

Karthick VM

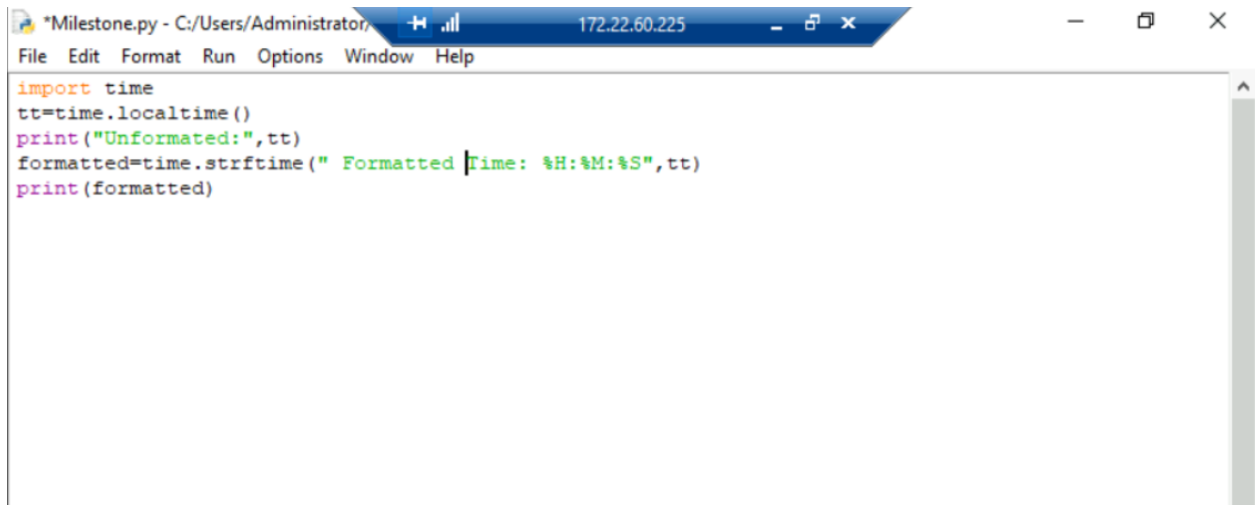
Batch – CIS 1.3

Milestone 2 – Python – Set 1

Question 1:

Working with Python Libraries (Different Modules) Task:

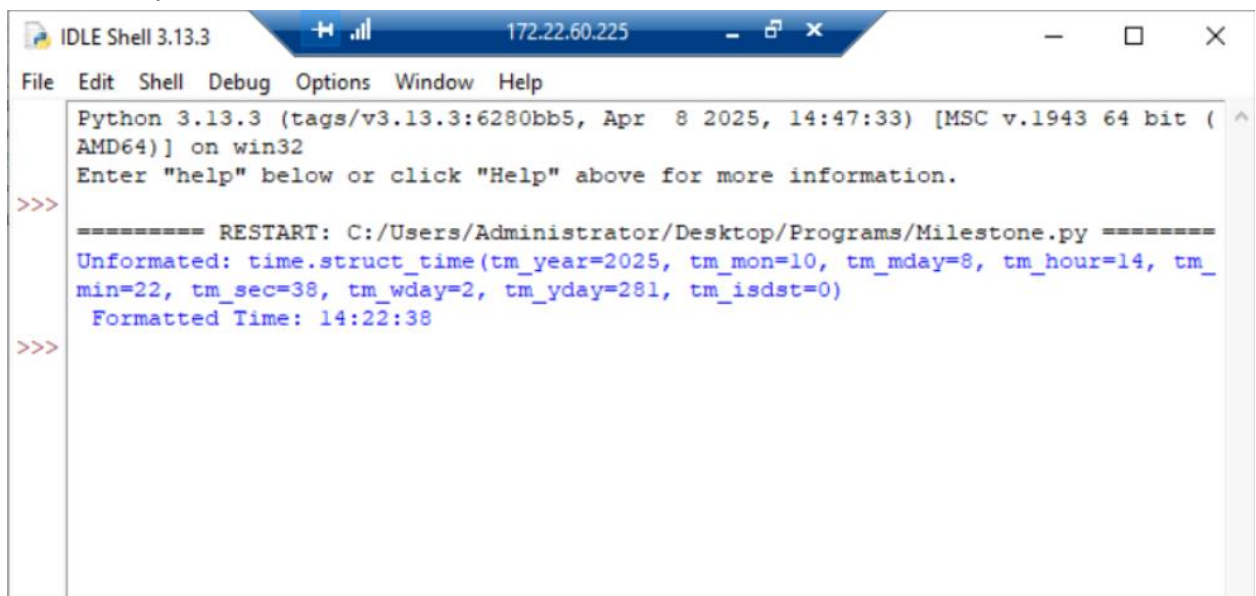
1. Use the time module to print the current time in HH:MM:SS format.
 - Program to print time – by default it will be in unformatted so to make it human readable form we use method 'strftime'



The screenshot shows a Python IDE window titled "Milestone.py - C:/Users/Administrator/". The code inside the editor is as follows:

```
import time
tt=time.localtime()
print("Unformatted:",tt)
formatted=time.strftime(" Formatted Time: %H:%M:%S",tt)
print(formatted)
```

- Output



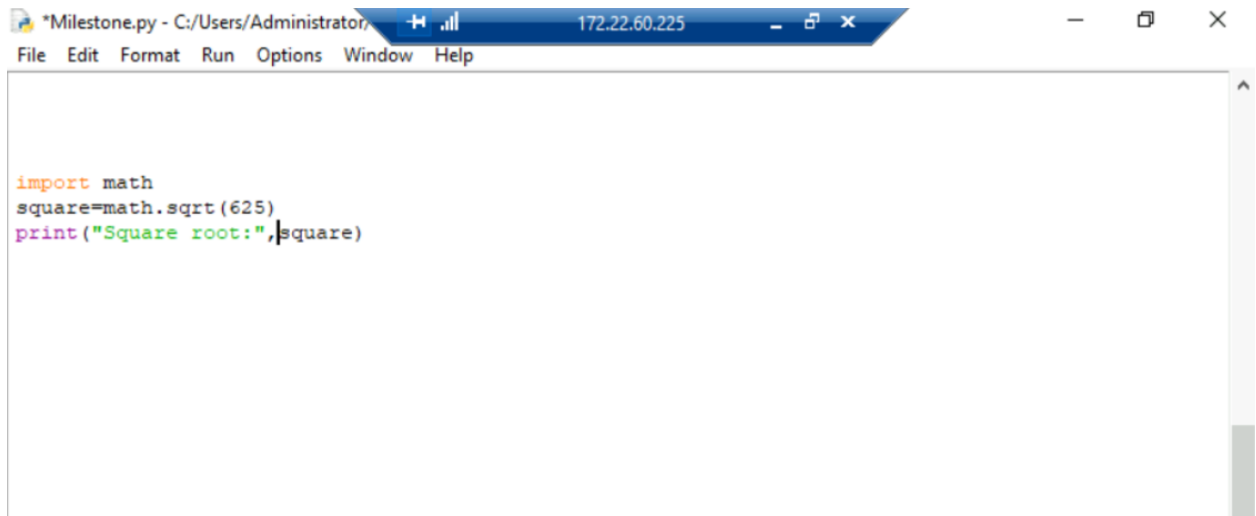
The screenshot shows the Python IDLE Shell window titled "IDLE Shell 3.13.3". The output of the program is displayed as follows:

```
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/Programs/Milestone.py =====
Unformatted: time.struct_time(tm_year=2025, tm_mon=10, tm_mday=8, tm_hour=14, tm_min=22, tm_sec=38, tm_wday=2, tm_yday=281, tm_isdst=0)
Formatted Time: 14:22:38
>>>
```

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

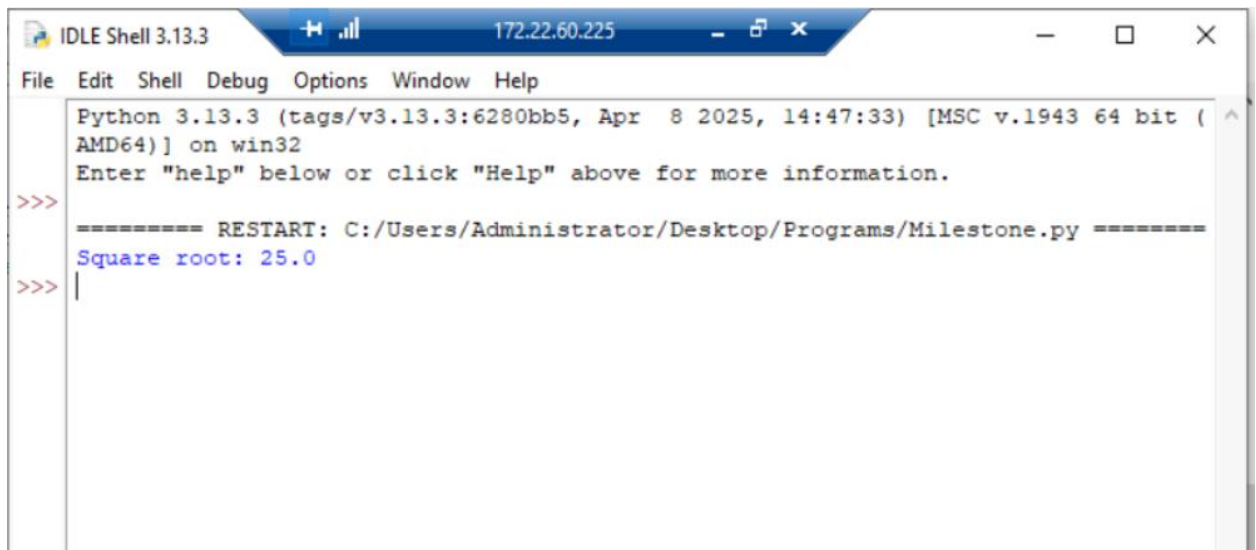
- Program to print the square root



The screenshot shows a Python IDE window titled "Milestone.py - C:/Users/Administrator/". The menu bar includes File, Edit, Format, Run, Options, Window, and Help. The code editor contains the following Python code:

```
import math
square=math.sqrt(625)
print("Square root:",square)
```

- Output



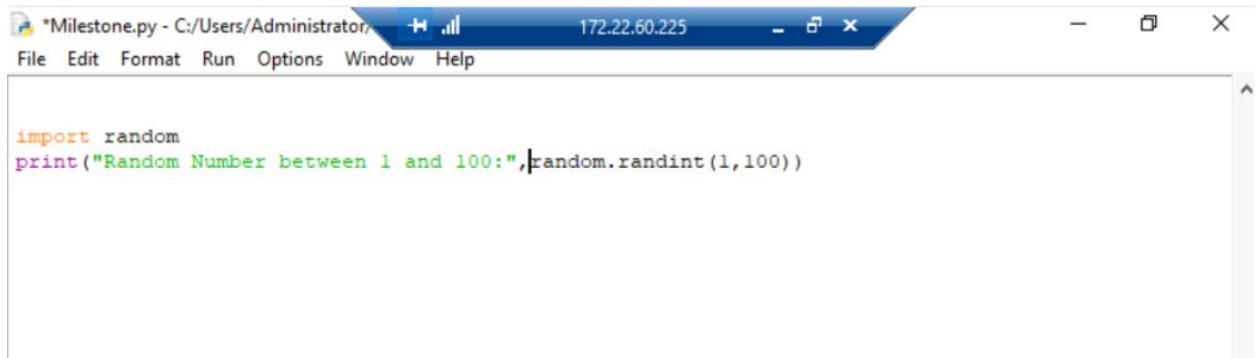
The screenshot shows the Python IDE Shell window titled "IDLE Shell 3.13.3". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The shell displays the following output:

```
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/Programs/Milestone.py =====
Square root: 25.0
>>> |
```

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

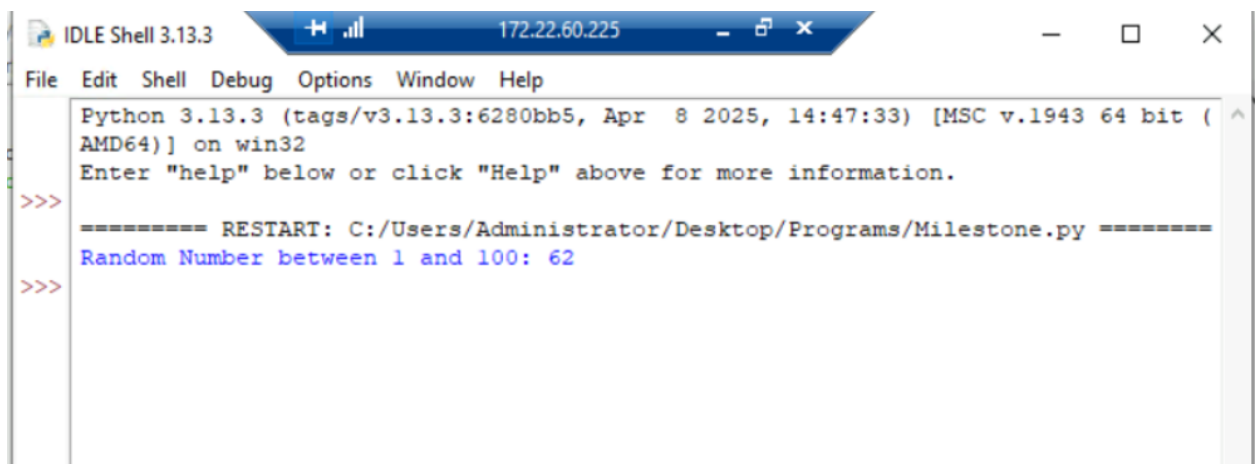
- Program to print random number



```
*Milestone.py - C:/Users/Administrator/... 172.22.60.225
File Edit Format Run Options Window Help

import random
print("Random Number between 1 and 100:", random.randint(1,100))
```

- Output when we run the program first time →

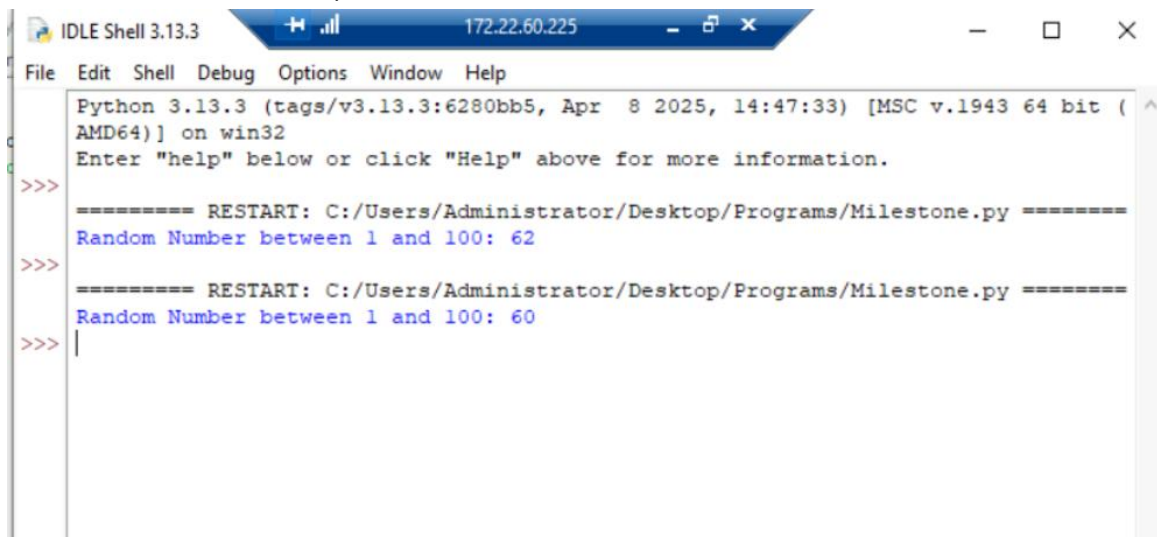


```
IDLE Shell 3.13.3 172.22.60.225
File Edit Shell Debug Options Window Help

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/Programs/Milestone.py =====
Random Number between 1 and 100: 62
>>>
```

- Output when we run the program again → (Here we can notice it gives different number)



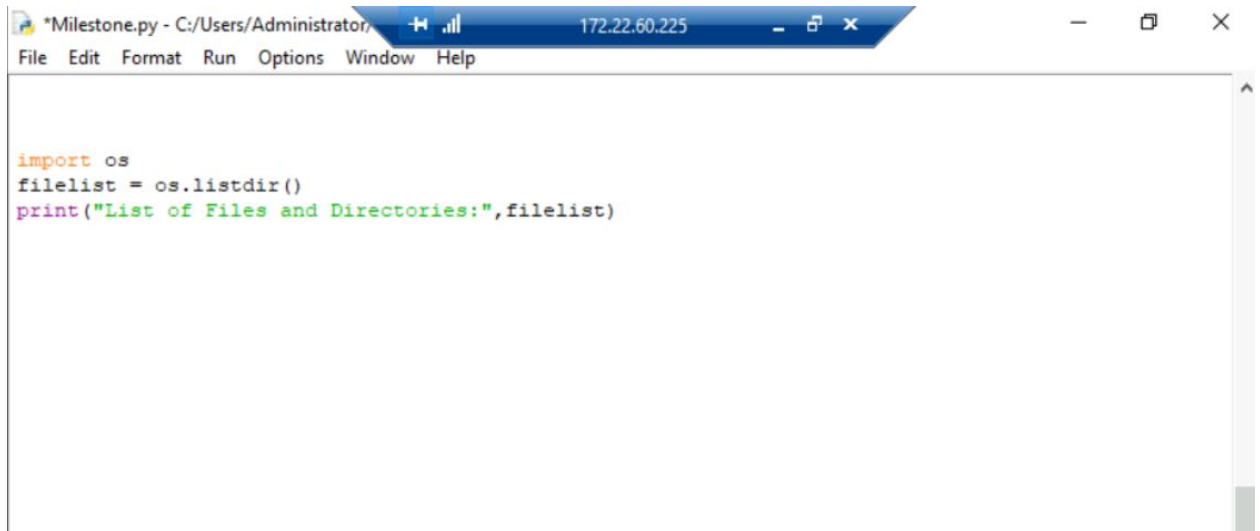
```
IDLE Shell 3.13.3 172.22.60.225
File Edit Shell Debug Options Window Help

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/Programs/Milestone.py =====
Random Number between 1 and 100: 62
>>>
===== RESTART: C:/Users/Administrator/Desktop/Programs/Milestone.py =====
Random Number between 1 and 100: 60
>>> |
```

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

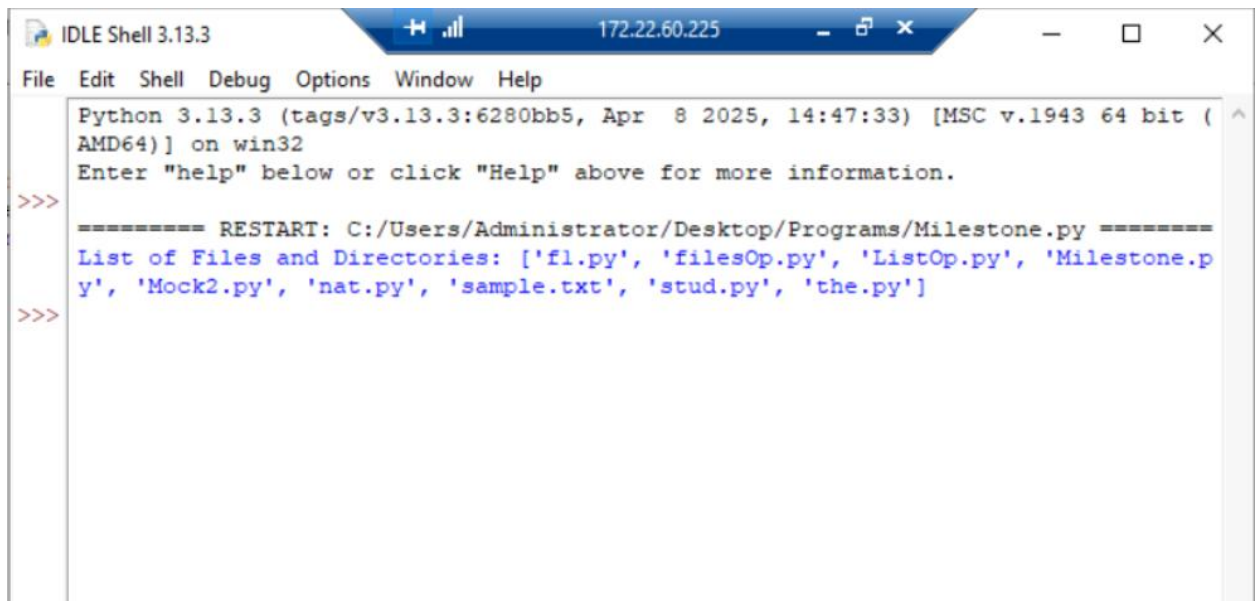
- Program



The screenshot shows a Python IDE window titled "Milestone.py - C:/Users/Administrator/". The menu bar includes File, Edit, Format, Run, Options, Window, and Help. The code in the editor is as follows:

```
import os
filelist = os.listdir()
print("List of Files and Directories:",filelist)
```

- Output



The screenshot shows the IDLE Shell 3.13.3 window. The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The output text 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/Programs/Milestone.py =====
List of Files and Directories: ['fl.py', 'filesOp.py', 'ListOp.py', 'Milestone.py', 'Mock2.py', 'nat.py', 'sample.txt', 'stud.py', 'the.py']
>>>
```

Question 2:

File Handling and Log Analysis (Different File Content)

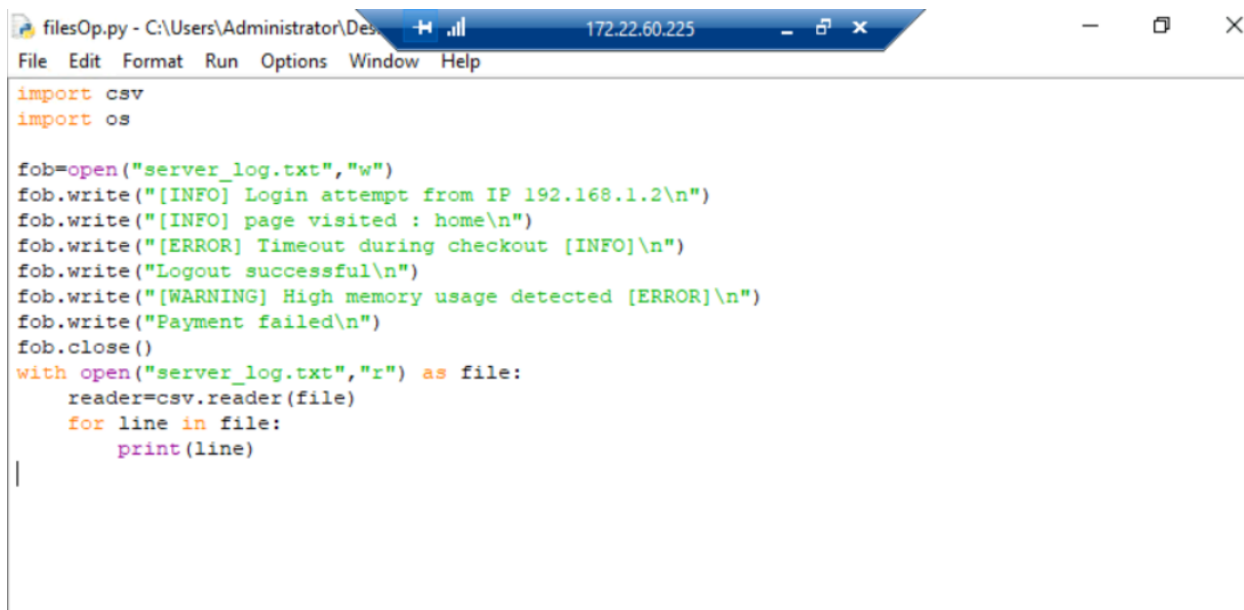
You have a file named `server_log.txt` that logs user actions on a website.

Perform the following tasks:

Tasks: 1. 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

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

- Program to write content in the file '`server_log.txt`' and read the content in the given file. We can use both '`open`' and '`with open`' methods to read, write and append contents in the file. The difference is we don't want to specify `close()` method when we use '`with`' but it is necessary when we use '`open`' function.



```
filesOp.py - C:\Users\Administrator\Desktop 172.22.60.225
File Edit Format Run Options Window Help
import csv
import os

fob=open("server_log.txt","w")
fob.write("[INFO] Login attempt from IP 192.168.1.2\n")
fob.write("[INFO] page visited : home\n")
fob.write("[ERROR] Timeout during checkout [INFO]\n")
fob.write("Logout successful\n")
fob.write("[WARNING] High memory usage detected [ERROR]\n")
fob.write("Payment failed\n")
fob.close()
with open("server_log.txt","r") as file:
    reader=csv.reader(file)
    for line in file:
        print(line)
```

- Output → Read the content of the file 'server_log.txt'

```

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\Programs\filesOp.py =====
[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.

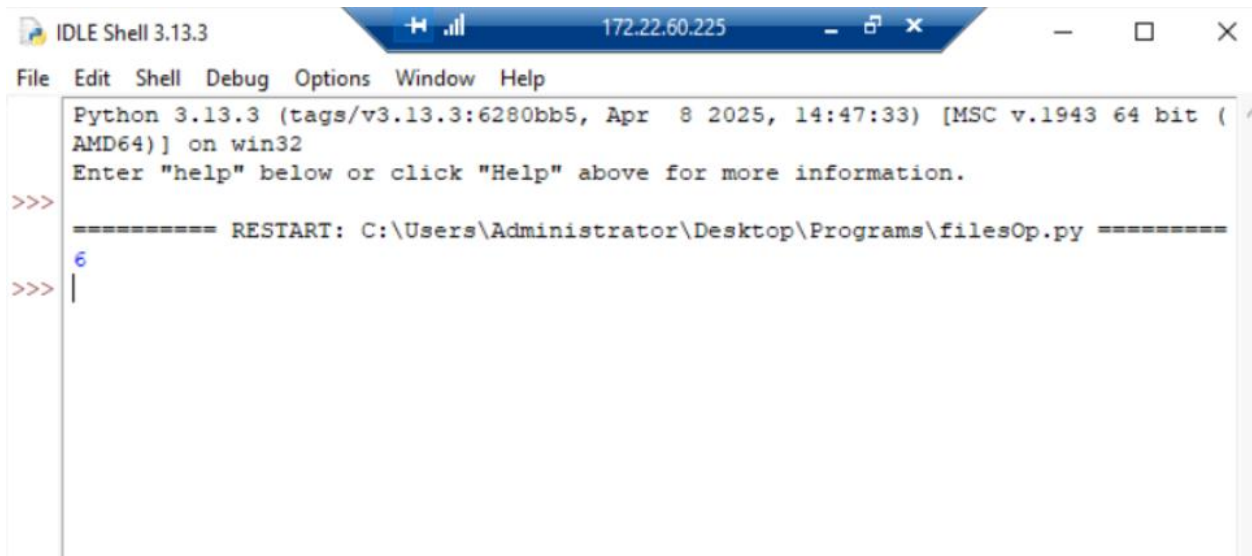
- Program to read number of lines in the file.

```

with open("server_log.txt","r") as file:
    reader=csv.reader(file)
    ct=0
    for line in file:
        ct+=1
    print(ct)

```

- Output



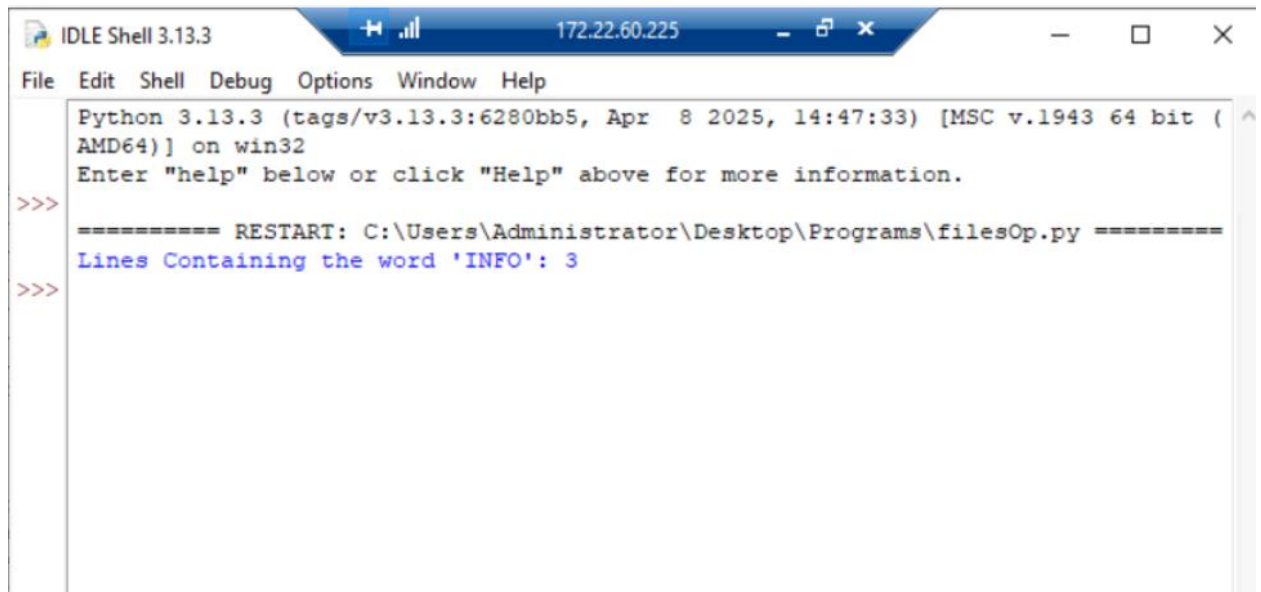
```
IDLE Shell 3.13.3 172.22.60.225
File Edit Shell Debug Options Window Help
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr 8 2025, 14:47:33) [MSC v.1943 64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
===== RESTART: C:\Users\Administrator\Desktop\Programs\filesOp.py =====
6
>>> |
```

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

- Program to read no.of.lines with specific word i.e 'INFO'

```
with open("server_log.txt","r") as file:
    reader=csv.reader(file)
    ct=0
    for line in file:
        if "INFO" in line:
            ct+=1
    print("Lines Containing the word 'INFO':",ct)
```

- Output



The screenshot shows a window titled "IDLE Shell 3.13.3" with a blue header bar. The address bar displays "172.22.60.225". The menu bar includes "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The main text area contains the following 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\Programs\filesOp.py =====
Lines Containing the word 'INFO': 3
>>>
```