Fall 2023: CS5720
Neural Networks & Deep Learning - ICP-2

Name: Manisha Lakkarsu
Student Id: 700746573
Git link: https://github.com/Mani543/Manisha_NNDL_ICP2.git
Video link:
https://drive.google.com/file/d/1c4JVHeMwhRZAI9OEC2uBNYqZnCYvY4kT/view?usp=sharing

1. Write a program that takes two strings from the user: first_name, last_name. Pass these variables to full name function that should return the (full name). Write function named "string_alternative" that returns every other char in the full_name string.

DeleteCharsAndReverseString.py | ArithmeticOperations.py | ReplacingAStringWithAnother.py | GradingSystem.py | GenerateFullName.py

```python
# Function to return alternative characters from a given string
1 usage
def string_alternative(input_string):
    return input_string[::2]
# Main function
1 usage
def main():
    # Prompting the user to enter a first name and a last name
    first_name = input("Enter first name: ")
    last_name = input("Enter last name: ")
    # Concatenating the first and last names
    full_name = first_name + " " + last_name
    # Print the full name
    print("Full name:", full_name)
    # Calling the string_alternative() function
    alternate_chars = string_alternative(full_name)
    # Displaying the alternate characters in the given full name
    print("Alternate characters in the given full name are as follows:", alternate_chars)

if __name__ == "__main__":
    main()
```

Output:

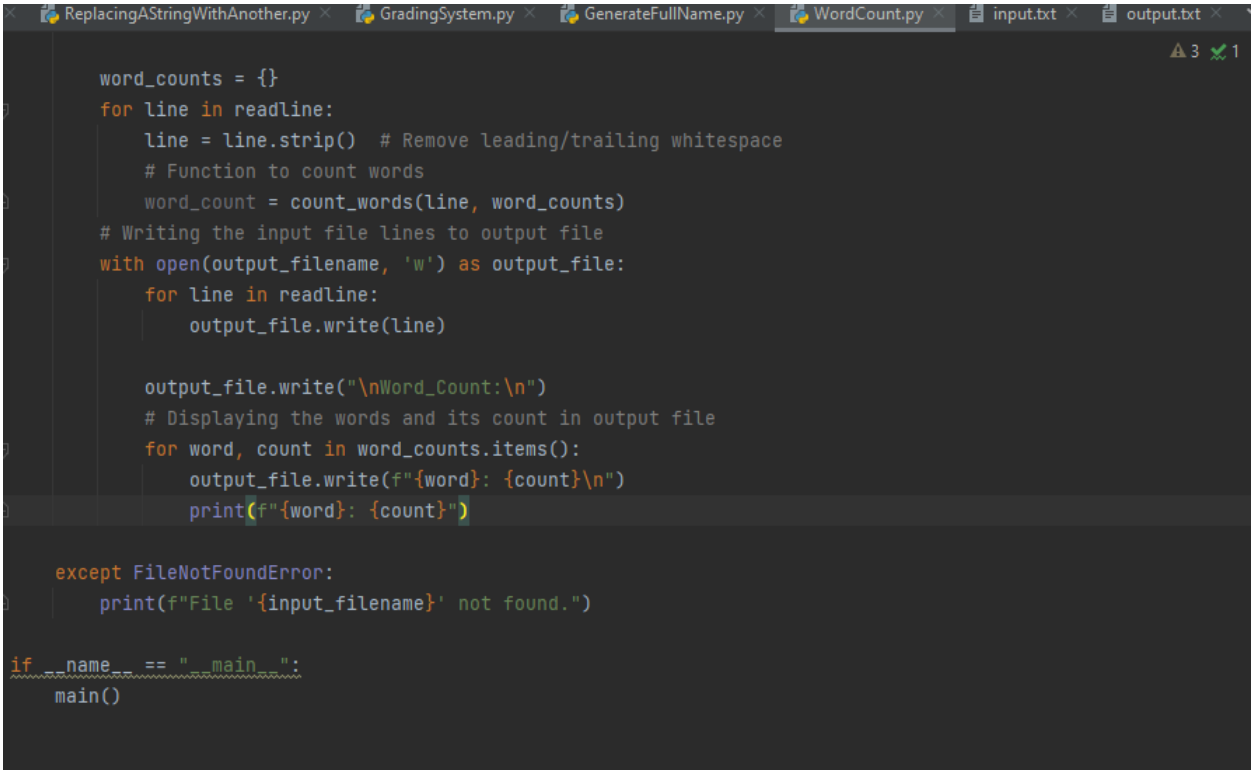
```
C:\Users\manis\PycharmProjects\pythonProject\venv\Scripts\python.exe C:\Users\manis\PycharmProjects
Enter first name: Manisha
Enter last name: Lakkarsu
Full name: Manisha Lakkarsu
Alternate characters in the given full name are as follows: MnsaLkas

Process finished with exit code 0
```

2. Write a python program to find the wordcount in a file (input.txt) for each line and then print the output. Finally store the output in output.txt file.

```
ReplacingAStringWithAnother.py | GradingSystem.py | GenerateFullName.py | WordCount.py | input.txt | output.txt
# function to return word_counts array after counting words in each line and storing them in word_coun
1 usage
def count_words(line, word_counts):
    words = line.split()
    # loop to count the occurance of each word
    for word in words:
        word_counts[word] = word_counts.get(word, 0) + 1
    return word_counts
# Main function
1 usage
def main():
    input_filename = "input.txt"
    output_filename = "output.txt"

    try:
        # Reads the input file
        with open(input_filename, 'r') as input_file:
            readline = input_file.readlines()
```



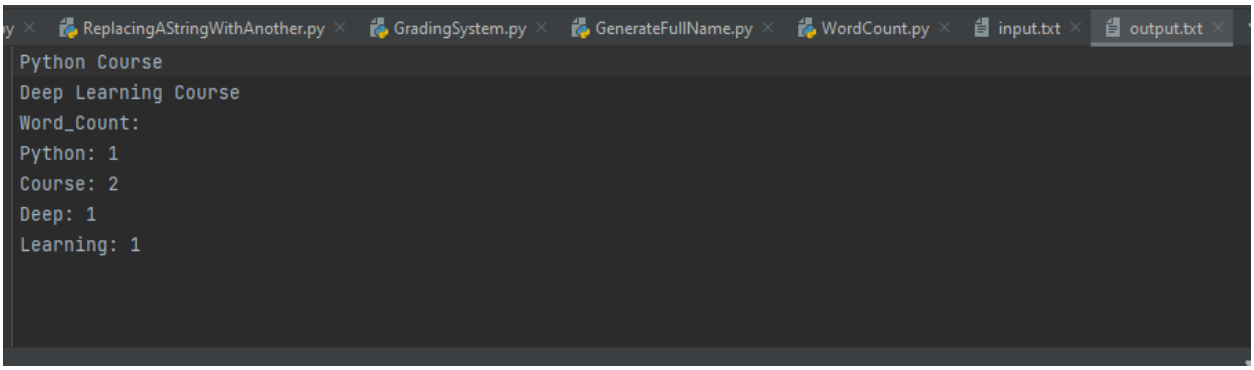
```
ReplacingAStringWithAnother.py | GradingSystem.py | GenerateFullName.py | WordCount.py | input.txt | output.txt
        word_counts = {}
        for line in readline:
            line = line.strip()  # Remove leading/trailing whitespace
            # Function to count words
            word_count = count_words(line, word_counts)
        # Writing the input file lines to output file
        with open(output_filename, 'w') as output_file:
            for line in readline:
                output_file.write(line)

            output_file.write("\nWord_Count:\n")
            # Displaying the words and its count in output file
            for word, count in word_counts.items():
                output_file.write(f"{word}: {count}\n")
                print(f"{word}: {count}")

    except FileNotFoundError:
        print(f"File '{input_filename}' not found.")

if __name__ == "__main__":
    main()
```

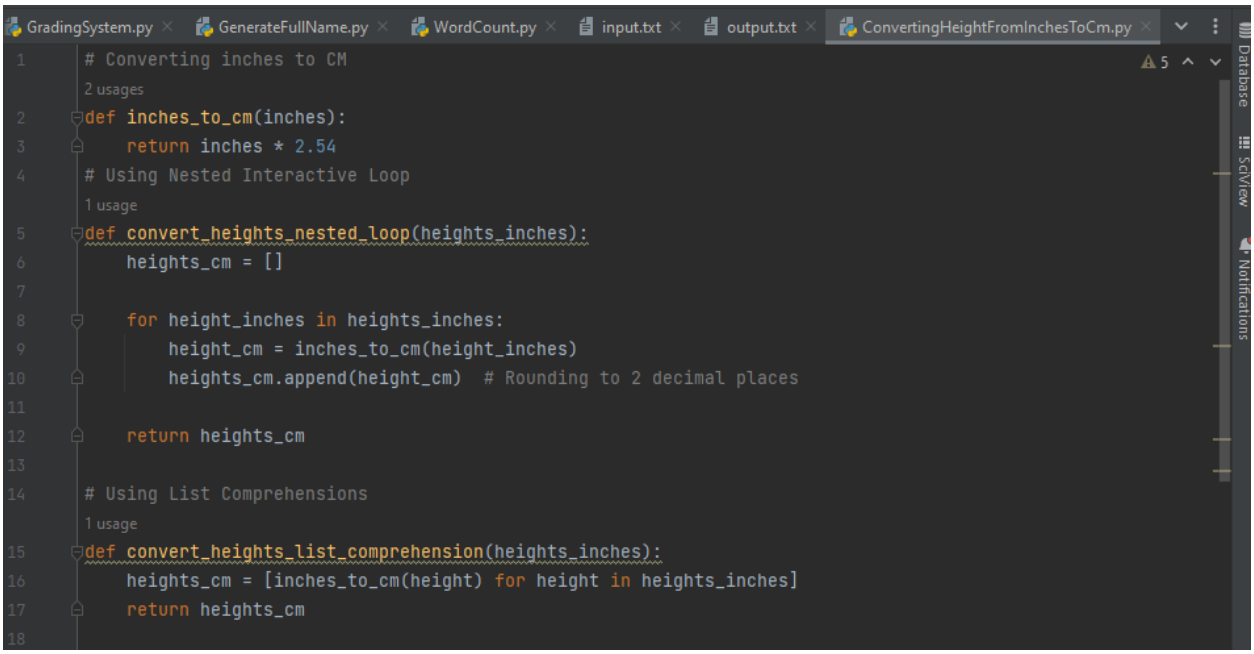
Output:



3. Write a program, which reads heights (inches.) of customers into a list and convert these heights to centimeters in a separate list using:

1) Nested Interactive loop.

2) List comprehensions



```python

# Main method
1 usage
def main():

    heights_inches = [float(height) for height in input("Enter heights (in inches) of customers separated by

    # Converting the heights from inches to Centimeters Using Nested Interactive Loop
    heights_nested = convert_heights_nested_loop(heights_inches)
    print("Using Nested Interactive Loop:")
    print("Heights in Centimeters:", heights_nested)

    # Converting the heights from inches to Centimeters Using List Comprehensions
    heights_list_comp = convert_heights_list_comprehension(heights_inches)
    print("\nUsing List Comprehensions:")
    print("Heights in Centimeters:", heights_list_comp)

if __name__ == "__main__":
    main()
```

Output:

```
Run: ConvertingHeightFromInchesToCm (1)
C:\Users\manis\PycharmProjects\pythonProject\venv\Scripts\python.exe C:\Users\manis\PycharmProjects\pythonPro
Enter heights (in inches) of customers separated by spaces: 122 135 143 155 160
Using Nested Interactive Loop:
Heights in Centimeters: [309.88, 342.9, 363.22, 393.7, 406.4]

Using List Comprehensions:
Heights in Centimeters: [309.88, 342.9, 363.22, 393.7, 406.4]

Process finished with exit code 0
```