ASSIGNMENT-2

01_Problem.py > ...

```python
'''Top scoring students by subject using CSV
PROGRAM that  reads a file marks.csv containing data in the format
roll no,name,subject,marks.
101,Alice,Math,78
102,Bob,Science,88
'''

# Open and read the CSV file
file = open("marks.csv", "r")
lines = file.readlines()
file.close()

# Dictionary to store top scorer per subject
top_students = {}

# Process each line
for line in lines[1:]:  # Skip header
    line = line.strip()  # Remove newline
    roll, name, subject, marks = line.split(",")
    marks = int(marks)

    # Check if subject is already in dictionary
    if subject not in top_students or marks > top_students[subject][1]:
        top_students[subject] = (name, marks)

# Print top scorer for each subject
print("Top scoring students by subject:")
for subject, (name, marks) in top_students.items():
    print(subject, ":", name, "-", marks)

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
op/python class/Assignment 2/01_Problem.py"
Top scoring students by subject:
Math : Eva - 92
Science : Bob - 88
PS C:\Users\gupta\OneDrive\Desktop\python class\Assignment 2>
```

marks.csv

```
roll no,name,subject,marks
101,Alice,Math,78
102,Bob,Science,88
103,Charlie,Math,85
104,Diana,Science,82
105,Eva,Math,92
```

02_Problem.py > ...

```python
'''Program that reads a text file story.txt
counts how many times each word appears (ignorecase,strip punctuation)
Print only the words whose frequency is greater than a user
entered number n sorted in descending order frequency'''

with open("story.txt","r")as f:
    text=f.read().lower()
for p in[",",".","?",":",";"]:
    text=text.replace(p,"")
words=text.split()
freq={}
for word in words :
    if word in freq:
        freq[word]+=1
    else:
        freq[word]=1
n=int(input("Enter the minimum frequency:"))
for word in freq:
    if freq[word]>=n:
        print(word,freq[word])
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
op/python class/Assignment 2/02_Problem.py"
Enter the minimum frequency:2
rohan 3
PS C:\Users\gupta\OneDrive\Desktop\python class\Assignment 2> & C:/Users/gupta/AppData/Local/Programs/Python/Python313/py
op/python class/Assignment 2/02_Problem.py"
Enter the minimum frequency:5
PS C:\Users\gupta\OneDrive\Desktop\python class\Assignment 2>
```

story.txt

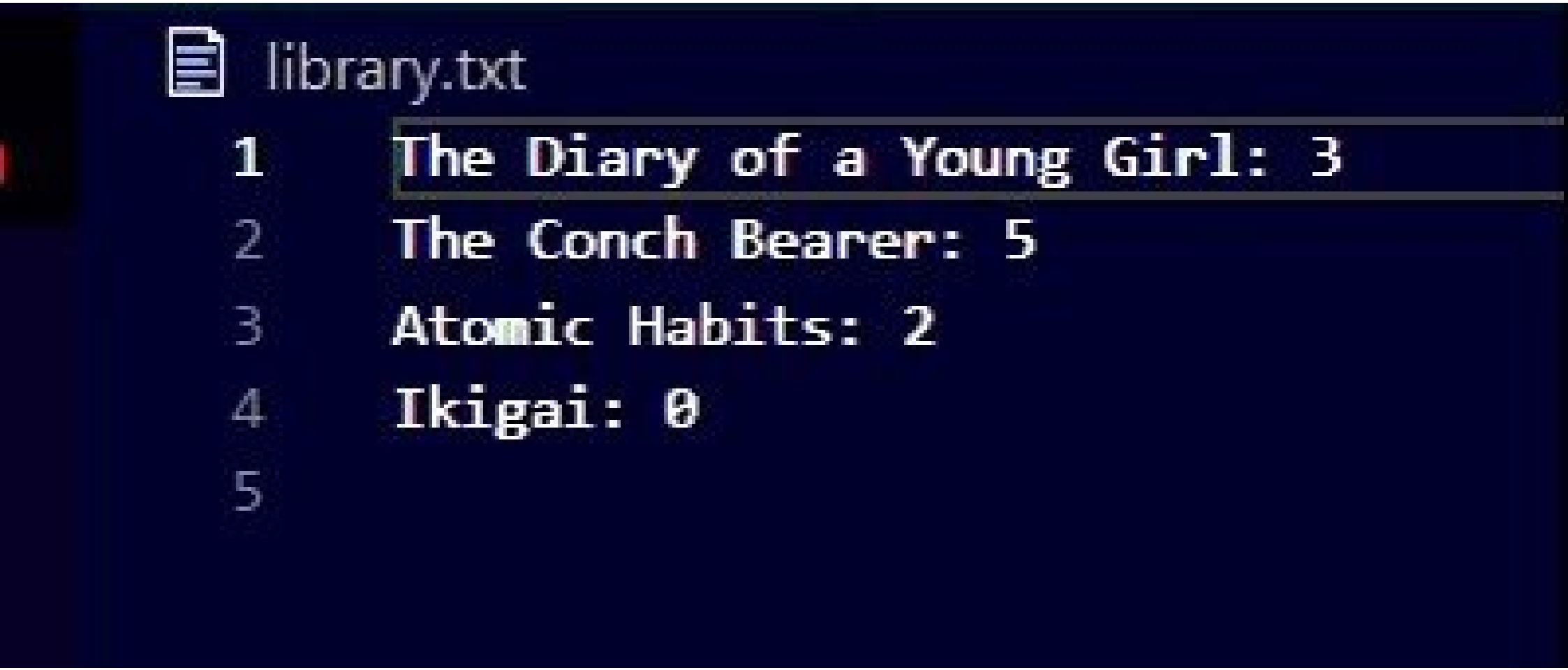
```
1  Rohan is good.
2  Rohan loves coding.
3  Rohan do not play outdoor games.
```

03_Problem.py > ...

```python

# Sample library dictionary with book titles and quantities
library = {
    "The Diary of a Young Girl": 3,
    "The Conch Bearer": 5,
    "Atomic Habits": 2,
    "Ikigai": 1
}

# Function to borrow a book
def borrow_book():
    book = input("Enter the book name you want to borrow: ")

    if book in library:
        if library[book] > 0:
            library[book] -= 1
            print(f"You have successfully borrowed '{book}'.")
        else:
            print("Sorry, this book is out of stock.")
    else:
        print("Book not found in the library.")

# Borrow a book
borrow_book()

# Write updated inventory to file
with open("library.txt", "w") as f:
    for title, quantity in library.items():
        f.write(f"{title}: {quantity}\n")

print("Library inventory updated in 'library.txt'.")

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
op/python class/Assignment 2/03_Problem.py"
Enter the book name you want to borrow: Ikigai
You have successfully borrowed 'Ikigai'.
Library inventory updated in 'library.txt'.
PS C:\Users\gupta\OneDrive\Desktop\python class\Assignment 2>
```


library.txt
1 The Diary of a Young Girl: 3
2 The Conch Bearer: 5
3 Atomic Habits: 2
4 Ikigai: 0
5

04_Problem.py > ...

```python
'''Unique no. and statistics
Ask the user to input no. separated by spaces
Store them in a set to remove duplicates
print total count of unique no.,sum,avg,lar..and small..'''

num=input("Enter numbers separated by spaces :").split()
num=[int(x)for x in num]
unique=list(set(num))
print("Unique no:",unique)
print("Count:",len(unique))
print("Sum",sum(unique))
print("Average",sum(unique)/len(unique))
print("max:",max(unique))
print("min:",min(unique))

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Enter numbers separated by spaces :23
Unique no: [23]
Count: 1
Sum 23
Count: 1
Count: 1
Sum 23
Average 23.0
max: 23
min: 23
PS C:\Users\gupta\OneDrive\Desktop\python class\Assignment 2>
```

05_Problem.py > ...

```python
'''Student attendance manager
Read a file atten..txt containing roll no. , one per line
Compare and print
"Present" stu..(roll no. in file)
"Absent" stu..(roll no. not in file)
'''
master_list=["101","102","103","104","105","106","107","108"]
# now read attendance.txt
with open("attendance.txt" , "r") as f:
    present_list = []
    for line in f :
        roll = line.strip()
        if roll!="":
            present_list.append(roll)

# find absentees
absent_list = []
for roll in master_list :
    if roll not in present_list :
        absent_list.append(roll)

# Print results
print("Present students :" , present_list)
print("Absent students :" , absent_list)

# Save absent stu.. to abs.txt
with open("absent.txt","w")as f:
    for roll in absent_list:
        f.write(roll + "\n")

print("Absent list saved in absent.txt")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
op/python class/Assignment 2/05_Problem.py"
Present students : ['102', '104', '106', '108']
Absent students : ['101', '103', '105', '107']
Absent list saved in absent.txt
PS C:\Users\gupta\OneDrive\Desktop\python class\Assignment 2>
```

attendance.txt

```
1   102
2   104
3   106
4   108
```

absent.txt

1	101
2	103
3	105
4	107
5	