**Week 8 - Lab B**

### **Problem 1: Writing and Reading Numbers from a File**

**Write a Python program that:**

1. **Writes the numbers from 1 to 50, each on a new line, into a file named numbers.txt.**
2. **After writing the numbers, read the file and print each number on the screen.**
3. **Modify the program to calculate and print the sum of all the numbers in the file.**

**Hints:**

* **Use a for loop to write the numbers to the file.**
* **Use the readline() function to read the numbers back.**
* **Convert the strings read from the file back into integers for the sum calculation.**

Paste your source code below:

with open("numbers.txt", "w") as f:

f.write(''.join(map(lambda x: str(x) + '\n', range(1, 51))))

with open("numbers.txt", "r") as f:

lines = f.readlines()

print("The numbers:", ', '.join(map(str.rstrip, lines)))

with open("numbers.txt", "r") as f:

lines = f.readlines()

print("The sum:", sum(map(lambda x: int(x.rstrip()), lines)))

Paste the Screenshot of your output below:

The numbers: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50

The sum: 1275

**Problem 2: Cleaning Text from a File**

**Write a Python program that:**

1. **Reads text from a file sample.txt, where each line contains several words and some special characters (like punctuation).**
2. **Use a function to strip special characters (like ., ,, ?, !) from the end of each word in the file and display each cleaned word on a new line.**

**Hints:**

* **Use rstrip() to remove unwanted characters.**
* **Use the split() method to separate words in each line.**

Paste your source code below:

specials = ['.', ',', '?', '!']

with open("sample.txt", "r") as f:

content = f.read()

print('\n'.join(filter(lambda x: x != "", map(lambda x: ''.join(filter(lambda x: x not in specials, x)), content.split()))))

Paste the Screenshot of your output below:

**whitewolfzhang@White**:**~/Library/CloudStorage/OneDrive-Personal/Documents/Acadamic/OCC/F2024/CS\_131/Codes/Week 8 Lab B**$ cat sample.txt

! The moon laughs, a silver smile,

? Shadows stretch for miles and miles,

. Night sighs, still, and coldly waits,

, Dawn arrives, it hesitates.

**whitewolfzhang@White**:**~/Library/CloudStorage/OneDrive-Personal/Documents/Acadamic/OCC/F2024/CS\_131/Codes/Week 8 Lab B**$ python3 p2.py

The

moon

laughs

a

silver

smile

Shadows

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for

miles

and

miles

Night

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and

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