

Secure Coding Lab – 6

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Slot: B+TB

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	dsnn -> Disconnect-PSSession		
Alias	ebp -> Enable-PSBreakpoint		
Alias	echo -> Write-Output		
Alias	epal -> Export-Alias		
Alias	epcsv -> Export-Csv		
Alias	epsn -> Export-PSSession		
Alias	erase -> Remove-Item		
Alias	etsn -> 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	mount -> New-PSDrive
Alias	gal -> Get-Alias	Alias	move -> Move-Item
Alias	gbp -> Get-PSBreakpoint	Alias	mp -> Move-ItemProperty
Alias	gc -> Get-Content	Alias	mv -> Move-Item
Alias	gci -> Get-ChildItem	Alias	nal -> New-Alias
Alias	gcm -> Get-Command	Alias	ndr -> New-PSDrive
Alias	gcs -> Get-PSCallStack	Alias	ni -> New-Item
Alias	gdr -> Get-PSDrive	Alias	nmo -> New-Module
Alias	ghy -> Get-History	Alias	npssc -> New-PSSessionConfigurationFile
Alias	gi -> Get-Item	Alias	nsn -> New-PSSession
Alias	gjb -> Get-Job	Alias	nv -> New-Variable
Alias	gl -> Get-Location	Alias	ogv -> Out-GridView
Alias	gm -> Get-Member	Alias	oh -> Out-Host
Alias	gmo -> Get-Module	Alias	popd -> Pop-Location
Alias	gp -> Get-ItemProperty	Alias	ps -> Get-Process
Alias	gps -> Get-Process	Alias	pushd -> Push-Location
Alias	gpv -> Get-ItemPropertyValue	Alias	pwd -> Get-Location
Alias	group -> Group-Object	Alias	r -> Invoke-History
Alias	gsn -> Get-PSSession	Alias	rbp -> Remove-PSBreakpoint
Alias	gsnp -> Get-PSSnapin	Alias	rcjb -> Receive-Job
Alias	gsv -> Get-Service	Alias	rdsn -> Receive-PSSession
Alias	gu -> Get-Unique	Alias	rd -> Remove-Item
Alias	gv -> Get-Variable	Alias	rdm -> Remove-PSDrive
Alias	gwmi -> Get-WmiObject	Alias	ren -> Rename-Item
Alias	h -> Get-History	Alias	ri -> Remove-Item
Alias	history -> Get-History	Alias	rjb -> Remove-Job
Alias	icm -> Invoke-Command	Alias	rm -> Remove-Item
Alias	iex -> Invoke-Expression	Alias	rmdir -> Remove-Item
Alias	ihy -> Invoke-History	Alias	rmo -> Remove-Module
Alias	ii -> Invoke-Item	Alias	rni -> Rename-Item
Alias	ipal -> Import-Alias	Alias	rnp -> Rename-ItemProperty
Alias	ipcsv -> Import-Csv	Alias	rp -> Remove-ItemProperty
Alias	ipmo -> Import-Module	Alias	rsn -> Remove-PSSession
Alias	ipsn -> Import-PSSession	Alias	rsnp -> Remove-PSSnapin
Alias	irm -> Invoke-RestMethod	Alias	rujb -> Resume-Job
Alias	ise -> powershell_ise.exe	Alias	rv -> Remove-Variable
Alias	iwmi -> Invoke-WMIMethod	Alias	rvpa -> Resolve-Path
Alias	iwr -> Invoke-WebRequest	Alias	rwmi -> Remove-WMIObject
Alias	kill -> Stop-Process	Alias	sajb -> Start-Job
Alias	lp -> Out-Printer	Alias	sal -> Set-Alias
Alias	ls -> Get-ChildItem	Alias	saps -> Start-Process
Alias	man -> help	Alias	sasv -> Start-Service
Alias	md -> mkdir	Alias	sbp -> Set-PSBreakpoint
Alias	measure -> Measure-Object	Alias	sc -> Set-Content
Alias	mi -> Move-Item	Alias	select -> Select-Object
Alias	mount -> New-PSDrive	Alias	set -> Set-Variable
Alias	move -> Move-Item	Alias	shcm -> Show-Command
Alias	mp -> Move-ItemProperty	Alias	si -> Set-Item
Alias	mv -> Move-Item	Alias	sl -> Set-Location
Alias	nal -> New-Alias	Alias	sleep -> Start-Sleep

```
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 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
```

Get-ChildItem

```
PS C:\Users\skfar> get-ChildItem
```

```
Directory: C:\Users\skfar
```

Mode	LastWriteTime	Length	Name
d-----	30-Nov-19 3:20 PM		.anaconda
d-----	10-Mar-21 9:04 PM		.android
d-----	27-Feb-21 8:19 PM		.atom
d-----	02-Dec-20 2:49 PM		.conda
d-----	30-Nov-19 3:25 PM		.config
d-----	26-Feb-20 8:46 PM		.continuum
d-----	21-Mar-20 6:23 PM		.dotnet
d-----	07-Feb-21 10:54 PM		.gradle
d-----	14-Sep-19 10:43 AM		.idlerc
d-----	13-Sep-20 10:56 AM		.ipynb_checkpoints
d-----	30-Nov-19 3:24 PM		.ipython
d-----	09-Aug-19 2:18 PM		.jssc
d-----	15-Apr-20 1:16 PM		.jupyter
d-----	03-Sep-19 12:04 PM		.m2
d-----	30-Nov-19 3:24 PM		.matplotlib
d-----	15-Aug-19 11:40 AM		.PyCharmCE2018.3
d-----	06-Dec-20 12:15 AM		.spyder-py3
d-----	11-Nov-20 9:57 AM		.tooling
d-----	04-Mar-21 1:57 AM		.VirtualBox
d-----	22-Nov-20 1:21 AM		.vscode
d-----	20-Sep-19 10:36 PM		.windows-build-tools
d-r----	28-Aug-20 1:15 AM		3D Objects
d-----	02-Dec-20 10:09 AM		Anaconda3
d-----	06-Apr-20 8:56 PM		AnacondaCopy
d-----	10-Feb-21 8:38 PM		AndroidStudioProjects
d-----	08-Dec-19 1:39 PM		Cisco Packet Tracer 7.2.2
d-r----	28-Aug-20 1:15 AM		Contacts
d-r----	10-Mar-21 9:33 PM		Desktop
d-r----	24-Feb-21 12:47 AM		Documents
d-r----	11-Mar-21 12:29 PM		Downloads
d-----	17-Jun-18 9:47 AM		Dropbox
d-r----	28-Aug-20 1:15 AM		Favorites
d-----	03-Oct-19 10:46 AM		Intel
d-----	30-Nov-20 5:40 PM		Jedi
d-r----	28-Aug-20 1:15 AM		Links
d-r----	28-Aug-20 1:15 AM		Music
dar--1	11-Mar-21 1:25 PM		OneDrive
d-r----	07-Mar-21 3:31 PM		Pictures
d-----	24-Nov-20 5:39 PM		PycharmProjects
d-r----	28-Aug-20 1:15 AM		Saved Games
d-r----	28-Aug-20 1:15 AM		Searches
d-----	26-Nov-19 10:41 PM		source
d-r----	28-Aug-20 1:15 AM		Videos
d-----	17-May-20 6:38 PM		VirtualBox VMs
-a-----	02-Dec-20 1:04 PM	60	.condarc
-a-----	21-Sep-19 10:03 PM	0	.dbshell
-a-----	10-Feb-21 5:10 PM	16	.emulator_console_auth_token
-a-----	24-Feb-21 12:52 AM	208	.gitconfig
-a-----	20-Sep-19 9:30 PM	0	.mongorc.js
-a-----	04-Mar-21 12:41 AM	24	.node_repl_history
-a-----	05-Dec-20 2:36 PM	176	.packettracer
-a-----	07-Apr-20 8:15 PM	720	mlops_day1.ipynb
-a-----	08-Apr-20 7:25 PM	974	Untitled.ipynb
-a-----	13-Sep-20 10:58 AM	555	Untitled1.ipynb

get-Process | select ProcessName, ID | Sort
ProcessName | FL

```
PS C:\Users\skFar> get-Process | select ProcessName, ID | Sort ProcessName | FL

ProcessName : ApplicationFrameHost
Id           : 11904

ProcessName : audiodg
Id           : 20144

ProcessName : browserhost
Id           : 15948

ProcessName : chrome
Id           : 29924

ProcessName : chrome
Id           : 29816

ProcessName : chrome
Id           : 31076

ProcessName : chrome
Id           : 32512

ProcessName : chrome
Id           : 31800

ProcessName : chrome
Id           : 27504

ProcessName : chrome
Id           : 26188

ProcessName : chrome
Id           : 28724

ProcessName : chrome
Id           : 29672

ProcessName : chrome
Id           : 29200

ProcessName : chrome
Id           : 36396

ProcessName : chrome
Id           : 35992
```

Serial No. of the Laptop.

```
PS C:\Users\skfar> Gwmi Win32_Bios |select SerialNumber  
SerialNumber  
-----  
PF0Z2FW6
```

Logical Disk Information

```
PS C:\Users\skfar> Gwmi Win32_LogicalDisk  
  
DeviceID      : C:  
DriveType     : 3  
ProviderName  :  
FreeSpace     : 1666383253504  
Size          : 1972216262656  
VolumeName    : Windows  
  
DeviceID      : D:  
DriveType     : 3  
ProviderName  :  
FreeSpace     : 24237215744  
Size          : 26843541504  
VolumeName    : LENOVO  
  
DeviceID      : E:  
DriveType     : 5  
ProviderName  :  
FreeSpace     :  
Size          :  
VolumeName    :
```

Running-Processes at the moment.

```

VM      : 311123968
WS      : 62410752
Path    : C:\Windows\SysWow64\WindowsPowerShell\v1.0\powershell.exe

__GENUS      : 2
__CLASS      : Win32_Process
__SUPERCLASS : CIM_Process
__DYNASTY    : CIM_ManagedSystemElement
__RELPATH    : Win32_Process.Handle="4328"
__PROPERTY_COUNT : 45
__DERIVATION : {CIM_Process, CIM_LogicalElement, CIM_ManagedSystemElement}
__SERVER     : FARINA-9DV4JMTS
__NAMESPACE : root\cimv2
__PATH       : \\FARINA-9DV4JMTS\root\cimv2:Win32_Process.Handle="4328"
Caption      : conhost.exe
CommandLine  : \??\C:\WINDOWS\system32\conhost.exe 0x4
CreationClassName : Win32_Process
CreationDate  : 20210311131923.946867+330
CSCreationClassName : Win32_ComputerSystem
CSName       : FARINA-9DV4JMTS
Description   : conhost.exe
ExecutablePath : C:\WINDOWS\system32\conhost.exe
ExecutionState :
Handle       : 4328
HandleCount  : 272
InstallDate  :
KernelModeTime : 150625000
MaximumWorkingSetSize : 1380
MinimumWorkingSetSize : 200
Name         : conhost.exe
OSCreationClassName : Win32_OperatingSystem
OSName       : Microsoft Windows 10 Home Single Language[C:\WINDOWS\Device\Harddisk0\Partition3
OtherOperationCount : 433852
OtherTransferCount  : 33722248
PageFaults         : 6994
PageFileUsage      : 5848
ParentProcessId    : 35220
PeakPagefileUsage  : 6936
PeakVirtualSize    : 2203484737536
PeakWorkingSetSize : 21320
Priority           : 8
PrivatePageCount   : 5988352
ProcessId          : 4328
QuotaNonPagedPoolUsage : 14
QuotaPagedPoolUsage : 223
QuotaPeakNonPagedPoolUsage : 15
QuotaPeakPagedPoolUsage : 231
ReadOperationCount : 17
ReadTransferCount  : 7909
SessionId         : 1

```

```

ReadOperationCount : 20
ReadTransferCount  : 4722
SessionId         : 1
Status           :
TerminationDate   :
ThreadCount       : 9
UserModeTime      : 0
VirtualSize       : 2272207634432
WindowsVersion    : 10.0.19042
WorkingSetSize    : 8065024
WriteOperationCount : 15
WriteTransferCount : 156
PSComputerName    : FARINA-9DV4JMTS
ProcessName       : msedge.exe
Handles          : 136
VM               : 2272207634432
WS               : 8065024
Path             : C:\Program Files (x86)\Microsoft\Edge\Application\msedge.exe

__GENUS      : 2
__CLASS      : Win32_Process
__SUPERCLASS : CIM_Process
__DYNASTY    : CIM_ManagedSystemElement
__RELPATH    : Win32_Process.Handle="21796"
__PROPERTY_COUNT : 45
__DERIVATION : {CIM_Process, CIM_LogicalElement, CIM_ManagedSystemElement}
__SERVER     : FARINA-9DV4JMTS
__NAMESPACE : root\cimv2
__PATH       : \\FARINA-9DV4JMTS\root\cimv2:Win32_Process.Handle="21796"
Caption      : msedge.exe
CommandLine  : "C:\Program Files (x86)\Microsoft\Edge\Application\msedge.exe" --type=gpu-process --field-trial-handle=1952,1577894813714753168,16489466878812347661,131072
--start-stack-profiler --gpu-preferences=SAIAAAAAAAAAAAGAAIAAAAAAAAAAAAAAAAAAABGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAABAAAAAAAAAAHGAIAAAAAAAAAKAAAAAQAAAGAAAAAAAAACgAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
--mojo-platform-channel-handle=2012 /prefetch:2

CreationClassName : Win32_Process
CreationDate      : 20210311143231.047944+330
CSCreationClassName : Win32_ComputerSystem
CSName           : FARINA-9DV4JMTS
Description       : msedge.exe
ExecutablePath    : C:\Program Files (x86)\Microsoft\Edge\Application\msedge.exe
ExecutionState    :
Handle           : 21796
HandleCount      : 433
InstallDate      :
KernelModeTime   : 2968750
MaximumWorkingSetSize : 1380
MinimumWorkingSetSize : 200
Name            : msedge.exe
OSCreationClassName : Win32_OperatingSystem
OSName          : Microsoft Windows 10 Home Single Language[C:\WINDOWS\Device\Harddisk0\Partition3

```

get-Process | where {\$_.handles-gt 500} | sort handles | Format-table

```
PS C:\Users\skfar> get-Process | where {$_.handles-gt 500} | sort handles | Format-table
```

Handles	NPM(K)	PM(K)	WS(K)	CPU(s)	Id	SI	ProcessName
503	22	9340	12624	419.13	7568	1	svchost
504	25	11204	30012	25.73	16848	1	SystemSettingsBroker
504	25	5688	13040	5.58	12712	1	svchost
505	26	186864	90880	39.22	16940	1	chrome
506	23	6084	8444	5.39	4192	1	SpeechRuntime
510	36	38196	40096	37.20	20364	1	Lenovo.Modern.ImController.PluginHost.SettingsApp
516	15	20428	12768		1316	0	svchost
524	34	20904	13152		5516	0	TeamViewer_Service
526	23	13232	30088	42.78	11280	1	RuntimeBroker
537	27	40880	9496	2,050.63	14668	1	Skype
547	24	40468	7140	15.63	11596	0	mcshield
548	26	18904	17972		3952	0	McCSPServiceHost
561	22	7324	11736		3540	0	svchost
569	40	39412	46188	3.94	19772	1	Lenovo.Modern.ImController.PluginHost.SettingsApp
571	32	20936	10008		2724	0	MFeAVSvc
572	27	8920	29916	15.88	11460	1	RuntimeBroker
573	32	11744	284	2.55	35584	1	McUICnt
578	13	4284	7016		3328	0	svchost
579	26	26960	29596		4856	0	svchost
589	19	12612	7480		8804	0	ProtectedModuleHost
604	29	16812	33032	24.27	2832	1	LockApp
605	15	6596	18708		7552	0	svchost
611	27	91372	65556	175.27	11312	1	Discord
639	19	11156	14656		13116	0	svchost
649	11	4160	4556		2936	0	svchost
653	36	18752	4720	1.91	19616	1	Video,UI
661	39	21348	43036	567.83	16860	1	uihost
662	26	18224	28760	346.70	9188	1	TextInputHost
670	32	41188	20476		6624	0	sqlceip
675	30	19028	3004	332.97	9324	1	SettingSyncHost
678	47	56208	29120	125.72	14200	1	Lenovo.Modern.ImController.PluginHost.CompanionApp
679	92	440256	65588		6632	0	sqlservr
693	15	5072	11564		2636	0	svchost
694	33	44292	44332	52.48	10116	1	RuntimeBroker
727	23	119540	59392	701.97	7712	1	ctfmon
777	32	31576	19340		2604	1	NVDisplay.Container
781	40	21816	21936		17224	0	servicehost
790	40	56304	66036	28.03	35220	1	powershell
791	36	37524	62384	57.27	6124	1	StartMenuExperienceHost
805	48	39868	46720	544.61	12344	1	Discord
810	26	10092	43108	98.56	7288	1	svchost
823	60	49736	53640	64.30	25088	1	Lenovo.Modern.ImController.PluginHost.Device
839	28	38176	25304		5596	0	OfficeClickToRun
849	25	11156	24912	186.44	5920	1	sihost
862	94	72000	53052	94.27	9084	1	TeamViewer

Computer Name

```
PS C:\Users\skfar> get-WmiObject -Class Win32_Bios -ComputerName.
```

```

SMBIOSBIOSVersion : 6JCN33WW
Manufacturer      : LENOVO
Name              : 6JCN33WW
SerialNumber      : PF0Z2FW6
Version           : LENOVO - 1

```


Computer System Name

```
PS C:\Users\skfar> get-WmiObject -Class Win32_ComputerSystem
```

```
Domain           : WORKGROUP
Manufacturer     : LENOVO
Model            : 81BF
Name             : FARINA-9DV4JMTS
PrimaryOwnerName : Windows User
TotalPhysicalMemory : 17048506368
```

```
PS C:\Users\skfar> get-WmiObject -Class Win32_Product -ComputerName.
```

```
IdentifyingNumber : {A2FC01E0-059E-4D21-AFD2-B63A7E1EF3CD}
Name              : Python 3.7.0 Tcl/Tk Support (64-bit)
Vendor           : Python Software Foundation
Version          : 3.7.150.0
Caption          : Python 3.7.0 Tcl/Tk Support (64-bit)

IdentifyingNumber : {8A6F7991-1955-4C46-8C0C-8D7C6F7042FA}
Name              : Python 3.7.0 pip Bootstrap (64-bit)
Vendor           : Python Software Foundation
Version          : 3.7.150.0
Caption          : Python 3.7.0 pip Bootstrap (64-bit)

IdentifyingNumber : {E7C56E72-C80E-453B-9345-FAEAE5DB51A4}
Name              : Python 3.7.0 Documentation (64-bit)
Vendor           : Python Software Foundation
Version          : 3.7.150.0
Caption          : Python 3.7.0 Documentation (64-bit)

IdentifyingNumber : {61246987-8D99-44A9-8FF5-E2E3F503B72D}
Name              : Python 3.7.0 Development Libraries (64-bit)
Vendor           : Python Software Foundation
Version          : 3.7.150.0
Caption          : Python 3.7.0 Development Libraries (64-bit)

IdentifyingNumber : {E4266358-1C9B-4AF0-ABF7-72BE136904CF}
Name              : Python 3.7.0 Test Suite (64-bit)
Vendor           : Python Software Foundation
Version          : 3.7.150.0
Caption          : Python 3.7.0 Test Suite (64-bit)

IdentifyingNumber : {84B7971A-F59F-4247-AD34-BEC02CF85FBD}
Name              : Python 3.7.0 Executables (64-bit)
Vendor           : Python Software Foundation
Version          : 3.7.150.0
Caption          : Python 3.7.0 Executables (64-bit)

IdentifyingNumber : {F046BD5A-33F4-4ABA-BD2D-0227F6291EC9}
Name              : Python 3.7.0 Core Interpreter (64-bit)
Vendor           : Python Software Foundation
Version          : 3.7.150.0
Caption          : Python 3.7.0 Core Interpreter (64-bit)

IdentifyingNumber : {9E24E01B-CBD8-4558-A56D-6188F1A3C822}
Name              : Python 3.7.0 Utility Scripts (64-bit)
```

Exercise

1.

```
import os, fnmatch

listOfFiles = os.listdir('.')
pattern = "*.py"
for entry in listOfFiles:
    if fnmatch.fnmatch(entry, pattern):
        print (entry)
```

2.

```
import os

def listdirs(rootdir):
    for file in os.listdir(C):
        d = os.path.join(C, file)
        if os.path.isdir(d):
            print(d)
            listdirs(d)

rootdir = 'path/to/dir'
listdirs(rootdir)
```

3.

```
from pathlib import Path

def listdirs(rootdir):
```

```

for path in Path(rootdir).iterdir():
    if path.is_dir():
        print(path)
        listdirs(path)

```

```

rootdir = 'path/to/dir'
listdirs(rootdir)

```

4.

```

import os

```

```

with open("output.txt", "w") as a:
    for path, subdirs, files in os.walk(r'C:\BTech
pdf\SecureCodeing_Lab\Test_Py'):
        for filename in files:
            f = os.path.join(path, filename)
            a.write(str(f) + os.linesep)

```

5.

```

PS C:\BTech pdf\SecureCoding_Lab\Lab6> 1..4 | foreach {New-Item -Path 'C:\BTech pdf\SecureCoding_Lab\Lab6\' -Name "abc$.txt"}

Directory: C:\BTech pdf\SecureCoding_Lab\Lab6

Mode                LastWriteTime         Length Name
----                -
-a----          11-Mar-21   3:56 PM              0 abc1.txt
-a----          11-Mar-21   3:56 PM              0 abc2.txt
-a----          11-Mar-21   3:56 PM              0 abc3.txt
-a----          11-Mar-21   3:56 PM              0 abc4.txt

```