

Spring 2024:CS5720

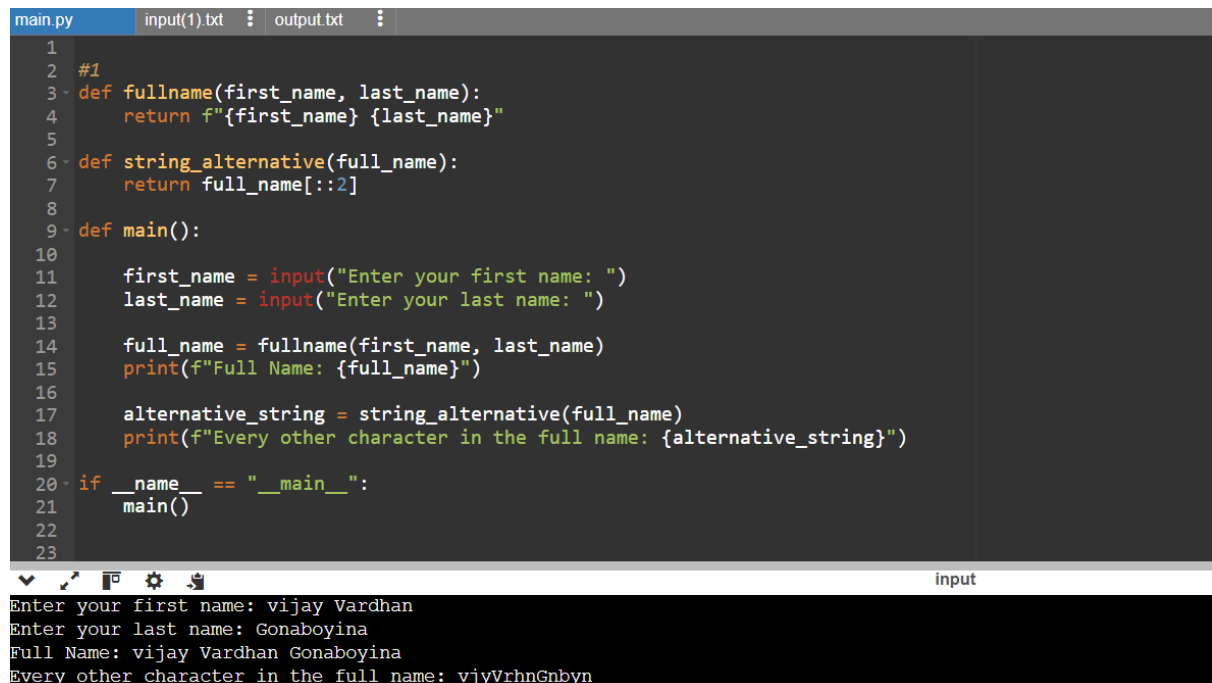
## Neural Networks and Deep Learning - ICP-1

**GITHUB LINK:** [https://github.com/Vijayvardhan02/NN\\_ICP1](https://github.com/Vijayvardhan02/NN_ICP1)

**VIDEOLINK:** [https://drive.google.com/file/d/1FVQ7jggprZWmphRHSQit\\_7Ld94rM9fQH/view?usp=sharing](https://drive.google.com/file/d/1FVQ7jggprZWmphRHSQit_7Ld94rM9fQH/view?usp=sharing)

### CODE 1 AND OUTPUT:

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). o For example: ▪ First\_name = "your first name", last\_name = "your last name" ▪ Full\_name = "your full name" o Write function named "string\_alternative" that returns every other char in the full\_name string. Str = "Good evening" Output: Go vnn



```
main.py input(1).txt output.txt
1
2 #1
3 def fullname(first_name, last_name):
4     return f"{first_name} {last_name}"
5
6 def string_alternative(full_name):
7     return full_name[::2]
8
9 def main():
10
11     first_name = input("Enter your first name: ")
12     last_name = input("Enter your last name: ")
13
14     full_name = fullname(first_name, last_name)
15     print(f"Full Name: {full_name}")
16
17     alternative_string = string_alternative(full_name)
18     print(f"Every other character in the full name: {alternative_string}")
19
20 if __name__ == "__main__":
21     main()
22
23
```

input

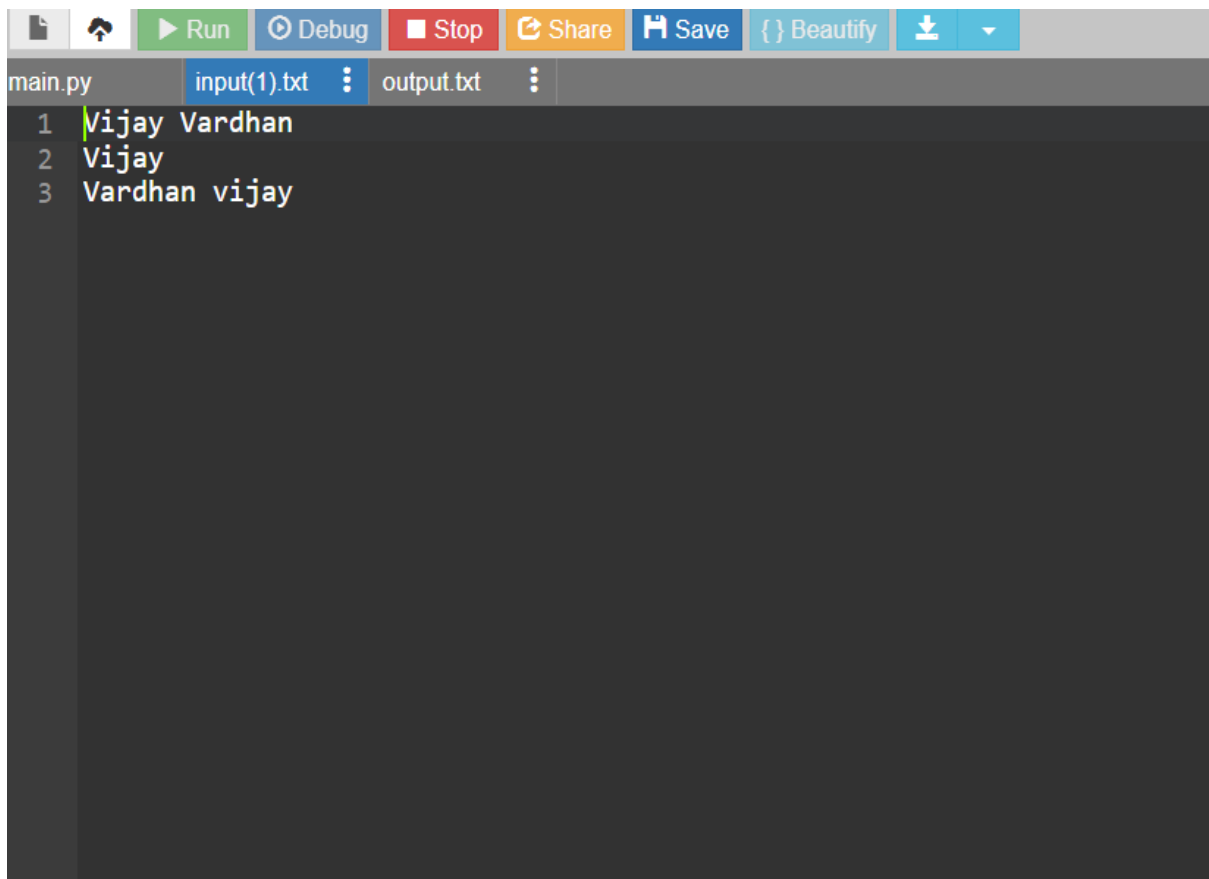
Enter your first name: vijay Vardhan  
Enter your last name: Gonaboyina  
Full Name: vijay Vardhan Gonaboyina  
Every other character in the full name: vjyVrhngnbyn

## 2<sup>ND</sup> CODE:

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

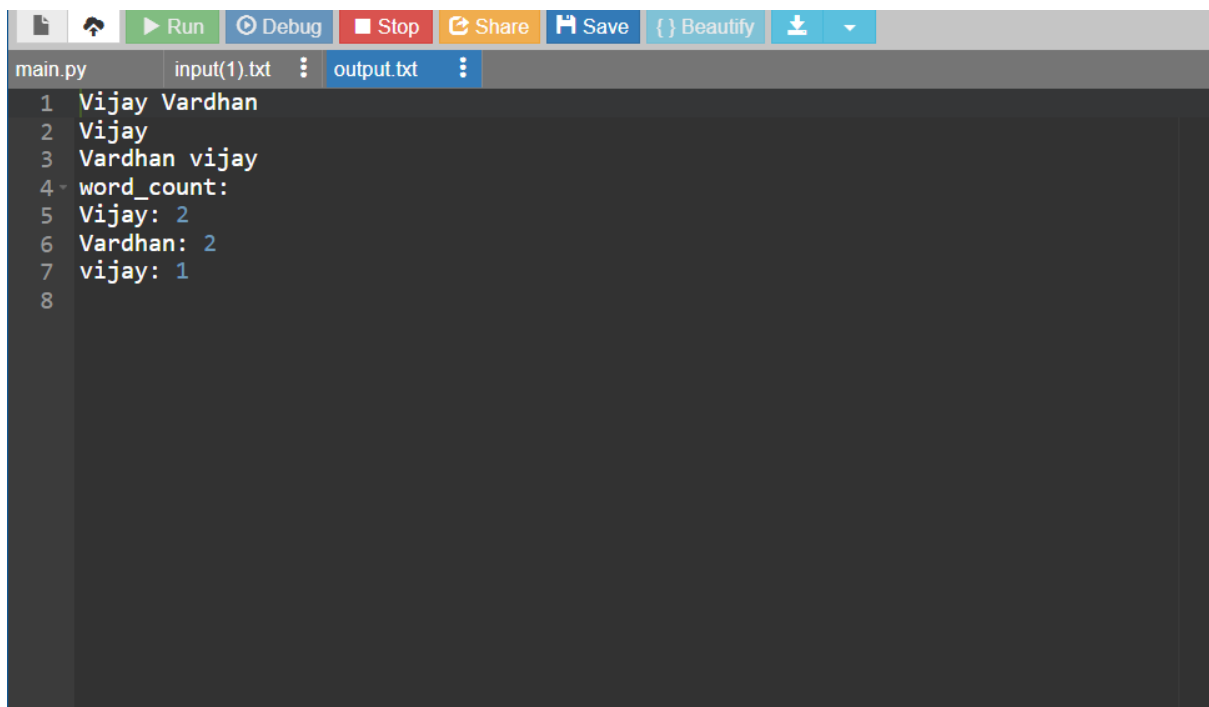
```
#2
input_file = open('input(1).txt', 'r')#reading the input file
count = dict()# to count
source = input_file.read()# read data from the input file
words = source.split()# splitting the words
for word in words:
    if word in count:
        count[word] += 1
    else:
        count[word] = 1
print(count)
f = open('output.txt', 'w')#writing the output file
f.write(source)
f.write('\nword_count:\n')
for key, value in count.items():
    f.write(f"{key}: {value}\n")
f.close()
```

## INPUT FILE:

A screenshot of a code editor interface. At the top, there is a toolbar with icons for file operations and buttons for 'Run', 'Debug', 'Stop', 'Share', 'Save', 'Beautify', and a download icon. Below the toolbar, the editor shows a file named 'input(1).txt' which contains three lines of text: 'Vijay Vardhan', 'Vijay', and 'Vardhan vijay'. The first line is highlighted with a blue cursor. The editor also shows a file named 'main.py' and an 'output.txt' file in the background.

```
1 Vijay Vardhan
2 Vijay
3 Vardhan vijay
```

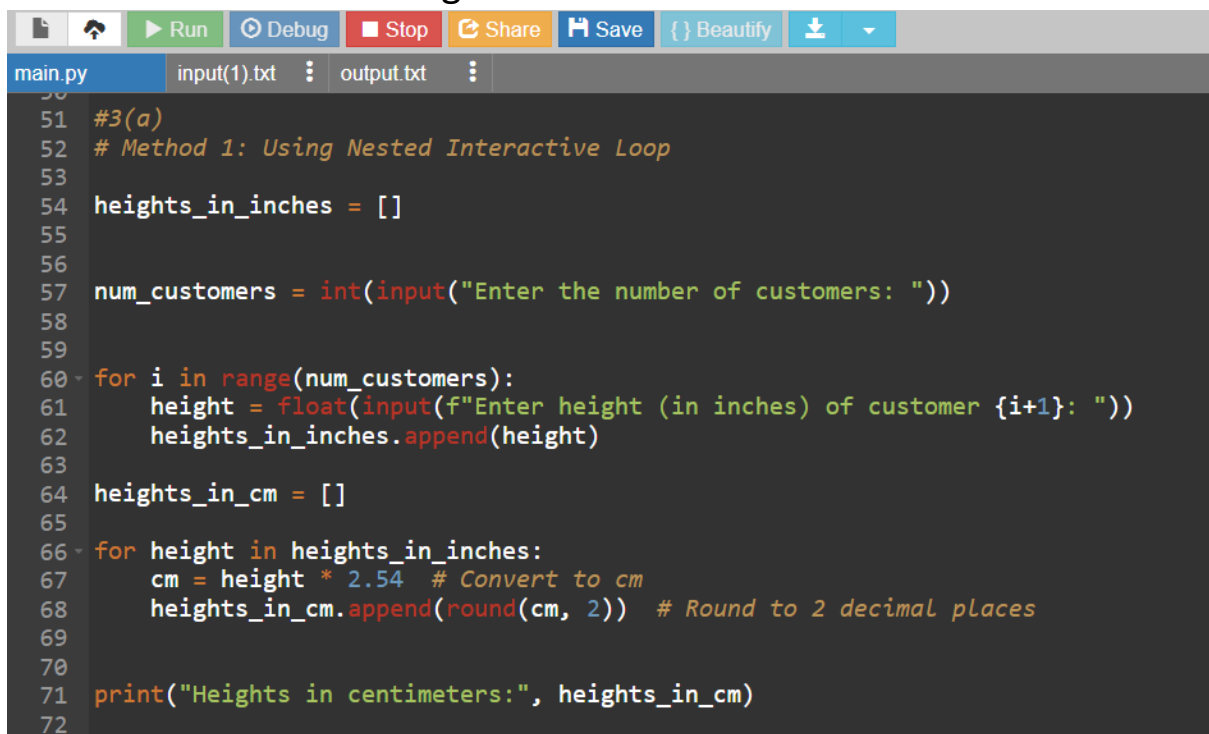
## OUTPUT FILE:



```
main.py input(1).txt output.txt
1 Vijay Vardhan
2 Vijay
3 Vardhan vijay
4 word_count:
5 Vijay: 2
6 Vardhan: 2
7 vijay: 1
8
```

## 3<sup>RD</sup> CODE ( USING NESTED INTERACTIVE LOOP ) :

Write a program, which reads heights (inches.) of customers in to a list and convert these heights to centimeter



```
main.py input(1).txt output.txt
50
51 #3(a)
52 # Method 1: Using Nested Interactive Loop
53
54 heights_in_inches = []
55
56
57 num_customers = int(input("Enter the number of customers: "))
58
59
60 for i in range(num_customers):
61     height = float(input(f"Enter height (in inches) of customer {i+1}: "))
62     heights_in_inches.append(height)
63
64 heights_in_cm = []
65
66 for height in heights_in_inches:
67     cm = height * 2.54 # Convert to cm
68     heights_in_cm.append(round(cm, 2)) # Round to 2 decimal places
69
70
71 print("Heights in centimeters:", heights_in_cm)
72
```

## OUTPUT

```
Enter the number of customers: 4
Enter height (in inches) of customer 1: 123
Enter height (in inches) of customer 2: 122
Enter height (in inches) of customer 3: 120
Enter height (in inches) of customer 4: 121
Heights in centimeters: [312.42, 309.88, 304.8, 307.34]
Enter the number of customers: 
```

## 3<sup>RD</sup> CODE :(USING LIST COMPREHENSION)

```
#3(b)
# Method 2: Using List Comprehensions

heights_in_inches = []

num_customers = int(input("Enter the number of customers: "))

for i in range(num_customers):
    height = float(input(f"Enter height (in inches) of customer {i+1}: "))
    heights_in_inches.append(height)

heights_in_cm = [round(height * 2.54, 2) for height in heights_in_inches]

print("Heights in centimeters:", heights_in_cm)
```

## OUTPUT:

```
Enter the number of customers: 4
Enter height (in inches) of customer 1: 121
Enter height (in inches) of customer 2: 122
Enter height (in inches) of customer 3: 123
Enter height (in inches) of customer 4: 121
Heights in centimeters: [307.34, 309.88, 312.42, 307.34]
```