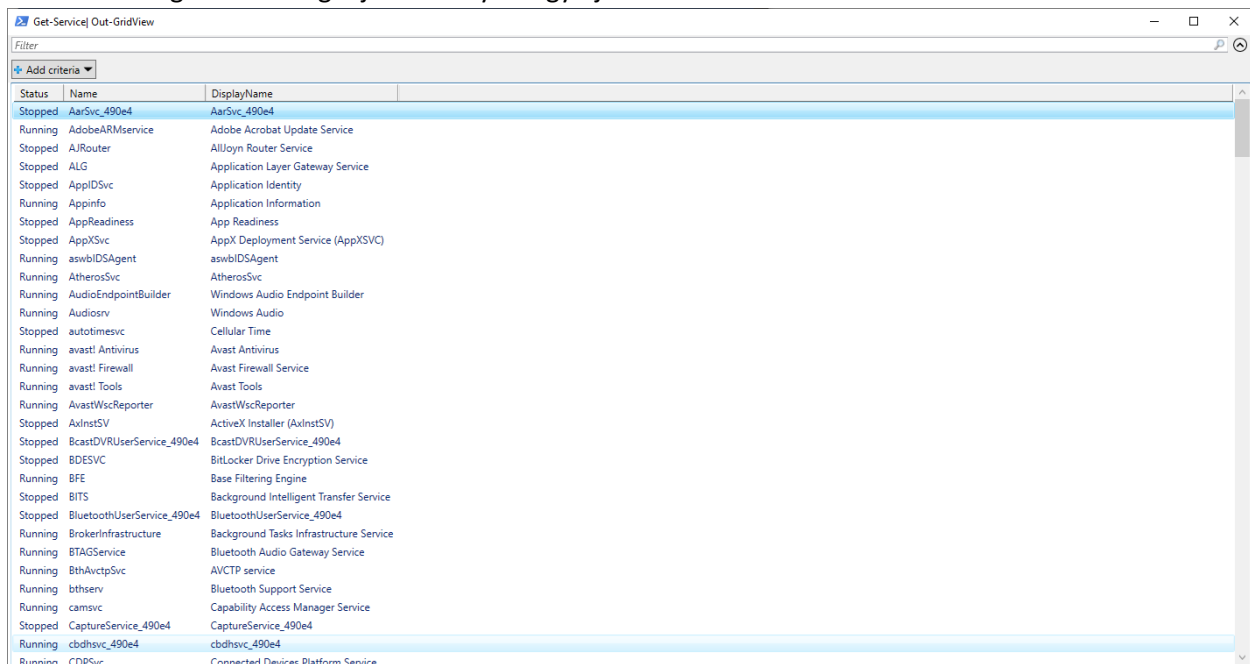
17. feladat:

A megadott szöveg hosszát számolja meg, Nagy betűsre alakítja, megkeresi a megadott részletet és kicseréli azt illetve a megadott karakternél elválasztja a stringet és új sorba írja

```
Windows PowerShell
PS C:\> $szoveg.Length
7
PS C:\> $szoveg.ToUpper()
MISKOLC
PS C:\> $szoveg.Replace("kolc", "ka")
Miska
PS C:\> $szoveg.Split("s")
Mi
kolc
PS C:\>
```

18. Feladat:

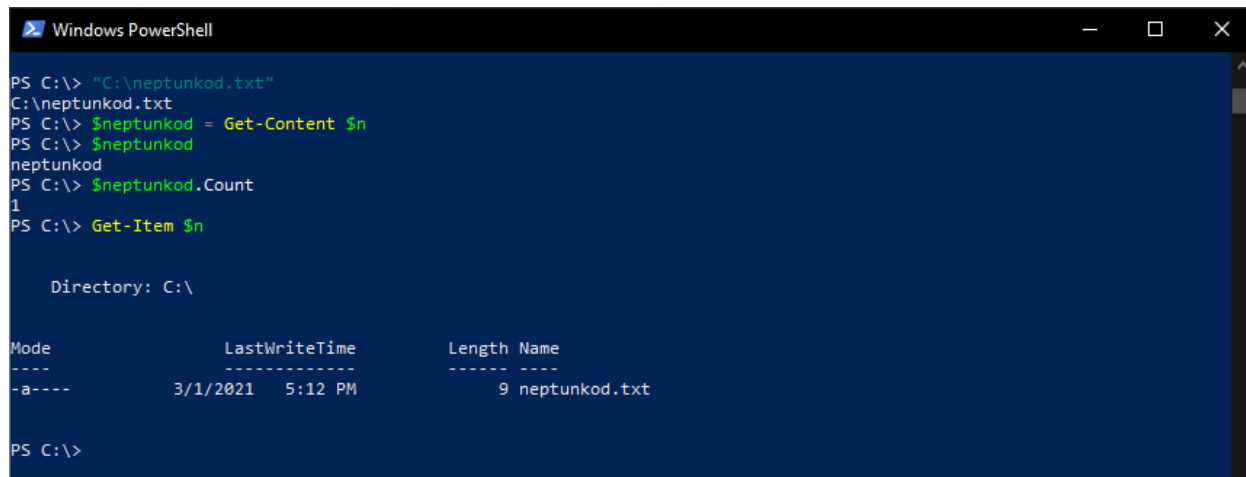
Az összes szolgáltatást megadja és kihelyezi egy új ablakba



Status	Name	DisplayName
Stopped	AarSvc_490e4	AarSvc_490e4
Running	AdobeARMSvc	Adobe Acrobat Update Service
Stopped	AJRouter	AllJoyn Router Service
Stopped	ALG	Application Layer Gateway Service
Stopped	ApplDSvc	Application Identity
Running	Appinfo	Application Information
Stopped	AppReadiness	App Readiness
Stopped	AppXSvc	AppX Deployment Service (AppXSVC)
Running	aswbIDSAgent	aswbIDSAgent
Running	AtherosSvc	AtherosSvc
Running	AudioEndpointBuilder	Windows Audio Endpoint Builder
Running	AudioSrv	Windows Audio
Stopped	autotimesvc	Cellular Time
Running	avast! Antivirus	Avast Antivirus
Running	avast! Firewall	Avast Firewall Service
Running	avast! Tools	Avast Tools
Running	AvastWscReporter	AvastWscReporter
Stopped	AxinstSV	ActiveX Installer (AxinstSV)
Stopped	BcastDVRUserService_490e4	BcastDVRUserService_490e4
Stopped	BDESVC	BitLocker Drive Encryption Service
Running	BFE	Base Filtering Engine
Stopped	BITS	Background Intelligent Transfer Service
Stopped	BluetoothUserService_490e4	BluetoothUserService_490e4
Running	BrokerInfrastructure	Background Tasks Infrastructure Service
Running	BTAGService	Bluetooth Audio Gateway Service
Running	BthAvctpSvc	AVCTP service
Running	bthserv	Bluetooth Support Service
Running	camsvc	Capability Access Manager Service
Stopped	CaptureService_490e4	CaptureService_490e4
Running	cbdhsvc_490e4	cbdhsvc_490e4
Running	CDPSvc	Connected Devices Platform Service

19. Feladat:

Egy létező txt fájlnak az adatait, tartalmát és sorainak mennyiségét adja meg



```
Windows PowerShell
PS C:\> "C:\neptunkod.txt"
C:\neptunkod.txt
PS C:\> $neptunkod = Get-Content $n
PS C:\> $neptunkod
neptunkod
PS C:\> $neptunkod.Count
1
PS C:\> Get-Item $n

Directory: C:\

Mode                LastWriteTime         Length Name
----                -
-a-----         3/1/2021   5:12 PM             9 neptunkod.txt

PS C:\>
```