

**CSE 2010 SECURE CODING**

**LAB SLOT –L23+L24**

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**LAB EXPERIMENT 4**

**QUESTION:**

Mid-level

- Write a python script to print hello world.
- Convert the script into executable (use pyinstaller or py2exe – any of your choice).
- Schedule a task named “Python execution” to run the above executable on the first Monday of every month.

**Python script named Hello.py and conversion to exe file:**

```
C:\Users\Lenovo\Documents> python Hello.py  
Hello World
```

## Conversion to exe:

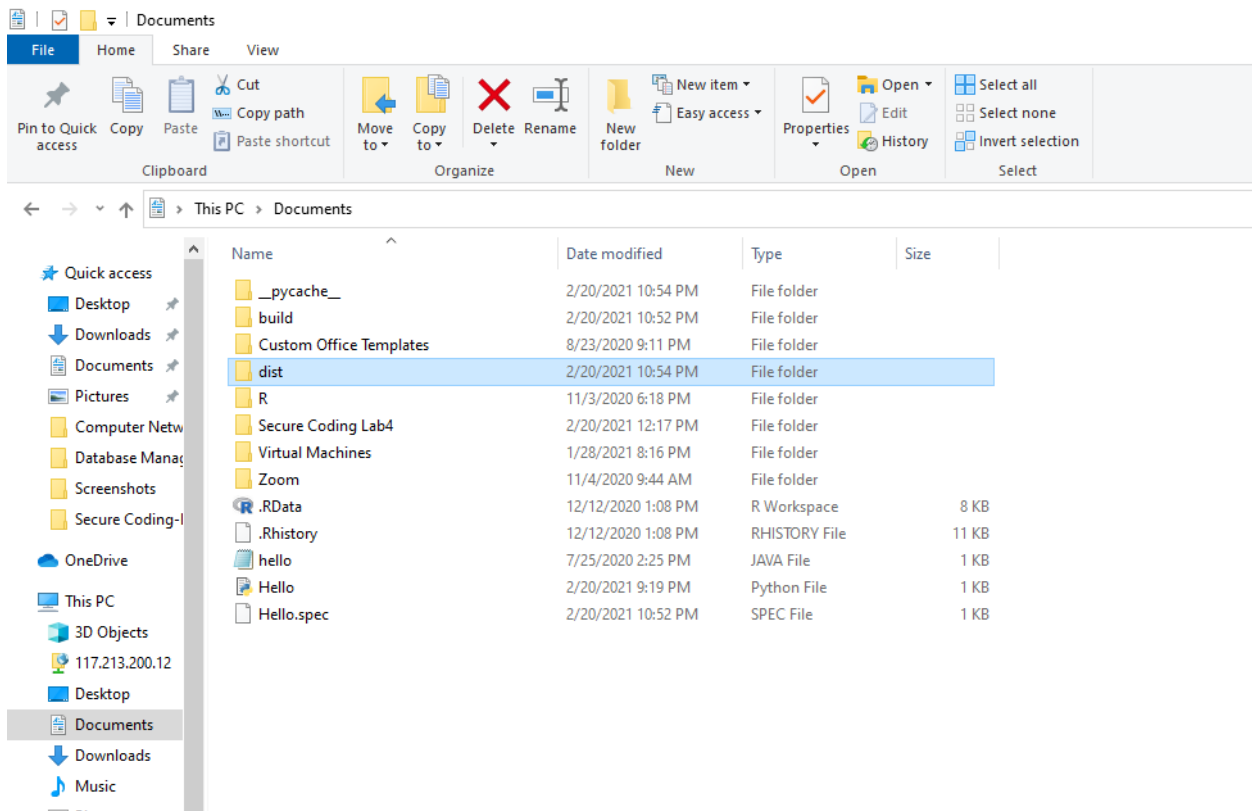
### Command used-pyinstaller --onefile Hello.py

```
Command Prompt

C:\Users\Lenovo\Documents> python Hello.py
Hello World

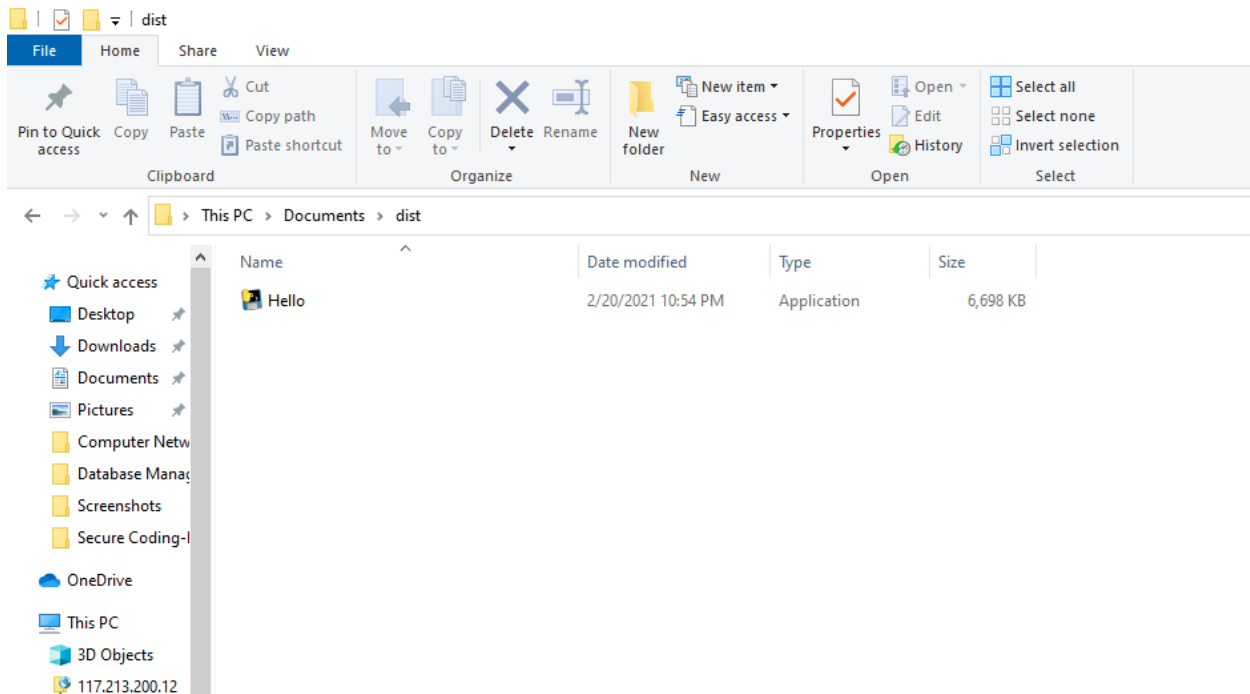
C:\Users\Lenovo\Documents> pyinstaller --onefile Hello.py
8590 INFO: PyInstaller: 4.2
8591 INFO: Python: 3.9.2
8617 INFO: Platform: Windows-10-10.0.18362-SP0
8642 INFO: wrote C:\Users\Lenovo\Documents\Hello.spec
9014 INFO: UPX is not available.
19011 INFO: Extending PYTHONPATH with paths
['C:\\Users\\Lenovo\\Documents', 'C:\\Users\\Lenovo\\Documents']
21417 INFO: checking Analysis
21419 INFO: Building Analysis because Analysis-00.toc is non existent
21420 INFO: Initializing module dependency graph...
21588 INFO: Caching module graph hooks...
22032 WARNING: Several hooks defined for module 'win32ctypes.core'. Please take care they do not conflict.
23202 INFO: Analyzing base_library.zip ...
37819 INFO: Processing pre-find module path hook distutils from 'c:\\python\\python392\\lib\\site-packages\\P
.
37879 INFO: distutils: retargeting to non-venv dir 'c:\\python\\python392\\lib'
57043 INFO: Caching module dependency graph...
58249 INFO: running Analysis Analysis-00.toc
58403 INFO: Adding Microsoft.Windows.Common-Controls to dependent assemblies of final executable
required by c:\\python\\python392\\python.exe
58763 WARNING: lib not found: api-ms-win-core-path-l1-1-0.dll dependency of c:\\python\\python392\\python39.dll
```

## Documents folder with Hello.py file



## Executable file of Hello.py:

Present in dist folder



Scheduling task Python\_Execution to run on first Monday of every month:

```
C:\Windows\system32>SCHTASKS /Create /SC monthly /mo FIRST /D Mon /TN Python_Execution /TR C:\Users\Lenovo\Documents\dist\Hello.exe /ST 11:00 /ET 12:00
SUCCESS: The scheduled task "Python_Execution" has successfully been created.

C:\Windows\system32>
```

Name	Status	Triggers
GoogleUpda...	Ready	Multiple triggers defined
GoogleUpda...	Ready	At 2:31 PM every day - After triggered, repeat every 1 hour for a duration of 1 day.
JavaUpdateS...	Ready	At log on of any user
MicrosoftEd...	Ready	Multiple triggers defined
MicrosoftEd...	Ready	At 8:48 AM every day - After triggered, repeat every 1 hour for a duration of 1 day.
OneDrive St...	Ready	At 8:00 AM on 5/1/1992 - After triggered, repeat every 1.00:00:00 indefinitely.
Python_Exec...	Ready	Runs on the First Monday, each January, February, March, April, May, June, July, August, September, October, November, December starting 2/20/

## QUESTION:

### 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
- Schedule a task named "Executer2" to run notepad starting at 5:00PM and automatically terminating at 5:40PM hours every day

### Creation of Executer1 task:

```
Administrator: Command Prompt

C:\Windows\system32>SCHTASKS /Create /SC minute /mo 5 /TN Executer1 /TR calc.exe /ST 17:00
SUCCESS: The scheduled task "Executer1" has successfully been created.

C:\Windows\system32>
```

### Verification:

Name	Status	Triggers	Next Run Time	Last Run Time	Last Run Re
Executer1	Ready	At 5:00 PM on 2/20/2021 - After triggered, repeat every 5 minutes indefinitely.	2/20/2021 11:55:00 PM	2/20/2021 11:50:02 PM	The operati
GoogleUpda...	Ready	Multiple triggers defined	2/21/2021 2:31:18 PM	2/20/2021 7:32:25 PM	The operati
GoogleUpda...	Ready	At 2:31 PM every day - After triggered, repeat every 1 hour for a duration of 1 day.	2/21/2021 12:31:18 AM	2/20/2021 11:32:26 PM	The operati
JavaUpdateS...	Ready	At log on of any user		2/20/2021 7:26:48 PM	(0xFFFFFFFF
MicrosoftEd...	Ready	Multiple triggers defined	2/21/2021 9:18:29 AM	2/20/2021 7:24:48 PM	The operati
MicrosoftEd...	Ready	At 8:48 AM every day - After triggered, repeat every 1 hour for a duration of 1 day.	2/21/2021 12:48:29 AM	2/20/2021 11:48:30 PM	The operati
OneDrive St...	Ready	At 8:00 AM on 5/1/1992 - After triggered, repeat every 1.00:00:00 indefinitely.	2/21/2021 8:12:27 AM	2/20/2021 9:04:12 AM	(0x8004EE04

### Creation of Executer2 task:

```
Administrator: Command Prompt

C:\Windows\system32>SCHTASKS /Create /SC Daily /TN Executer2 /TR notepad.exe /ST 17:00 /ET 17:40
SUCCESS: The scheduled task "Executer2" has successfully been created.

C:\Windows\system32>
```

## Verification:

Name	Status	Triggers	Next Run Time	Last Run Time
Executer2	Ready	At 5:00 PM every day - After triggered, repeat every 10 minutes indefinitely. Trigger expires at 2/20/2021 5:40:00 PM.	2/21/2021 2:31:18 PM	2/20/2021 11:48:29 PM
GoogleUpda...	Ready	Multiple triggers defined	2/21/2021 12:31:18 AM	2/20/2021 11:48:29 PM
GoogleUpda...	Ready	At 2:31 PM every day - After triggered, repeat every 1 hour for a duration of 1 day.	2/21/2021 12:31:18 AM	2/20/2021 11:48:29 PM
JavaUpdateS...	Ready	At log on of any user	2/21/2021 9:18:29 AM	2/20/2021 11:48:29 PM
MicrosoftEd...	Ready	Multiple triggers defined	2/20/2021 11:48:29 PM	2/20/2021 11:48:29 PM
MicrosoftEd...	Ready	At 8:48 AM every day - After triggered, repeat every 1 hour for a duration of 1 day.	2/20/2021 11:48:29 PM	2/20/2021 11:48:29 PM
OneDrive St...	Ready	At 8:00 AM on 5/1/1992 - After triggered, repeat every 1.00:00:00 indefinitely.	2/21/2021 11:16:51 AM	2/20/2021 11:48:29 PM

## QUESTION:

### Advanced

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

```
Administrator: Command Prompt
C:\Windows\system32>SCHEDTASKS /Create /SC daily /TN diskdefrag /TR C:\Windows\system32\defrag.exe /ST 10:00
SUCCESS: The scheduled task "diskdefrag" has successfully been created.
C:\Windows\system32>
```

## Verification:

Name	Status	Triggers	Next Run Time	Last Run Time	Last Run Result
diskdefrag	Ready	At 10:00 AM every day	2/22/2021 10:00:00 AM	11/30/1999 12:00:00 AM	The task has not yet run.
GoogleUpda...	Ready	Multiple triggers defined	2/22/2021 2:31:18 PM	2/21/2021 4:08:21 PM	The operation completed successfully.
GoogleUpda...	Ready	At 2:31 PM every day - After triggered, repeat every 1 hour for a duration of 1 day.	2/21/2021 4:31:18 PM	2/21/2021 3:04:17 PM	The operation completed successfully.
JavaUpdateS...	Ready	At log on of any user		2/21/2021 4:10:21 PM	(0xFFFFFFFF)
MicrosoftEd...	Ready	Multiple triggers defined	2/22/2021 9:18:29 AM	2/21/2021 4:08:21 PM	The operation completed successfully.
MicrosoftEd...	Ready	At 8:48 AM every day - After triggered, repeat every 1 hour for a duration of 1 day.	2/21/2021 4:48:29 PM	2/21/2021 3:04:17 PM	The operation completed successfully.
OneDrive St...	Ready	At 8:00 AM on 5/1/1992 - After triggered, repeat every 1.00:00:00 indefinitely.	2/22/2021 9:28:01 AM	2/21/2021 3:04:18 PM	(0x8004EE)

## QUESTION:

### Powercfg

- Powercfg is a very powerful command for managing and tracking how your computer uses energy.
- >powercfg /energy
- > Powercfg /lastwake
- >powercfg /hibernate on
- > powercfg /hibernate off
- > powercfg /a
- powercfg /devicequery s1\_supported

## Outputs:

1)powercfg/BATTERYREPORT

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.18363.1379]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Windows\system32>powercfg/BATTERYREPORT
Battery life report saved to file path C:\Windows\system32\battery-report.html.

C:\Windows\system32>
```

## Output:

Battery report

File | C:\Windows\System32\battery-report.html

### Battery report

COMPUTER NAME	DESKTOP-2TF9QQG
SYSTEM PRODUCT NAME	LENOVO 80TL
BIOS	1KON29WW 12/09/2016
OS BUILD	18362.1.amd64fre.19h1_release.190318-1202
PLATFORM ROLE	Mobile
CONNECTED STANDBY	Not supported
REPORT TIME	2021-02-20 12:02:13

#### Installed batteries

Information about each currently installed battery

BATTERY 1	
NAME	LT5C4A02
MANUFACTURER	CPT-LG53 11
SERIAL NUMBER	3482
CHEMISTRY	LiON
DESIGN CAPACITY	31680 mWh
FULL CHARGE CAPACITY	31300 mWh

Activate Windows  
Go to Settings to activate Windows.

Battery report

File | C:\Windows\System32\battery-report.html

Recent usage  
Power status over the last 2 days

START TIME	STATE	SOURCE	CAPACITY REMAINING	
2021-02-17 12:04:33	Active	AC	29 %	6,740 mWh
12:04:36	Active	Battery	29 %	6,740 mWh
12:04:36	Active	AC	29 %	6,740 mWh
13:21:36	Suspended		89 %	20,500 mWh
13:35:11	Active	AC	97 %	22,350 mWh
14:23:29	Active	Battery	100 %	22,920 mWh
15:40:01	Active	AC	55 %	12,710 mWh
17:54:40	Suspended		101 %	23,240 mWh
19:02:32	Active	Battery	101 %	23,220 mWh
19:30:04	Active	AC	83 %	19,170 mWh
21:06:41	Suspended		101 %	23,240 mWh
22:00:49	Active	Battery	101 %	23,180 mWh
23:51:11	Suspended		36 %	8,220 mWh
2021-02-18 09:00:15	Active	Battery	33 %	7,620 mWh
09:03:29	Active	AC	31 %	7,070 mWh
10:09:59	Active	Battery	82 %	18,870 mWh
10:54:25	Active	AC	51 %	11,820 mWh
11:40:32	Active	Battery	87 %	19,980 mWh
11:40:46	Suspended		87 %	19,930 mWh
11:42:18	Active	Battery	86 %	19,820 mWh
13:05:56	Active	AC	34 %	7,730 mWh
13:35:48	Suspended		56 %	12,910 mWh

Activate Windows  
Go to Settings to activate Windows.

## b) powercfg/lastwake

```
C:\Windows\system32>powercfg/lastwake
Wake History Count - 1
Wake History [0]
Wake Source Count - 1
Wake Source [0]
Type: Fixed Feature
Power Button

C:\Windows\system32>
```

## c) powercfg/energy

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

Energy efficiency problems were found.

1 Errors
7 Warnings
31 Informational

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

C:\Windows\system32>
```



d) powercfg /hibernate on , powercfg/hibernate off , powercfg/a

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

C:\Windows\system32>
```

## e) powercfg /devicequery s1\_supported

CA: Select Administrator: Command Prompt

```
C:\Windows\system32>powercfg /devicequery s1_supported
Realtek Bluetooth Adapter
Root Print Queue
Volume Manager
WAN Miniport (PPPOE)
Microsoft Basic Display Driver
VMware Virtual Ethernet Adapter for VMnet1
VMware Virtual Ethernet Adapter for VMnet8
WAN Miniport (PPTP)
Speakers (2- Realtek High Definition Audio)
Microsoft Hyper-V Virtualization Infrastructure Driver
WAN Miniport (IKEv2)
Composite Bus Enumerator
Microsoft Virtual Drive Enumerator
Microsoft Storage Spaces Controller
Microsoft Kernel Debug Network Adapter
Microsoft Wi-Fi Direct Virtual Adapter
Microsoft Wi-Fi Direct Virtual Adapter #2
Send To OneNote 2013
Microphone (2- Realtek High Definition Audio)
UMBus Root Bus Enumerator
Charge Arbitration Driver
ACPI x64-based PC
Fax
WAN Miniport (Network Monitor)
WAN Miniport (IP)
Generic PnP Monitor
Microsoft Print to PDF
Microsoft Basic Render Driver
WAN Miniport (SSTP)
Microsoft XPS Document Writer
VMware VMCI Host Device
NDIS Virtual Network Adapter Enumerator
Realtek USB 2.0 Card Reader
Microsoft System Management BIOS Driver
Plug and Play Software Device Enumerator
OneNote for Windows 10
USB Root Hub (USB 3.0)
Remote Desktop Device Redirector Bus
WAN Miniport (IPv6)
WAN Miniport (L2TP)

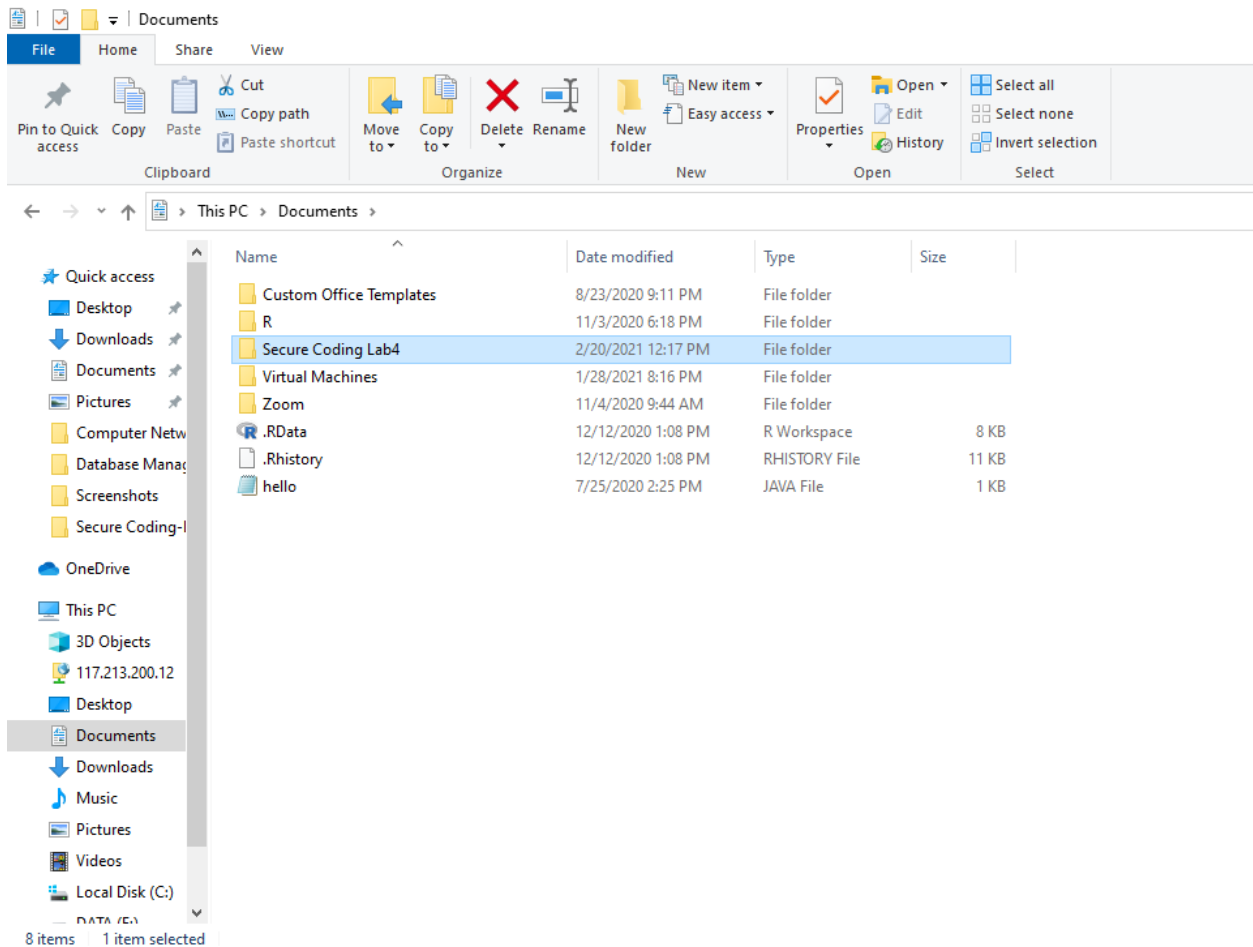
C:\Windows\system32>
```

## QUESTION:

### Attrib command implementation:

Here a folder named Secure Coding Lab4 is created. The folder is being hid using attrib command

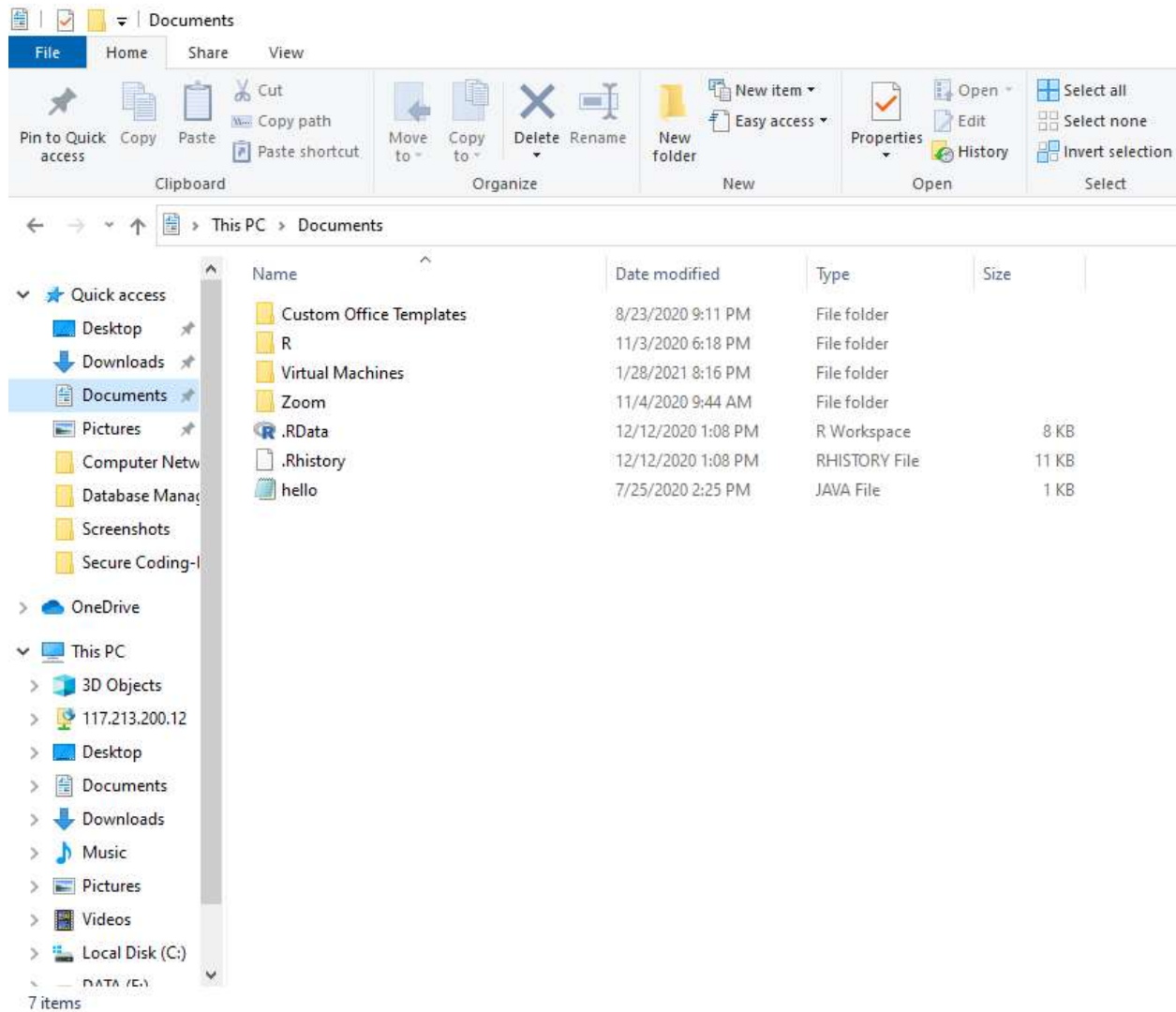
### Folder before execution of attrib command:



### Execution:

```
C:\Windows\system32>attrib +h +s +r /S /D "C:\Users\Lenovo\Documents\Secure Coding Lab4"  
C:\Windows\system32>
```

## Output after executing this command:

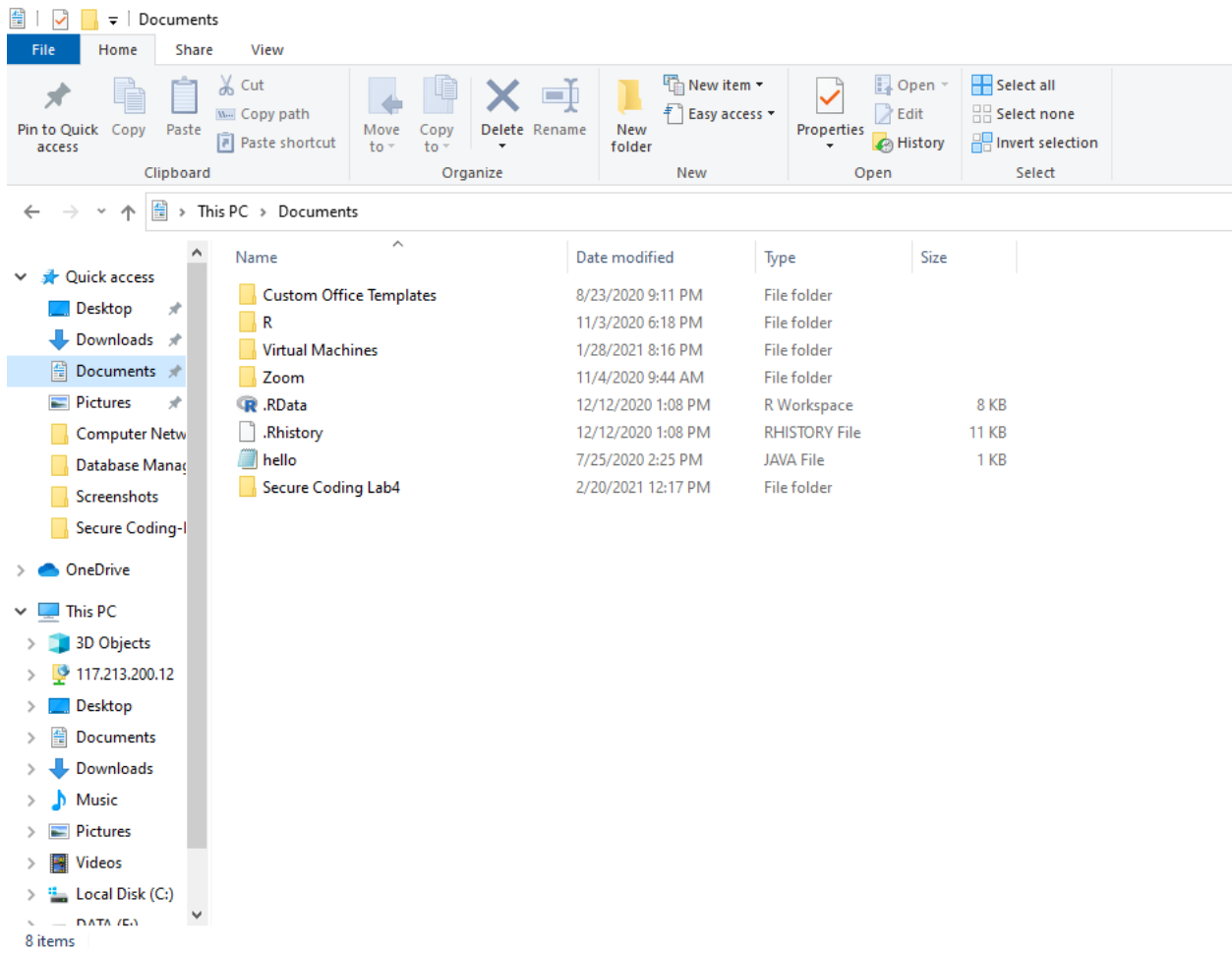


## Retrieving back the folder:

### Command-

```
C:\Windows\system32>attrib -h -s -r /S /D "C:\Users\Lenovo\Documents\Secure Coding Lab4"  
C:\Windows\system32>
```

## Output:



**Question:**

Write a script to perform the following jobs

- To lock your PC (Win + L)
- To clear your recycle bin

**a) Script to lock your pc:****Lock.java**

```
import java.io.*;

public class Lock
{
    public static void main(String args[])throws IOException
    {
        Runtime run = Runtime.getRuntime();

        Process pro = run.exec("C:\\Windows\\System32\\rundll32.exe
user32.dll,LockWorkStation");
    }
}
```

**Output:**

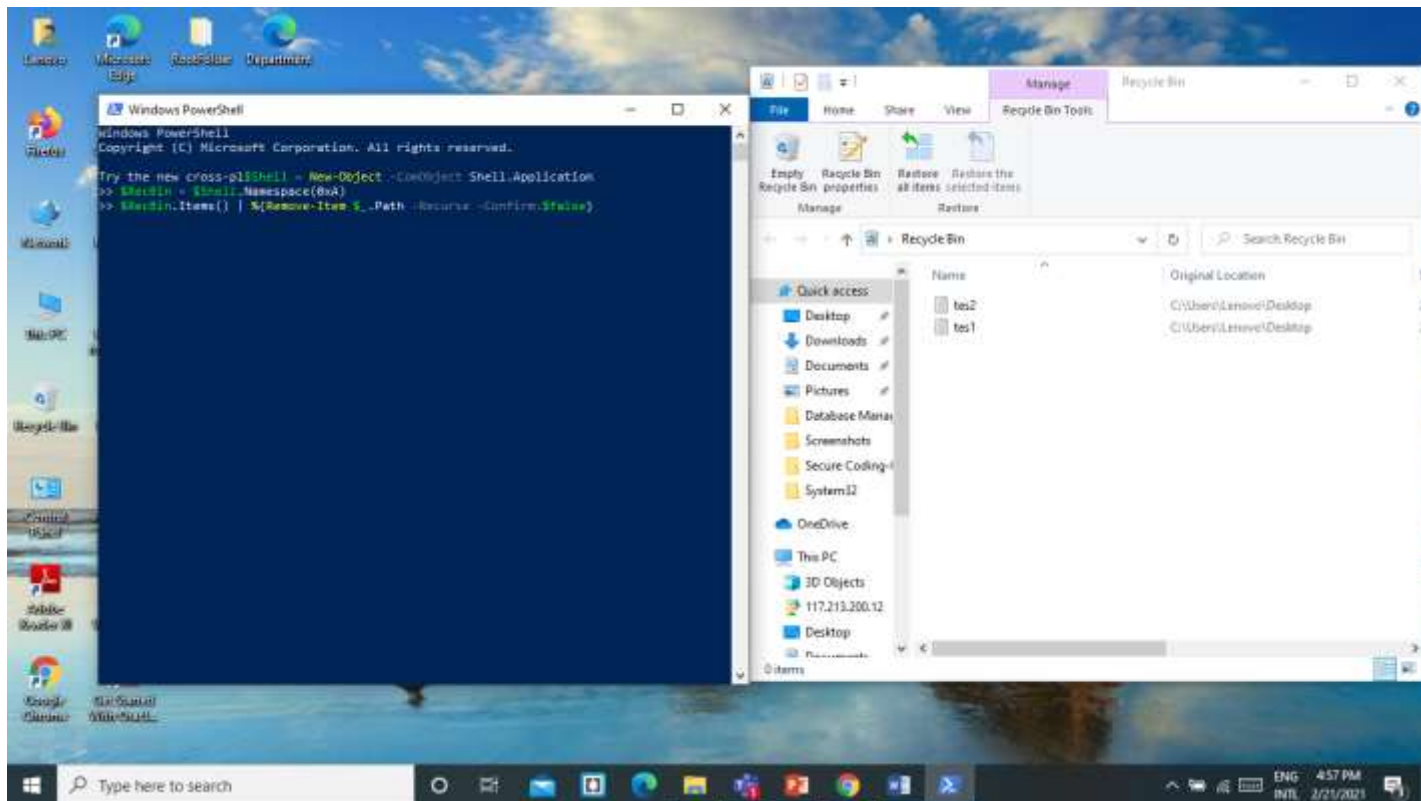
```
C:\Users\Lenovo\Desktop>javac Lock.java  
  
C:\Users\Lenovo\Desktop>java Lock  
  
C:\Users\Lenovo\Desktop>
```

Execute this and we will be able to lock our PC.

## b) Script to clear your recycle bin:

```
$Shell = New-Object -ComObject Shell.Application  
$RecBin = $Shell.Namespace(0xA)  
$RecBin.Items() | %{Remove-Item $_.Path -Recurse -Confirm:$false}
```

Output:



After executing:

