

Karthick VM

Batch – CIS 1.3

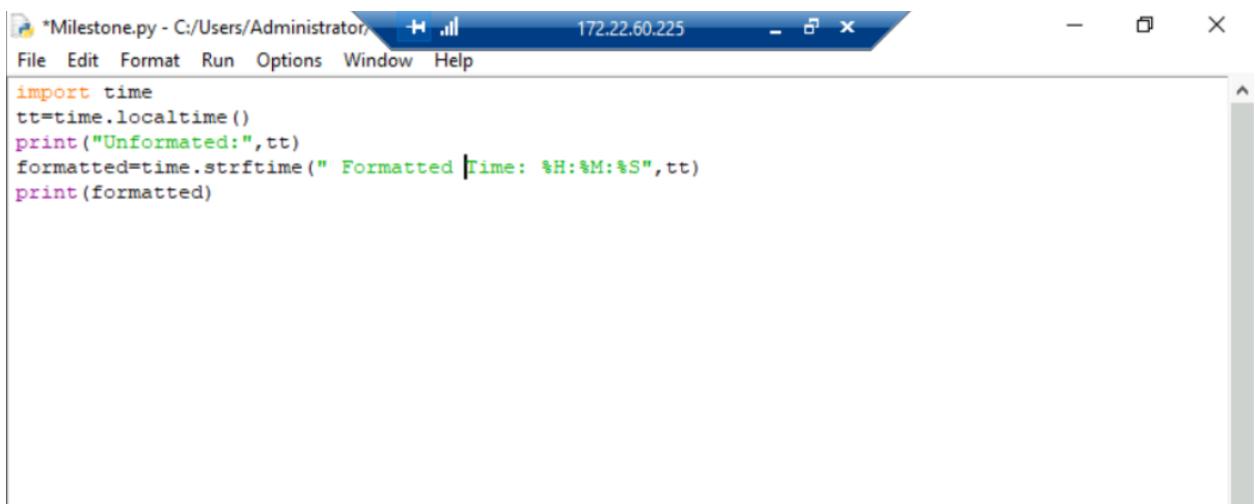
Milestone 2 – Python – Set 1

Question 1:

Working with Python Libraries (Different Modules) Task:

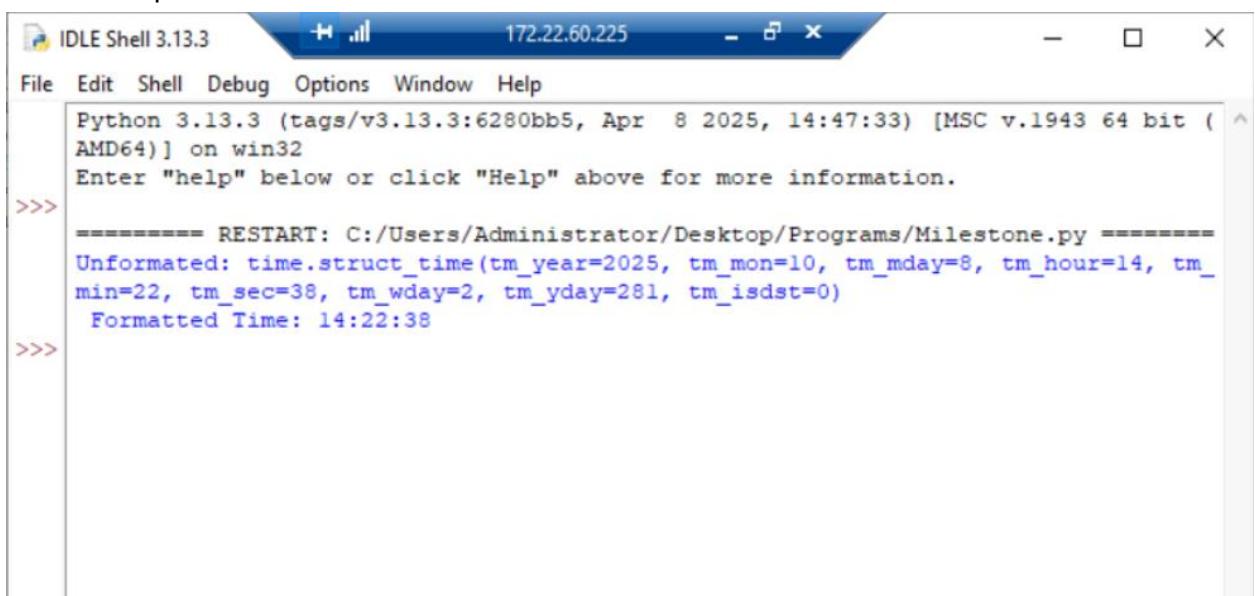
1. Use the time module to print the current time in HH:MM:SS format.

- Program to print time – by default it will be in unformatted so to make it human readable form we use method ‘strftime’



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

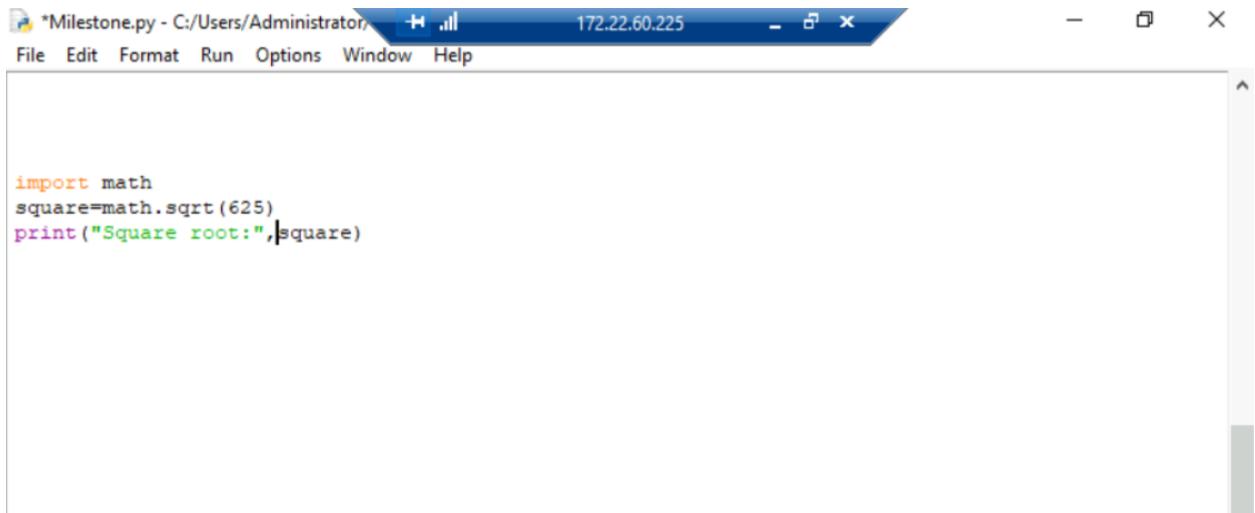
- Output



```
IDLE Shell 3.13.3 172.22.60.225 - x - x
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 =====
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.

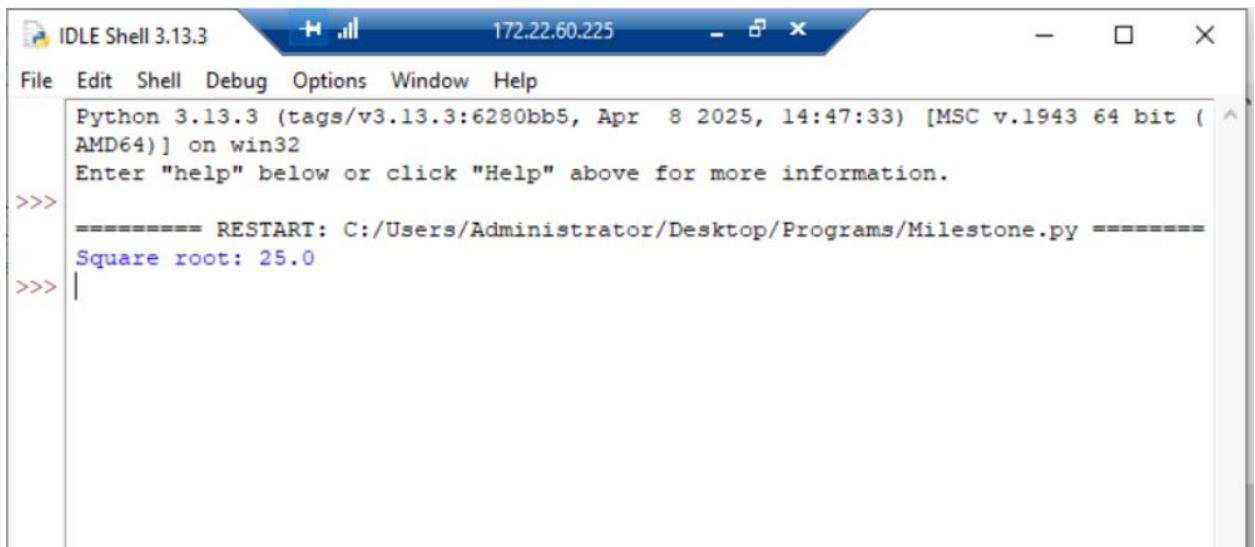
- Program to print the square root



The screenshot shows a Windows-style window titled "Milestone.py - C:/Users/Administrator...". The menu bar includes File, Edit, Format, Run, Options, Window, and Help. The status bar at the bottom shows the IP address 172.22.60.225. The main area contains the following Python code:

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

- Output

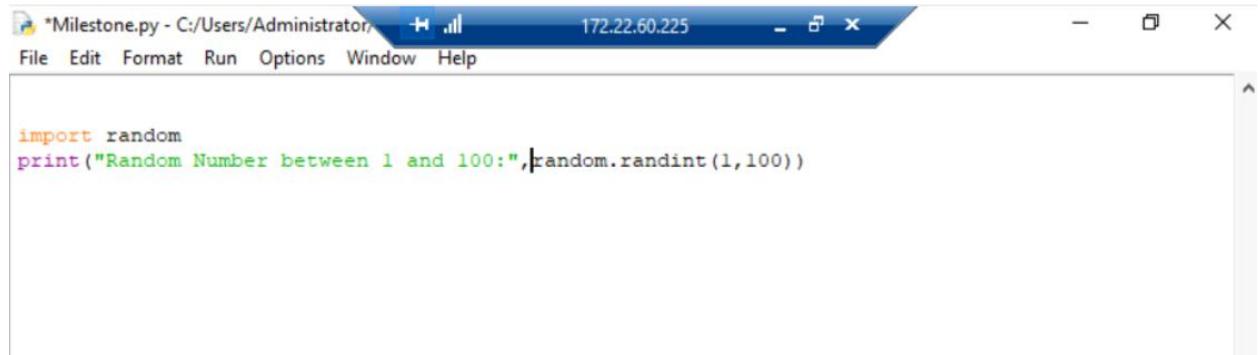


The screenshot shows the IDLE Shell 3.13.3 interface with the title "IDLE Shell 3.13.3". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The status bar at the bottom shows the IP address 172.22.60.225. The shell window displays the following output:

```
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
```

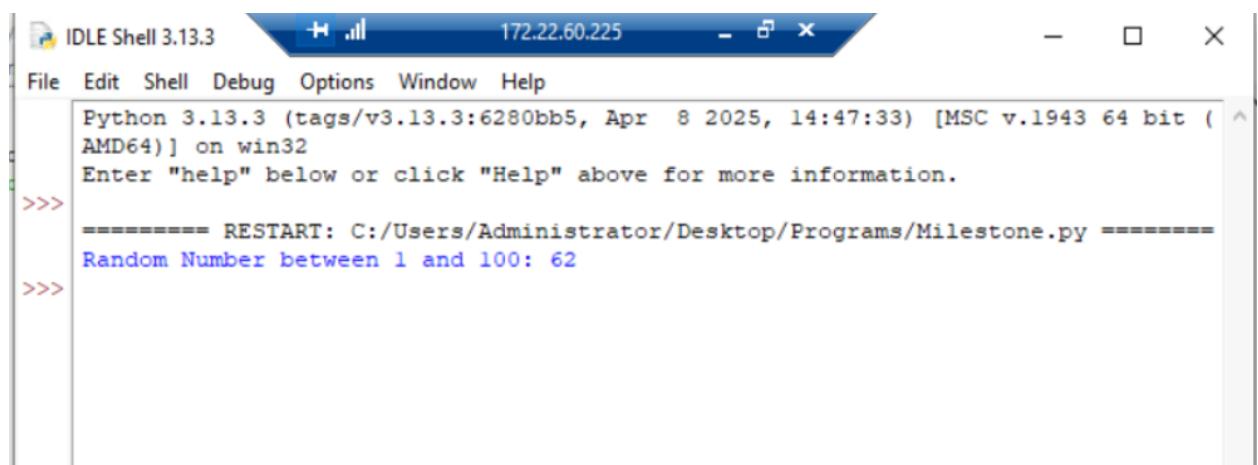
3. Use the random module to generate a random integer between 1 and 100 (inclusive).

- Program to print random number



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

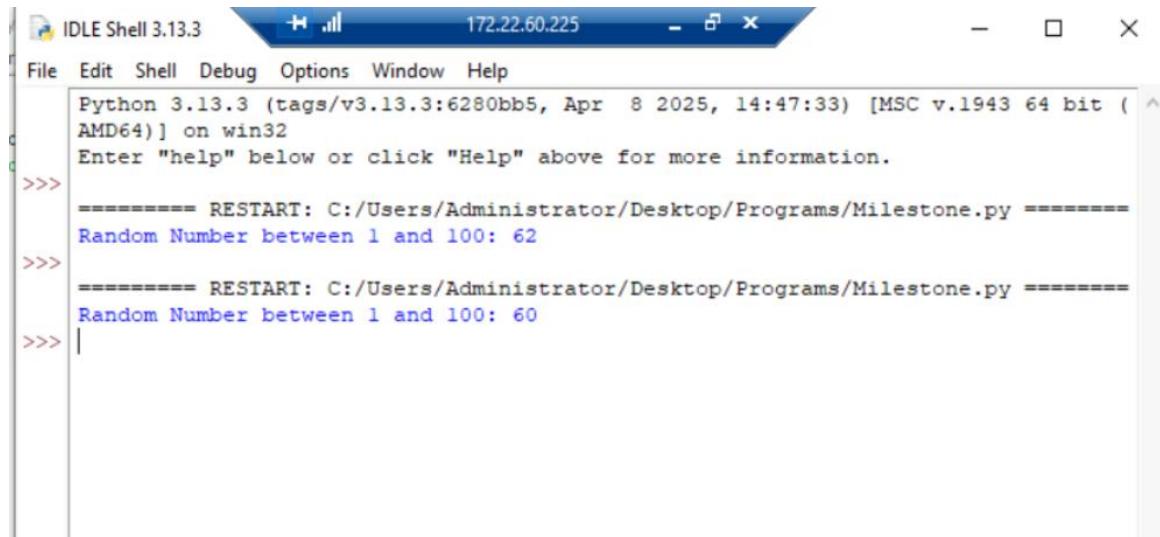
- Output when we run the program first time →



```
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.

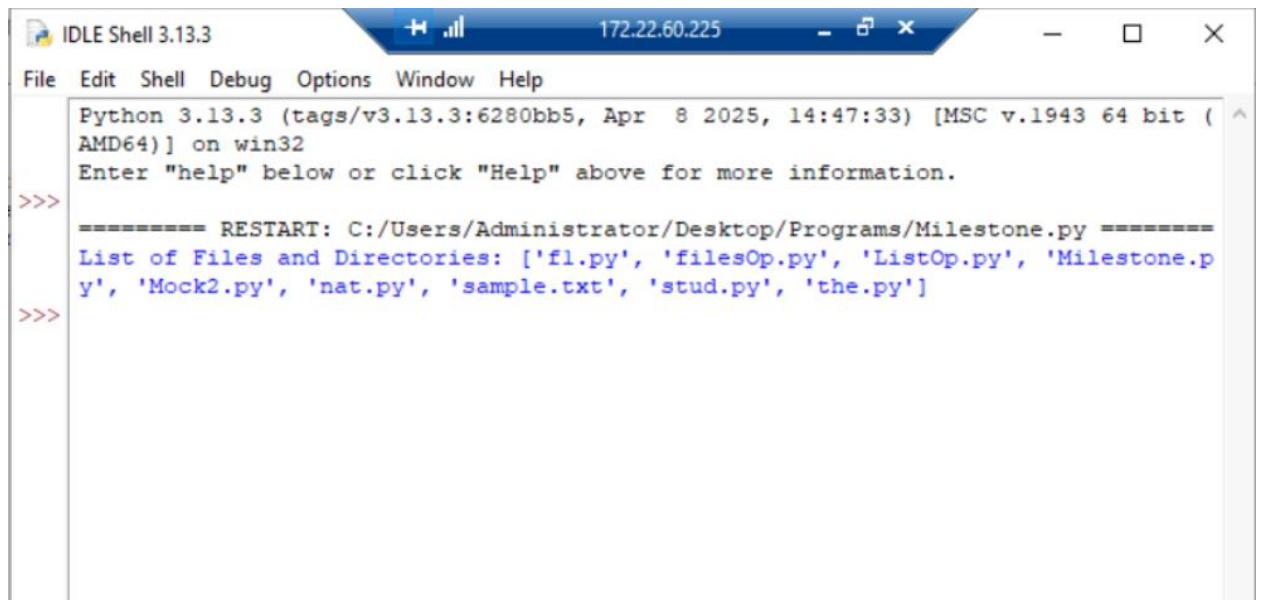
- Program



The screenshot shows a Windows-style application window titled "Milestone.py - C:/Users/Administrator/". The menu bar includes File, Edit, Format, Run, Options, Window, and Help. The status bar at the top right shows the IP address "172.22.60.225". The main text area contains the following Python code:

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

- Output



The screenshot shows the IDLE Shell 3.13.3 interface with the title "IDLE Shell 3.13.3". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The status bar at the top right shows the IP address "172.22.60.225". The shell window 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 =====
List of Files and Directories: ['f1.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)

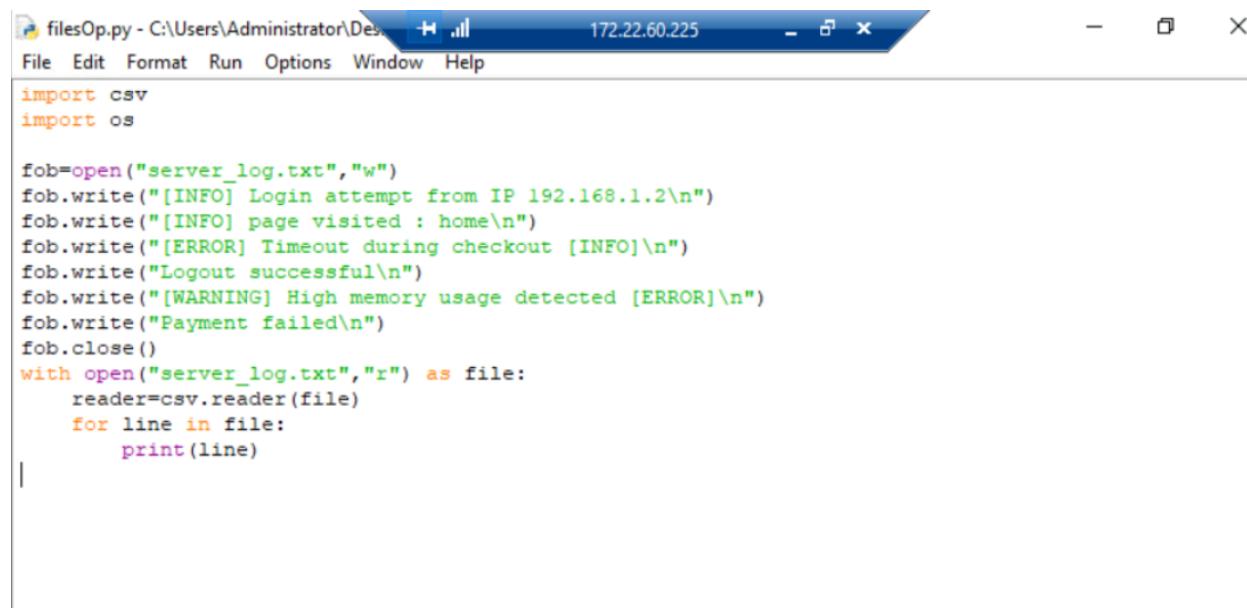
You have a file named server_log.txt that logs user actions on a website.

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.

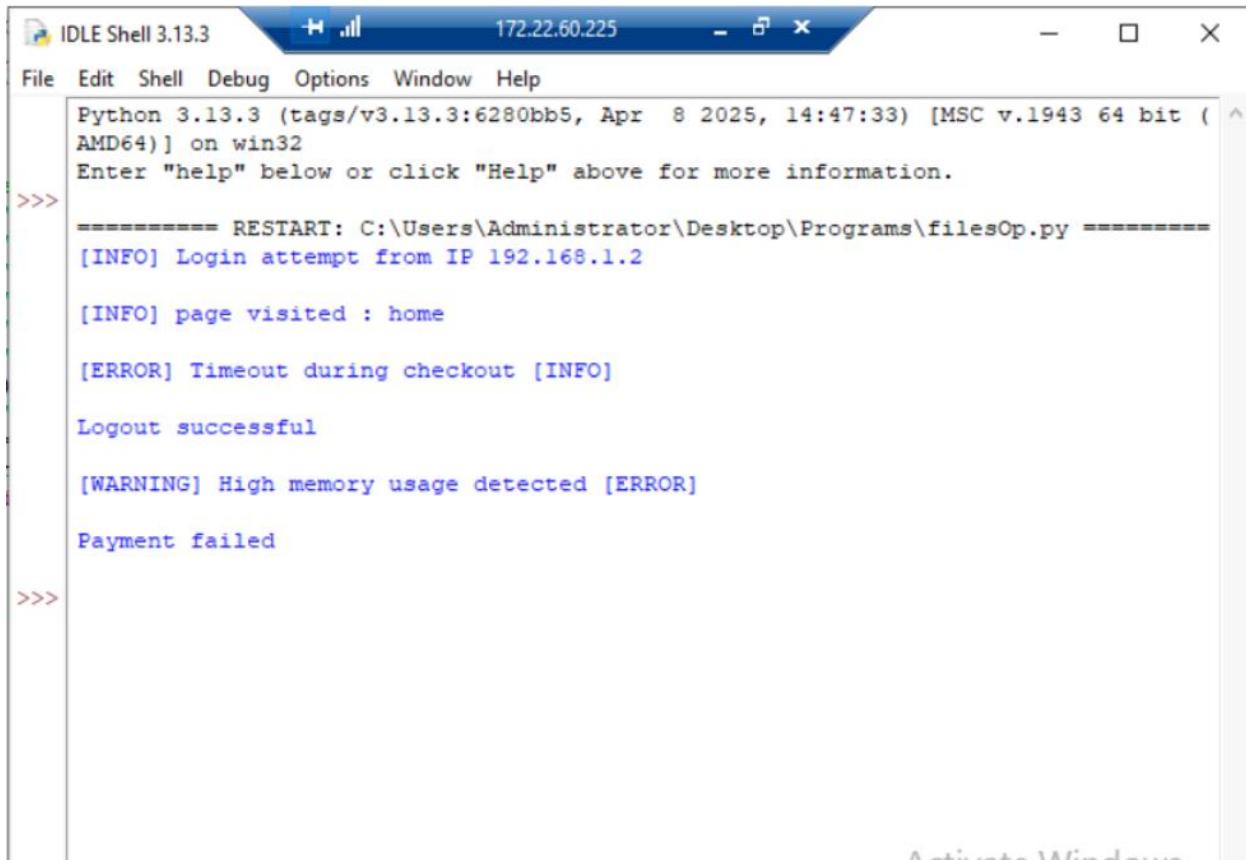


The screenshot shows a code editor window titled "filesOp.py - C:\Users\Administrator\Desktop\filesOp.py". The status bar at the top right indicates the IP address "172.22.60.225". The menu bar includes File, Edit, Format, Run, Options, Window, and Help. The main code area contains the following Python script:

```
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’



The screenshot shows the Python IDLE Shell interface. The title bar reads "IDLE Shell 3.13.3". The status bar at the top right shows the IP address "172.22.60.225". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main window displays the following text:

```
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

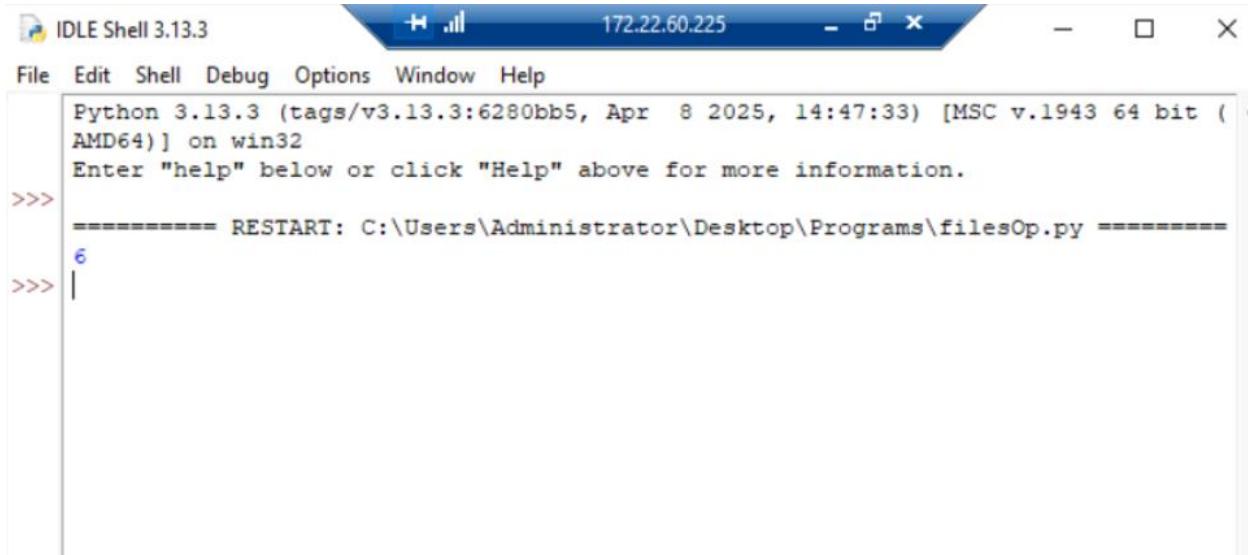
>>>
```

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

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)
```

Activate Windows

- Output

The screenshot shows a window titled "IDLE Shell 3.13.3" with the IP address "172.22.60.225" in the title bar. The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The main window displays Python code and its 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
>>>
```