

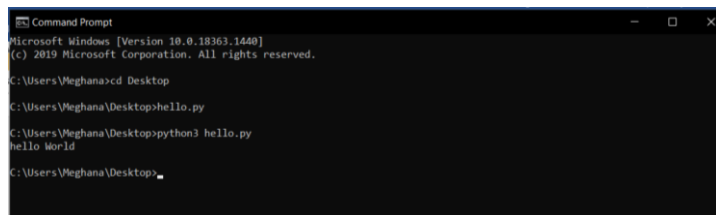
Secure Coding- Lab4

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Mid-Level

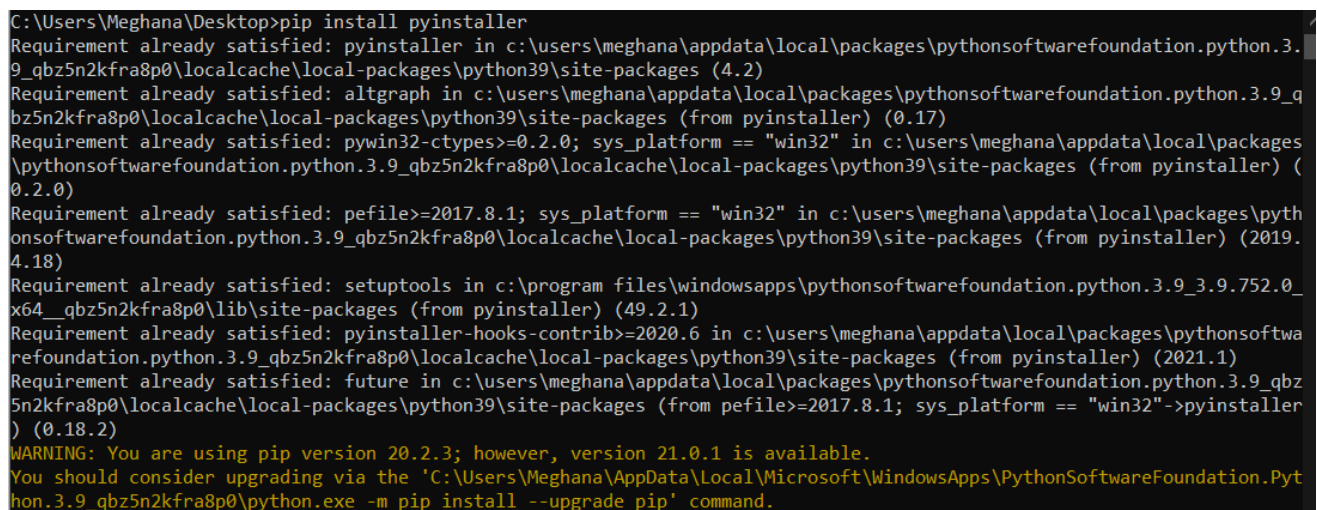
- Write a python script to print hello world.



```
Command Prompt
Microsoft Windows [Version 10.0.18363.1440]
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C:\Users\Meghana>cd Desktop
C:\Users\Meghana\Desktop>hello.py
C:\Users\Meghana\Desktop>python3 hello.py
hello World
C:\Users\Meghana\Desktop>
```

- Convert the script into executable (use pyinstaller or py2exe – any of your choice).



```
C:\Users\Meghana\Desktop>pip install pyinstaller
Requirement already satisfied: pyinstaller in c:\users\meghana\appdata\local\packages\pythonsoftwarefoundation.python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (4.2)
Requirement already satisfied: altgraph in c:\users\meghana\appdata\local\packages\pythonsoftwarefoundation.python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from pyinstaller) (0.17)
Requirement already satisfied: pywin32-ctypes>=0.2.0; sys_platform == "win32" in c:\users\meghana\appdata\local\packages\pythonsoftwarefoundation.python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from pyinstaller) (0.2.0)
Requirement already satisfied: pefile>=2017.8.1; sys_platform == "win32" in c:\users\meghana\appdata\local\packages\pythonsoftwarefoundation.python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from pyinstaller) (2019.4.18)
Requirement already satisfied: setuptools in c:\program files\windowsapps\pythonsoftwarefoundation.python.3.9_3.9.752.0_x64__qbz5n2kfra8p0\lib\site-packages (from pyinstaller) (49.2.1)
Requirement already satisfied: pyinstaller-hooks-contrib>=2020.6 in c:\users\meghana\appdata\local\packages\pythonsoftwarefoundation.python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from pyinstaller) (2021.1)
Requirement already satisfied: future in c:\users\meghana\appdata\local\packages\pythonsoftwarefoundation.python.3.9_qbz5n2kfra8p0\localcache\local-packages\python39\site-packages (from pefile>=2017.8.1; sys_platform == "win32"->pyinstaller) (0.18.2)
WARNING: You are using pip version 20.2.3; however, version 21.0.1 is available.
You should consider upgrading via the 'C:\Users\Meghana\AppData\Local\Microsoft\WindowsApps\PythonSoftwareFoundation.Python.3.9_qbz5n2kfra8p0\python.exe -m pip install --upgrade pip' command.
```

```
C:\Users\Meghana\Desktop>pyinstaller -F hello.py
401 INFO: PyInstaller: 4.2
401 INFO: Python: 3.9.0
417 INFO: Platform: Windows-10-10.0.19041-SP0
417 INFO: wrote G:\Secure Coding LABS\lab4\18BCN7081.spec
417 INFO: UPX is not available.
432 INFO: Extending PYTHONPATH with paths
['C:\Users\Meghana\Desktop>', 'C:\Users\Meghana\Desktop>']
517 INFO: checking Analysis
517 INFO: Building Analysis because Analysis-00.toc is non
existent
517 INFO: Initializing module dependency graph...
533 INFO: Caching module graph hooks...
```

533 WARNING: Several hooks defined for module
'win32ctypes.core'. Please take care they do not conflict.

571 INFO: Analyzing base_library.zip ...

7244 INFO: Processing pre-find module path hook distutils from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks\\pre_find_module_path\\hook-distutils.py'.

7245 INFO: distutils: retargeting to non-venv dir
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib'

13460 INFO: Caching module dependency graph...

13590 INFO: running Analysis Analysis-00.toc

13597 INFO: Adding Microsoft.Windows.Common-Controls to
dependent assemblies of final executable
required by
c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\python.exe

13742 WARNING: lib not found: api-ms-win-core-path-l1-1-0.dll
dependency of
c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\python39.dll

13785 INFO: Analyzing G:\\Secure Coding LABS\\lab4\\18BCN7081.py

13808 INFO: Processing module hooks...

13809 INFO: Loading module hook 'hook-difflib.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...

13811 INFO: Excluding import of doctest from module difflib

13812 INFO: Loading module hook 'hook-distutils.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...

13815 INFO: Loading module hook 'hook-distutils.util.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...

13818 INFO: Excluding import of lib2to3.refactor from module
distutils.util

13819 INFO: Loading module hook 'hook-encodings.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...

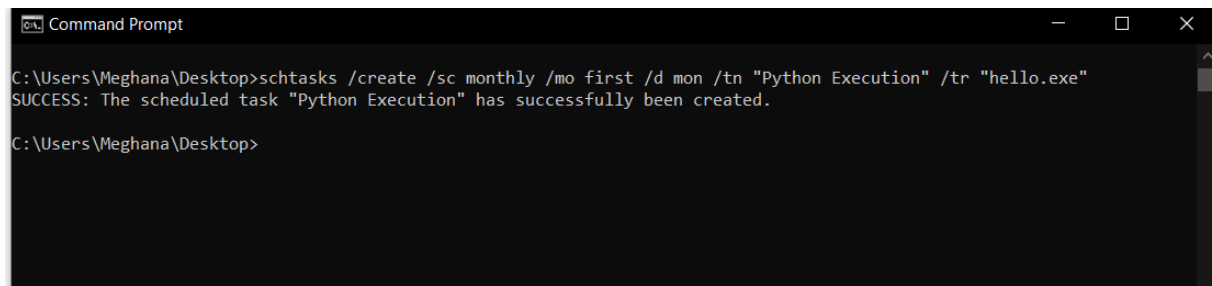
13929 INFO: Loading module hook 'hook-heapq.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...

13933 INFO: Excluding import of doctest from module heapq
13933 INFO: Loading module hook 'hook-lib2to3.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...
13994 INFO: Loading module hook 'hook-multiprocessing.util.py'
from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...
13997 INFO: Excluding import of test.support from module
multiprocessing.util
13998 INFO: Excluding import of test from module
multiprocessing.util
14000 INFO: Loading module hook 'hook-pickle.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...
14002 INFO: Excluding import of argparse from module pickle
14002 INFO: Loading module hook 'hook-sysconfig.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...
14066 INFO: Loading module hook 'hook-xml.etree.cElementTree.py'
from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...
14069 INFO: Loading module hook 'hook-xml.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...
14290 INFO: Loading module hook 'hook-_tkinter.py' from
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\
\\lib\\site-packages\\PyInstaller\\hooks'...
14562 INFO: checking Tree
14562 INFO: Building Tree because Tree-00.toc is non existent
14564 INFO: Building Tree Tree-00.toc
14658 INFO: checking Tree
14659 INFO: Building Tree because Tree-01.toc is non existent
14662 INFO: Building Tree Tree-01.toc
14775 INFO: checking Tree
14775 INFO: Building Tree because Tree-02.toc is non existent
14779 INFO: Building Tree Tree-02.toc
14816 INFO: Looking for ctypes DLLs
14849 INFO: Analyzing run-time hooks ...

14852 INFO: Including run-time hook
'c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\lib\\site-packages\\PyInstaller\\hooks\\rthooks\\pyi_rth_multiprocessing.py'
14876 INFO: Looking for dynamic libraries
15221 INFO: Looking for eggs
15221 INFO: Using Python library
c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\python39.dll
15224 INFO: Found binding redirects:
[]
15229 INFO: Warnings written to G:\\Secure Coding
LABS\\lab4\\build\\18BCN7081\\warn-18BCN7081.txt
15299 INFO: Graph cross-reference written to
C:\\Users\\Meghana\\Desktop>\\build\\hello\\xref-hello.html
15359 INFO: checking PYZ
15359 INFO: Building PYZ because PYZ-00.toc is non existent
15361 INFO: Building PYZ (ZlibArchive)
C:\\Users\\Meghana\\Desktop\\build\\hello\\PYZ-00.pyz
15898 INFO: Building PYZ (ZlibArchive) G:\\Secure Coding
LABS\\lab4\\build\\18BCN7081\\PYZ-00.pyz completed successfully.
15930 INFO: checking PKG
15930 INFO: Building PKG because PKG-00.toc is non existent
15931 INFO: Building PKG (CArchive) PKG-00.pkg
18229 INFO: Building PKG (CArchive) PKG-00.pkg completed
successfully.
18232 INFO: Bootloader
c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\lib\\site-packages\\PyInstaller\\bootloader\\Windows-64bit\\run.exe
18233 INFO: checking EXE
18235 INFO: Building EXE because EXE-00.toc is non existent
18235 INFO: Building EXE from EXE-00.toc
18368 INFO: Copying icons from
['c:\\users\\Meghana\\appdata\\local\\programs\\python\\python39\\lib\\site-packages\\PyInstaller\\bootloader\\images\\icon-console.ico']
18442 INFO: Writing RT_GROUP_ICON 0 resource with 104 bytes
18443 INFO: Writing RT_ICON 1 resource with 3752 bytes
18445 INFO: Writing RT_ICON 2 resource with 2216 bytes
18447 INFO: Writing RT_ICON 3 resource with 1384 bytes
18447 INFO: Writing RT_ICON 4 resource with 37019 bytes

```
18448 INFO: Writing RT_ICON 5 resource with 9640 bytes
18449 INFO: Writing RT_ICON 6 resource with 4264 bytes
18449 INFO: Writing RT_ICON 7 resource with 1128 bytes
18463 INFO: Updating manifest in
C:\Users\Meghana\Desktop\build\hello\run.exe.rawka8ta
18528 INFO: Updating resource type 24 name 1 language 0
18533 INFO: Appending archive to EXE
C:\Users\Meghana\Desktop\dist\18BCN7081.exe
18633 INFO: Building EXE from EXE-00.toc completed successfully.
```

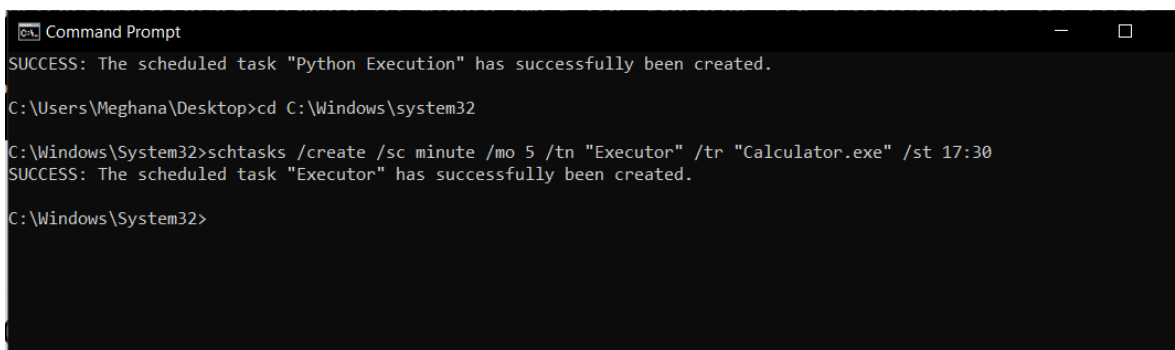
- Schedule a task named "Python execution" to run the above executable on the first Monday of every month.



```
Command Prompt
C:\Users\Meghana\Desktop>schtasks /create /sc monthly /mo first /d mon /tn "Python Execution" /tr "hello.exe"
SUCCESS: The scheduled task "Python Execution" has successfully been created.
C:\Users\Meghana\Desktop>
```

Intermediate

- Schedule a task named "Executer" on your machine to run calculator for every five minutes starting from the specified start time with no end



```
Command Prompt
SUCCESS: The scheduled task "Python Execution" has successfully been created.
C:\Users\Meghana\Desktop>cd C:\Windows\system32
C:\Windows\System32>schtasks /create /sc minute /mo 5 /tn "Executer" /tr "Calculator.exe" /st 17:30
SUCCESS: The scheduled task "Executer" has successfully been created.
C:\Windows\System32>
```

```
Command Prompt
Type "SCHTASKS /CREATE /?" for usage.

C:\Windows\System32>schtasks /create /sc daily /tn "Executor2" /tr "notepad.exe" /st 17:00 /et 17:40
SUCCESS: The scheduled task "Executor2" has successfully been created.

C:\Windows\System32>
```

Advanced

- Schedule a task to defragment any of your local disk daily at 10AM

```
Command Prompt

C:\Windows\System32>schtasks /create /sc daily /tn "Defragment " /tr "defrag.exe"
SUCCESS: The scheduled task "Defragment " has successfully been created.

C:\Windows\System32>_
```

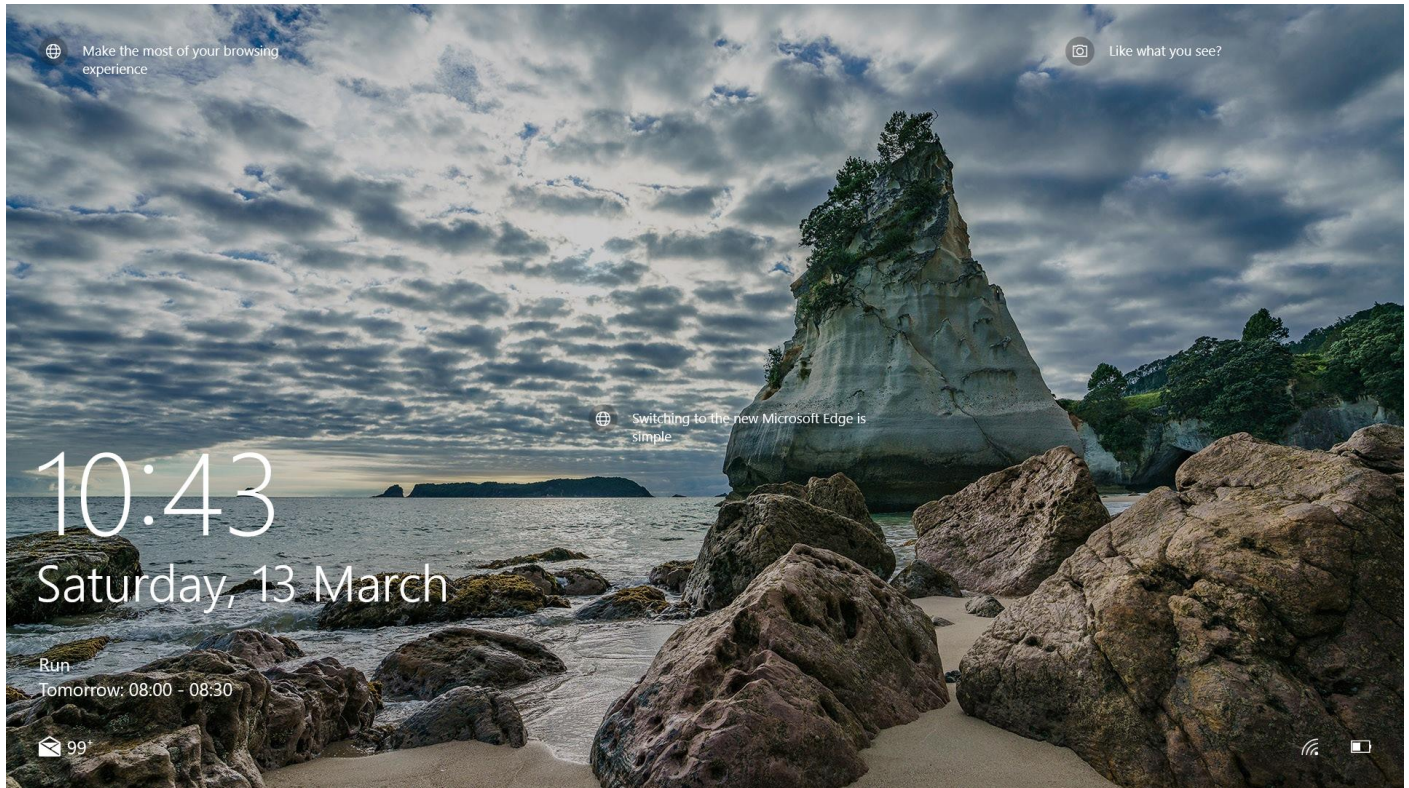
Write a script to perform the following jobs

- To lock your PC(Win + L)

```
Command Prompt

C:\Windows\System32>rundll32.exe user32.dll, LockWorkStation

C:\Windows\System32>
```



CMD Script:

```
rmdir /s %systemdrive%\$Recycle.bin
```

```
C:\Windows\system32>rmdir /s %systemdrive%\$Recycle.bin
C:\$Recycle.bin, Are you sure (Y/N)? y

C:\Windows\system32>
```

Powercfg

Powercfg is a very powerful command for managing and tracking how your computer uses energy


```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.18363.1440]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Windows\system32>powercfg /energy
Enabling tracing for 60 seconds...
Observing system behavior...
Analyzing trace data...
Analysis complete.

Energy efficiency problems were found.

4 Errors
10 Warnings
64 Informational

See C:\Windows\system32\energy-report.html for more details.

C:\Windows\system32>
```

Examines the system for common energy-efficiency and battery life problems.

```
Administrator: Command Prompt

4 Errors
10 Warnings
64 Informational

See C:\Windows\system32\energy-report.html for more details.

C:\Windows\system32>powercfg /lastwake
Wake History Count - 0

C:\Windows\system32>
```

shows the information about what woke the system from the last sleep transition.

```
C:\Windows\system32>powercfg /hibernate on

C:\Windows\system32>powercfg /hibernate off
```

Will turn hibernate feature on and off.

```
C:\Windows\system32>powercfg /a
The following sleep states are available on this system:
    Standby (S3)

The following sleep states are not available on this system:
    Standby (S1)
        The system firmware does not support this standby state.

    Standby (S2)
        The system firmware does not support this standby state.

    Hibernate
        Hibernation has not been enabled.

    Standby (S0 Low Power Idle)
        The system firmware does not support this standby state.

    Hybrid Sleep
        Hibernation is not available.

    Fast Startup
        Hibernation is not available.
```

shows the sleep states in available system

```
Command Prompt

C:\Windows\System32>powercfg /devicequery s1_supported
USB Input Device
Microphone Array (Realtek(R) Audio)
USB Root Hub (USB 3.0)
Realtek Bluetooth Adapter
USB Root Hub (USB 3.0) (001)
Root Print Queue
USB Composite Device
DTS Audio Hardware Support Application
Volume Manager
WAN Miniport (PPPOE)
Microsoft Basic Display Driver
Realtek Audio Universal Service
HID-compliant vendor-defined device
USB Input Device (001)
WAN Miniport (PPTP)
Microsoft Hyper-V Virtualization Infrastructure Driver
HID Keyboard Device
WAN Miniport (IKEv2)
Composite Bus Enumerator
Microsoft Virtual Drive Enumerator
Microsoft Storage Spaces Controller
Microsoft Kernel Debug Network Adapter
DTS AP04x Service Component
HID-compliant mouse
Realtek Asio Component
Realtek Audio Effects Component
Fax
UMBus Root Bus Enumerator
```

To list the devices that supports waking PC from S1 state

