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Milestone Assessment 2 – Python – Set 1

Linux 1.2

Question 1:

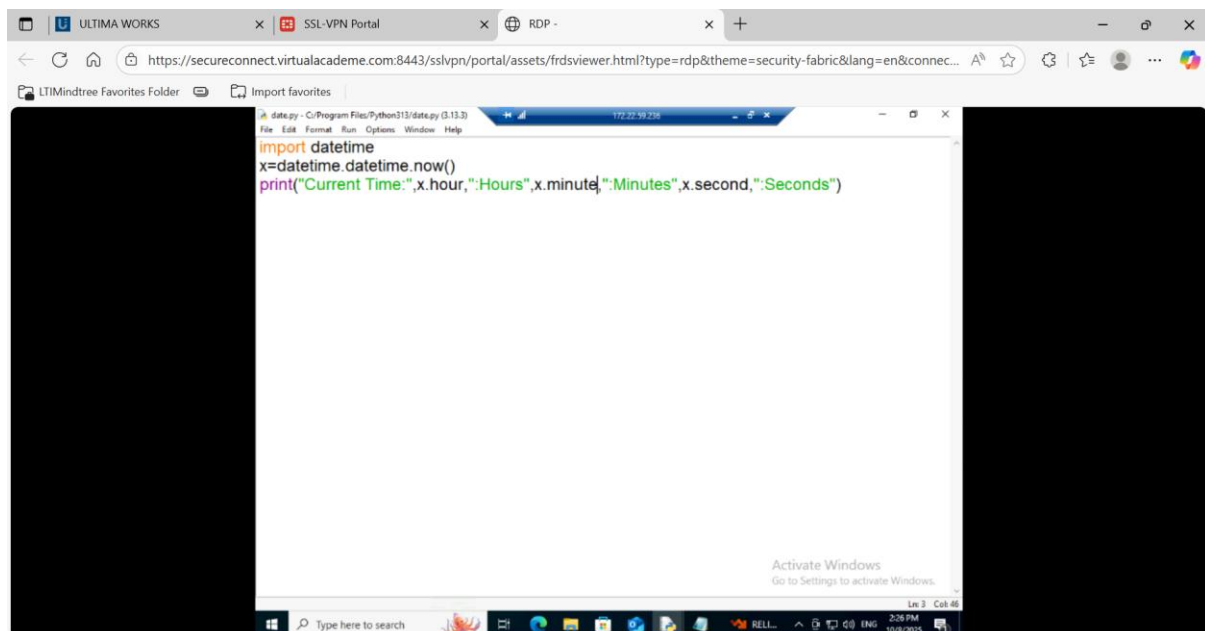
Working with Python Libraries (Different Modules) Task:

1. Use the time module to print the current time in HH:MM:SS format.

Program:

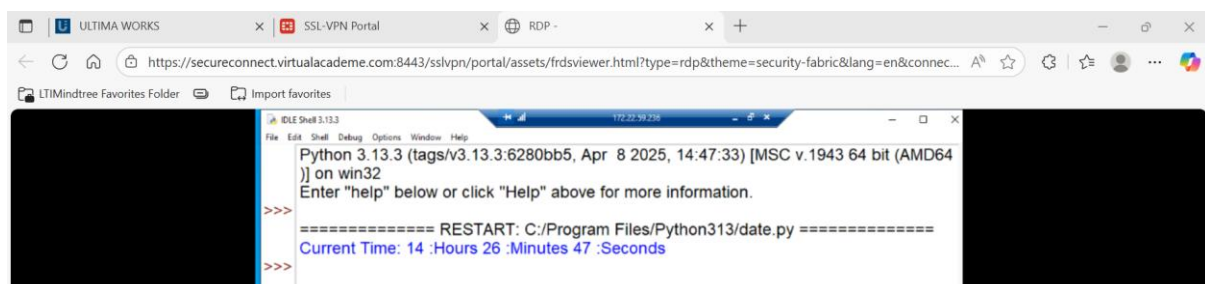
Datetime module is imported for generating the time

Then using the module the data has been represented as requested



```
date.py - C:/Program Files/Python313/date.py (3.13.3)
File Edit Format Run Options Window Help
import datetime
x=datetime.datetime.now()
print("Current Time:",x.hour,":Hours",x.minute,":Minutes",x.second,":Seconds")
```

Output:



```
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr 8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.

>>>
===== RESTART: C:/Program Files/Python313/date.py =====
Current Time: 14 :Hours 26 :Minutes 47 :Seconds
>>>
```

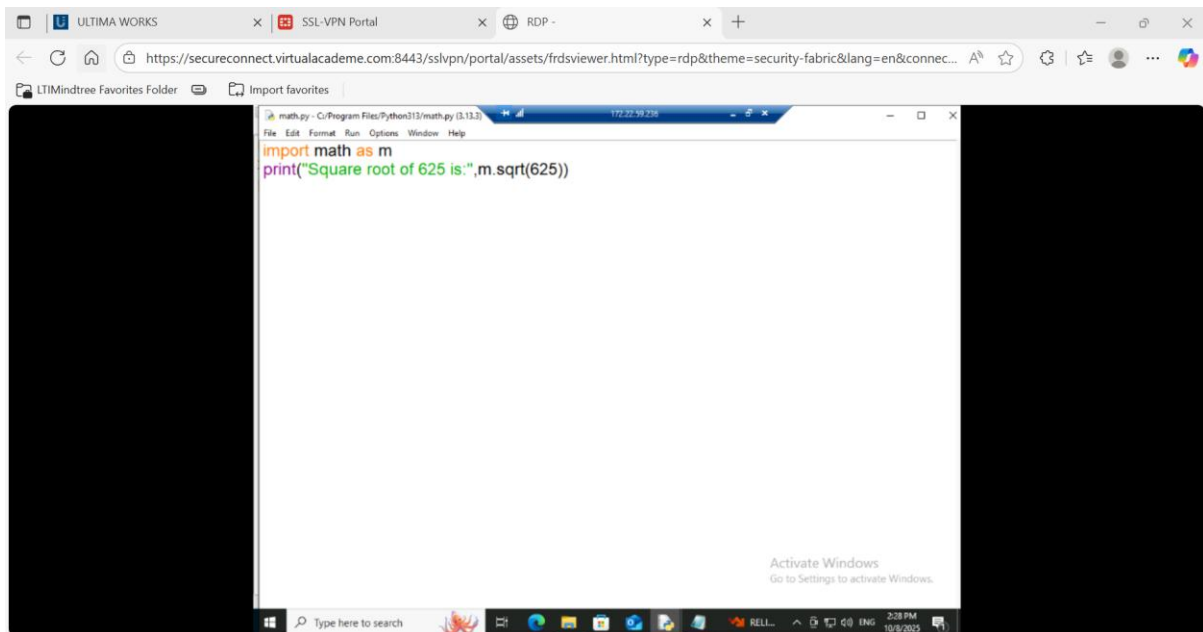
2. Use the math module to calculate and print the square root of 625.

Program:

Math module is imported

Then it is renamed as m

Sqrt() function is used to find the square root of the specific number

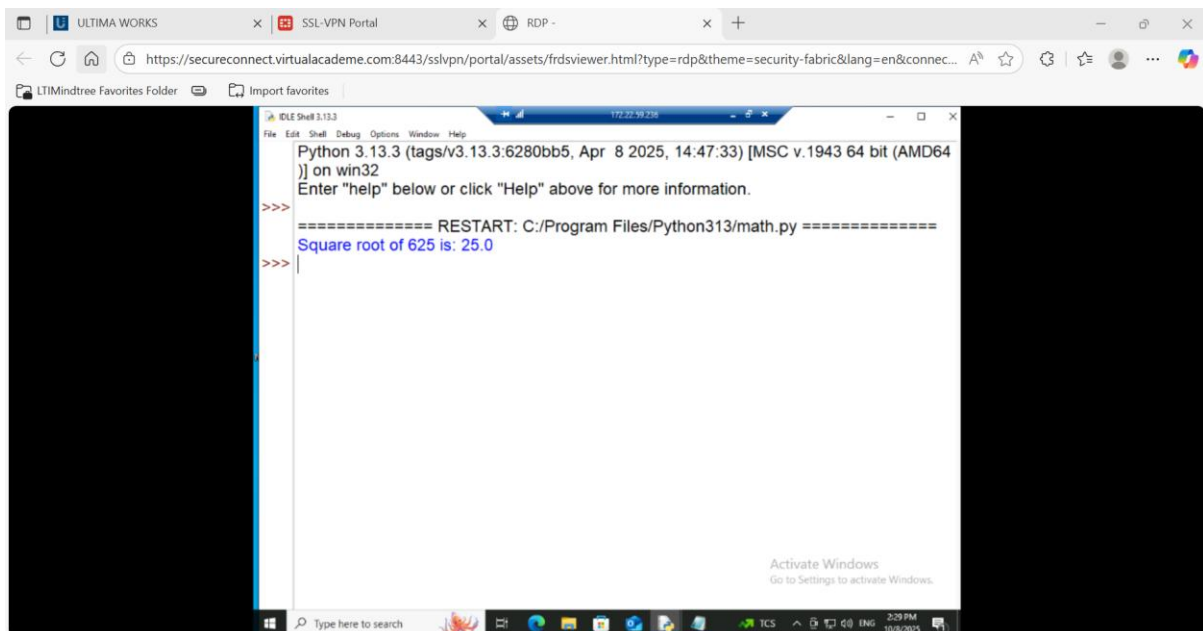


The screenshot shows a web browser window with a URL bar displaying `https://secureconnect.virtualacademe.com:8443/sslvpn/portal/assets/frdviewer.html?type=rdp&theme=security-fabric&lang=en&connec...`. The browser has several tabs open, including 'ULTIMA WORKS', 'SSL-VPN Portal', and 'RDP -'. The main content area displays a text editor window titled 'math.py - C:/Program Files/Python313/math.py (3.13.3)'. The code in the editor is as follows:

```
import math as m
print("Square root of 625 is:",m.sqrt(625))
```

The Windows taskbar at the bottom shows the search bar, task view button, and several application icons. The system clock indicates 2:28 PM on 10/9/2025. An 'Activate Windows' watermark is visible in the bottom right corner of the text editor window.

Output:



The screenshot shows the same web browser window as before, but the text editor now displays the output of the Python script. The code is the same as in the previous screenshot. The output in the terminal is as follows:

```
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr 8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
===== RESTART: C:/Program Files/Python313/math.py =====
Square root of 625 is: 25.0
>>>
```

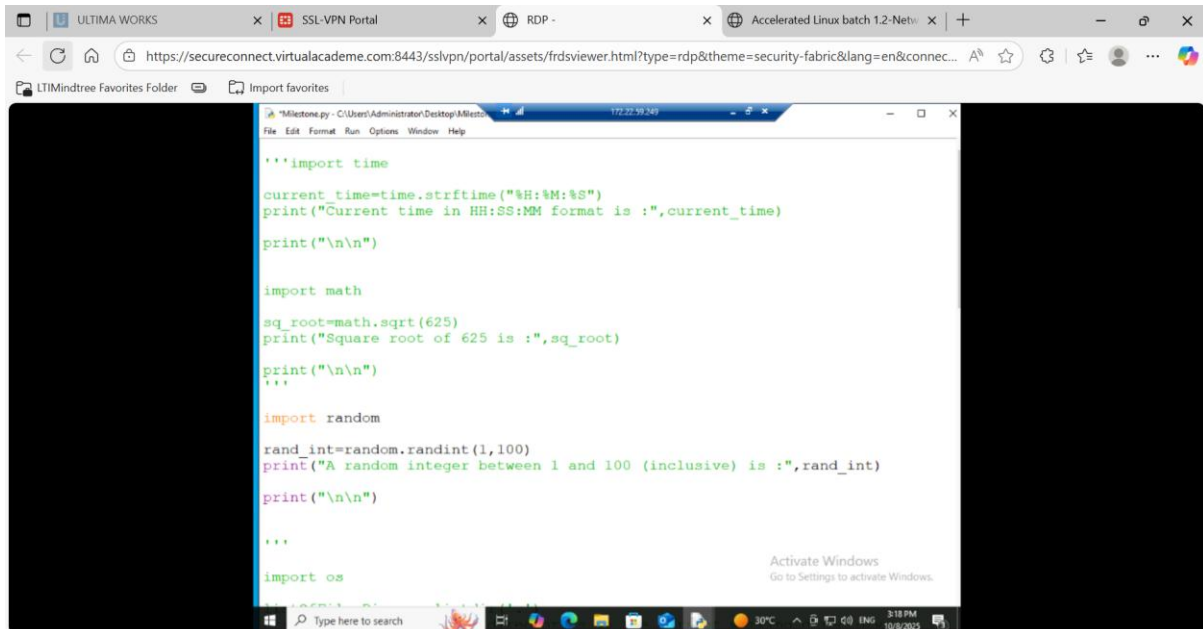
The Windows taskbar at the bottom shows the search bar, task view button, and several application icons. The system clock indicates 2:29 PM on 10/9/2025. An 'Activate Windows' watermark is visible in the bottom right corner of the text editor window.

3. Use the random module to generate a random integer between 1 and 100 (inclusive).

Program:

Random module is imported

RandomInt(1,100)



The screenshot shows a code editor window titled "Milestone.py" with the following Python code:

```
'''import time
current_time=time.strftime("%H:%M:%S")
print("Current time in HH:SS:MM format is :",current_time)
print("\n\n")

import math
sq_root=math.sqrt(625)
print("Square root of 625 is :",sq_root)
print("\n\n")
'''

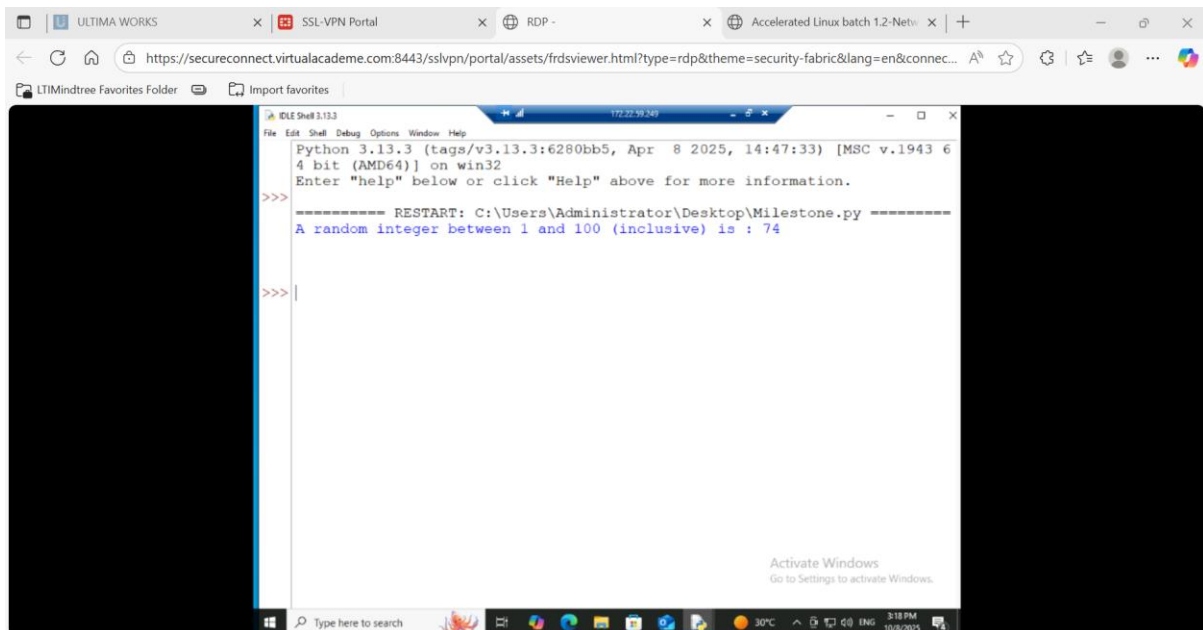
import random
rand_int=random.randint(1,100)
print("A random integer between 1 and 100 (inclusive) is :",rand_int)
print("\n\n")

'''

import os
```

The code is being executed in a virtual environment, and the output is displayed in the console window below the code editor.

Output:



The screenshot shows the same code editor window as before, but now the output of the program is displayed in the console window. The output is:

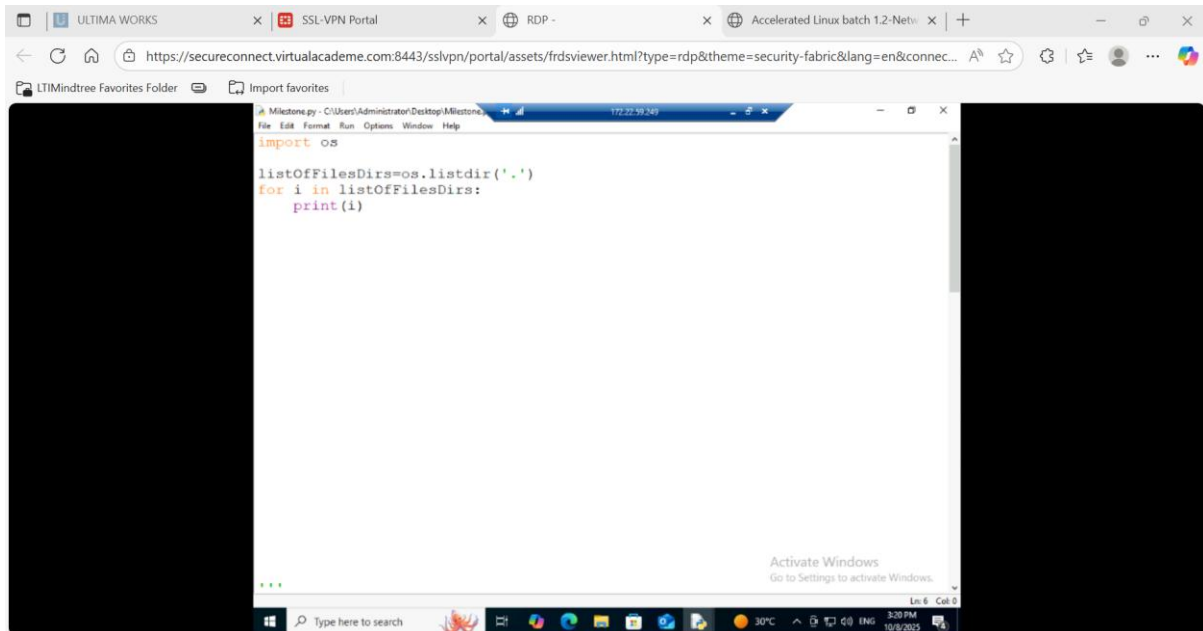
```
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr 8 2025, 14:47:33) [MSC v.1943 6
4 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
===== RESTART: C:\Users\Administrator\Desktop\Milestone.py =====
A random integer between 1 and 100 (inclusive) is : 74
>>> |
```

The output shows that the program successfully generated a random integer between 1 and 100, which is 74.

4. Use the os module to list all files and directories in the current working directory.

Program:

OS module is imported



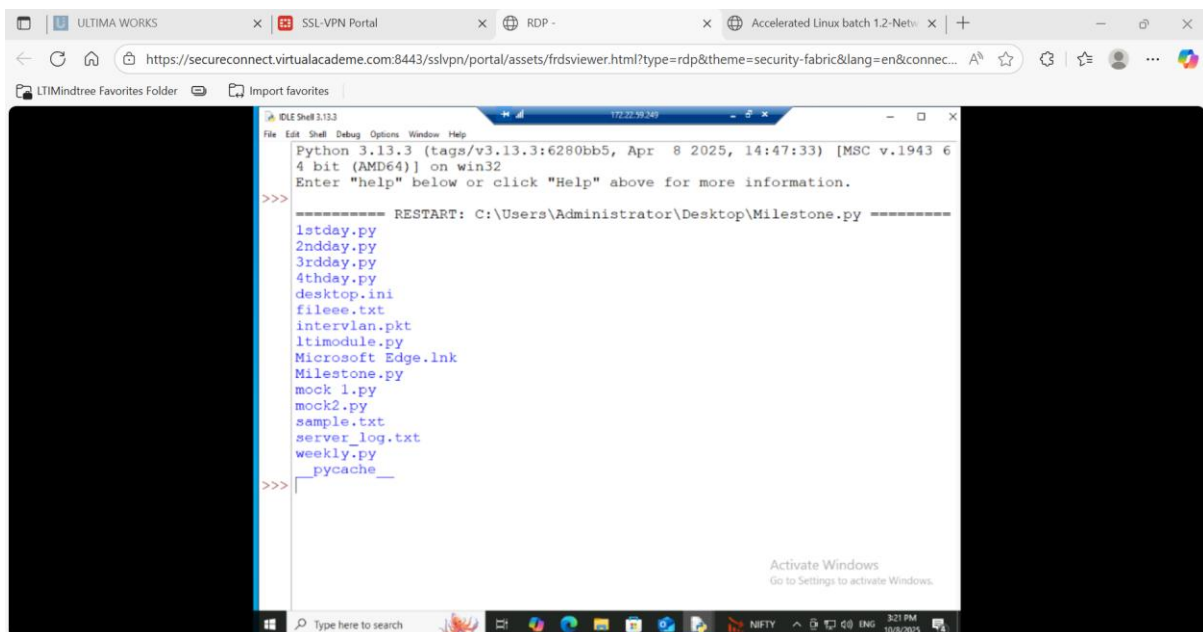
The screenshot shows a web browser window with the address bar displaying `https://secureconnect.virtualacademe.com:8443/sslvpn/portal/assets/frdsviewer.html?type=rdp&theme=security-fabric&lang=en&connec...`. The browser tabs include 'ULTIMA WORKS', 'SSL-VPN Portal', 'RDP -', and 'Accelerated Linux batch 1.2-Net...'. The main content area displays a code editor window titled 'Milestone.py - C:\Users\Administrator\Desktop\Milestone.py'. The code in the editor is as follows:

```
import os

listOfFilesDirs=os.listdir('.')
for i in listOfFilesDirs:
    print(i)
```

The code editor window has a menu bar with 'File', 'Edit', 'Format', 'Run', 'Options', 'Window', and 'Help'. The status bar at the bottom of the code editor shows 'Ln: 6 Col: 8'. The Windows taskbar at the bottom of the browser window shows the search bar, task view button, and several application icons. The system tray shows the temperature as 30°C, the time as 3:20 PM, and the date as 10/6/2025.

Output:



The screenshot shows the same web browser window as before, but the code editor now displays the output of the Python program. The output is as follows:

```
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr 8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.

>>>
===== RESTART: C:\Users\Administrator\Desktop\Milestone.py =====
1stday.py
2ndday.py
3rdday.py
4thday.py
desktop.ini
fileee.txt
intervlan.pkt
ltimodule.py
Microsoft Edge.lnk
Milestone.py
mock 1.py
mock2.py
sample.txt
server_log.txt
weekly.py
_pycache_

>>>
```

The code editor window has a menu bar with 'File', 'Edit', 'Shell', 'Debug', 'Options', 'Window', and 'Help'. The status bar at the bottom of the code editor shows 'Ln: 6 Col: 8'. The Windows taskbar at the bottom of the browser window shows the search bar, task view button, and several application icons. The system tray shows the temperature as 30°C, the time as 3:21 PM, and the date as 10/6/2025.

Question 2:

File Handling and Log Analysis (Different File Content)

1. You have a file named `server_log.txt` that logs user actions on a website.
Perform the following tasks:

Tasks:

Create a file `server_log.txt` with the following content:

[INFO] Login attempt from IP 192.168.1.2

[INFO] Page visited: Home

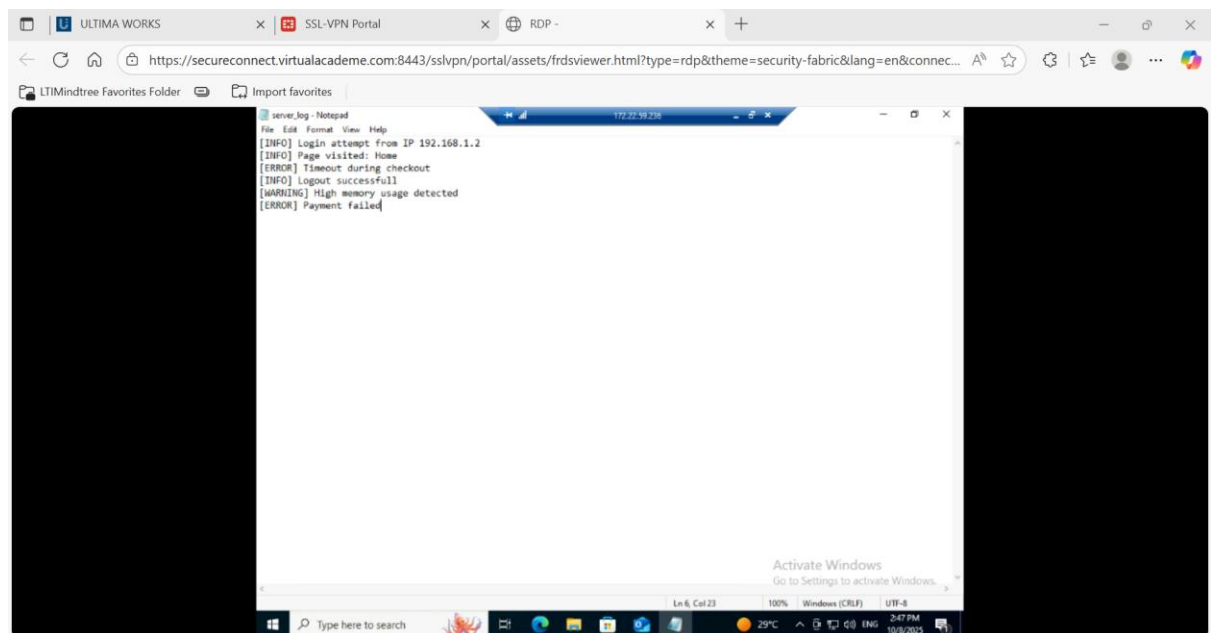
[ERROR] Timeout during checkout

[INFO] Logout successful

[WARNING] High memory usage detected

[ERROR] Payment failed

The file with the name of `server_log.txt` has been created



2. Write a Python script to read and display the content.

To open the file use open() function

To read the content use read() or readline() methods

Program:

```
print("CONTENT OF THE server_log.txt FILE :")
with open("server_log.txt","r") as file:
    content=file.read()
    print(content)
```

Output:

```
CONTENT OF THE server_log.txt FILE :
[INFO] Login attempt from IP 192.168.1.2
[INFO] Page visited: Home
[ERROR] Timeout during checkout [INFO]
Logout successful
[WARNING] High memory usage detected [ERROR]
Payment failed
```

3. Count the total number of lines in the file.

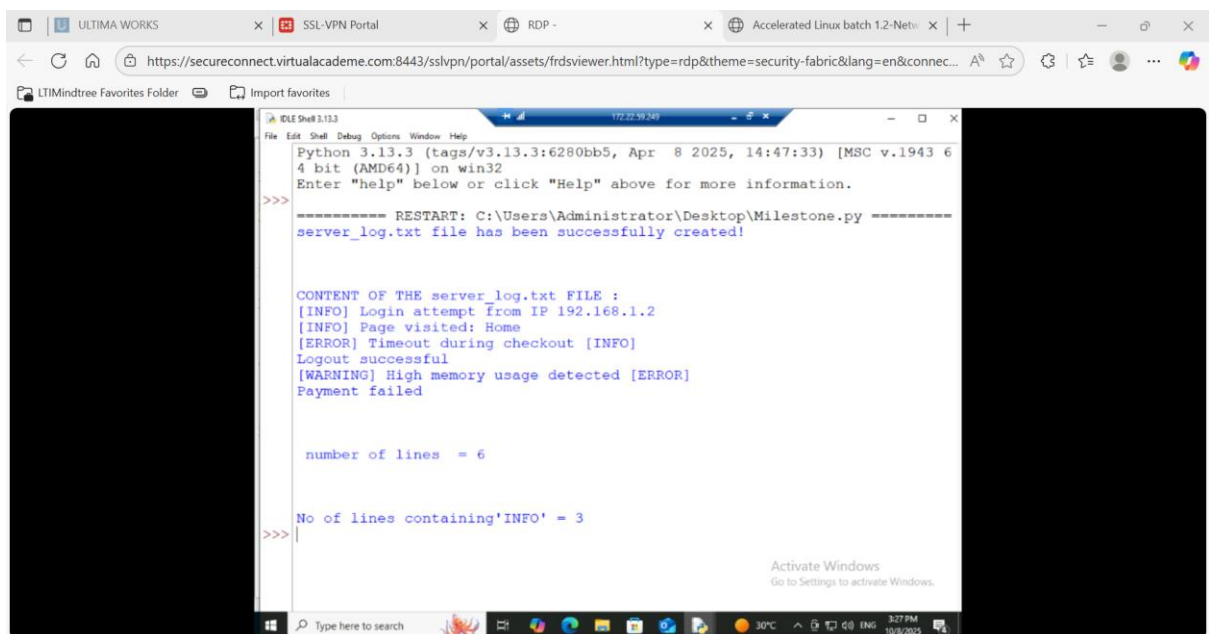
To count the number of lines I have used a counter

Program:

```
no=0
with open("server_log.txt","r") as file:
    for line in file:
        no+=1
print(" number of lines =",no)

print("\n\n")
```

Output:



The screenshot shows a Windows desktop environment. In the background, there is a web browser window displaying a URL related to a virtual academy. In the foreground, a terminal window titled "Python 3.13.3" is open. The terminal displays the output of a Python script. The script has created a file named "server_log.txt" and printed its contents. The output shows that the file has 6 lines and 3 lines containing the word "INFO".

```
>>>
===== RESTART: C:\Users\Administrator\Desktop\Milestone.py =====
server_log.txt file has been successfully created!

CONTENT OF THE server_log.txt FILE :
[INFO] Login attempt from IP 192.168.1.2
[INFO] Page visited: Home
[ERROR] Timeout during checkout [INFO]
Logout successful
[WARNING] High memory usage detected [ERROR]
Payment failed

number of lines = 6

No of lines containing 'INFO' = 3
>>>
```

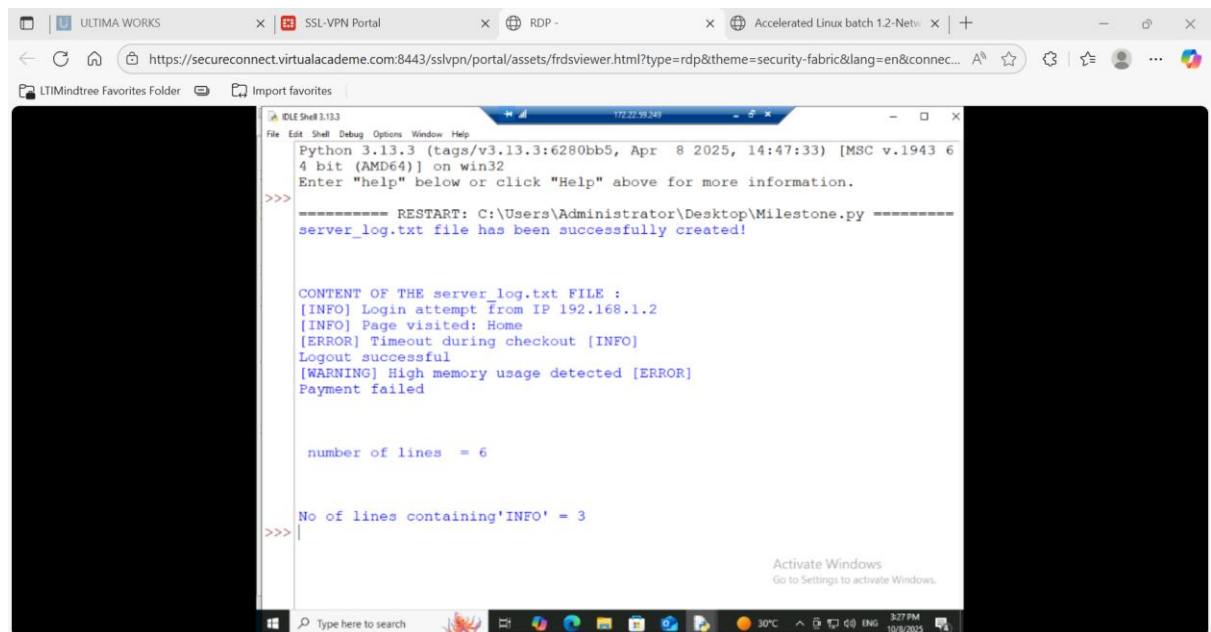
4. Count how many lines contain the word "INFO".

To count how many lines contain the word “INFO” I have used in in each line.

Program:

```
infono=0
with open("server_log.txt","r") as file:
    for line in file:
        if "[INFO]" in line:
            infono+=1
print("No of lines containing'INFO' =",infono)
```

Output:



```
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr 8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
===== RESTART: C:\Users\Administrator\Desktop\Milestone.py =====
server_log.txt file has been successfully created!

CONTENT OF THE server_log.txt FILE :
[INFO] Login attempt from IP 192.168.1.2
[INFO] Page visited: Home
[ERROR] Timeout during checkout [INFO]
Logout successful
[WARNING] High memory usage detected [ERROR]
Payment failed

number of lines = 6

No of lines containing'INFO' = 3
>>>
```