Neural Network Deep Learning

Assignment – 2

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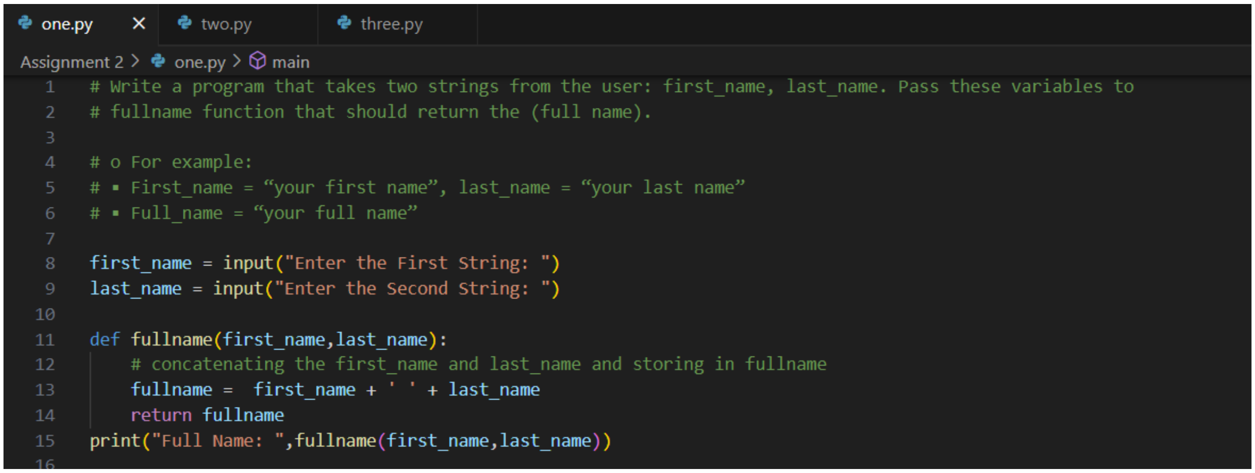
Github Link : https://github.com/kishorreyansh/Neural-Network-Deep-Learning/tree/main/Assignment-2

1. Write a program that takes two strings from the user: first_name, last_name. Pass these variables to fullname 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”

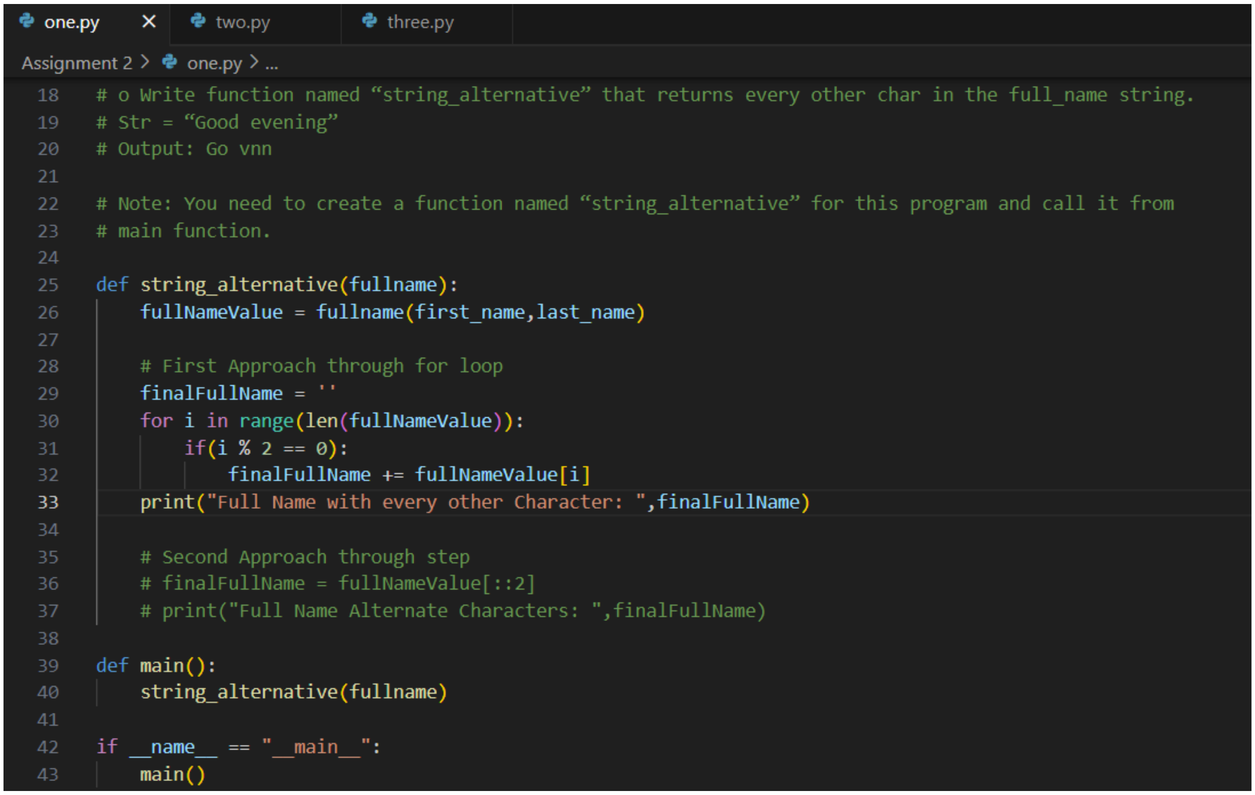
Note: You need to create a function named “string_alternative” for this program and call it from main function.

In the below code snippet, we are accepting first name and last name from the console and returning every other character in the fullname string.



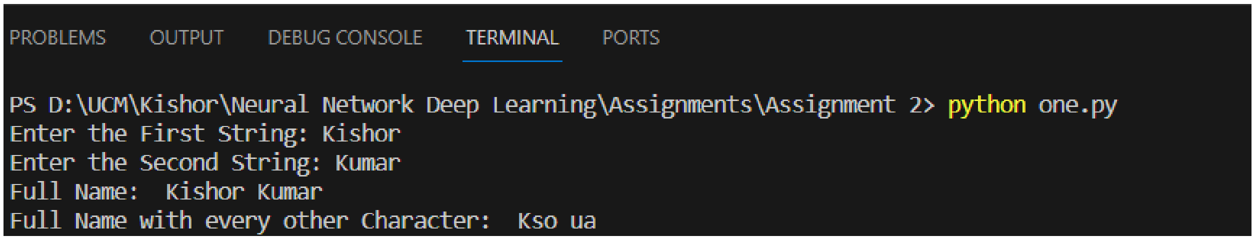
```python
# Write a program that takes two strings from the user: first_name, last_name. Pass these variables to
# fullname function that should return the (full name).

# o For example:
# ▪ First_name = “your first name”, last_name = “your last name”
# ▪ Full_name = “your full name”

first_name = input("Enter the First String: ")
last_name = input("Enter the Second String: ")

def fullname(first_name,last_name):
    # concatenating the first_name and last_name and storing in fullname
    fullname =  first_name + ' ' + last_name
    return fullname
print("Full Name: ",fullname(first_name,last_name))
```

o Write function named “string_alternative” that returns every other char in the full_name string.
Str = “Good evening”
Output: Go vnn



```python
# o Write function named “string_alternative” that returns every other char in the full_name string.
# Str = “Good evening”
# Output: Go vnn

# Note: You need to create a function named “string_alternative” for this program and call it from
# main function.

def string_alternative(fullname):
    fullNameValue = fullname(first_name,last_name)

    # First Approach through for loop
    finalFullName = ''
    for i in range(len(fullNameValue)):
        if(i % 2 == 0):
            finalFullName += fullNameValue[i]
    print("Full Name with every other Character: ",finalFullName)

    # Second Approach through step
    # finalFullName = fullNameValue[::2]
    # print("Full Name Alternate Characters: ",finalFullName)

def main():
    string_alternative(fullname)

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

Output:



```
PS D:\UCM\Kishor\Neural Network Deep Learning\Assignments\Assignment 2> python one.py
Enter the First String: Kishor
Enter the Second String: Kumar
Full Name:  Kishor Kumar
Full Name with every other Character:  Kso ua
```

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

o Finally store the output in output.txt file.

Example: Input: a file includes two lines: Python Course Deep Learning Course

Output: Python Course Deep Learning Course

Word_Count:

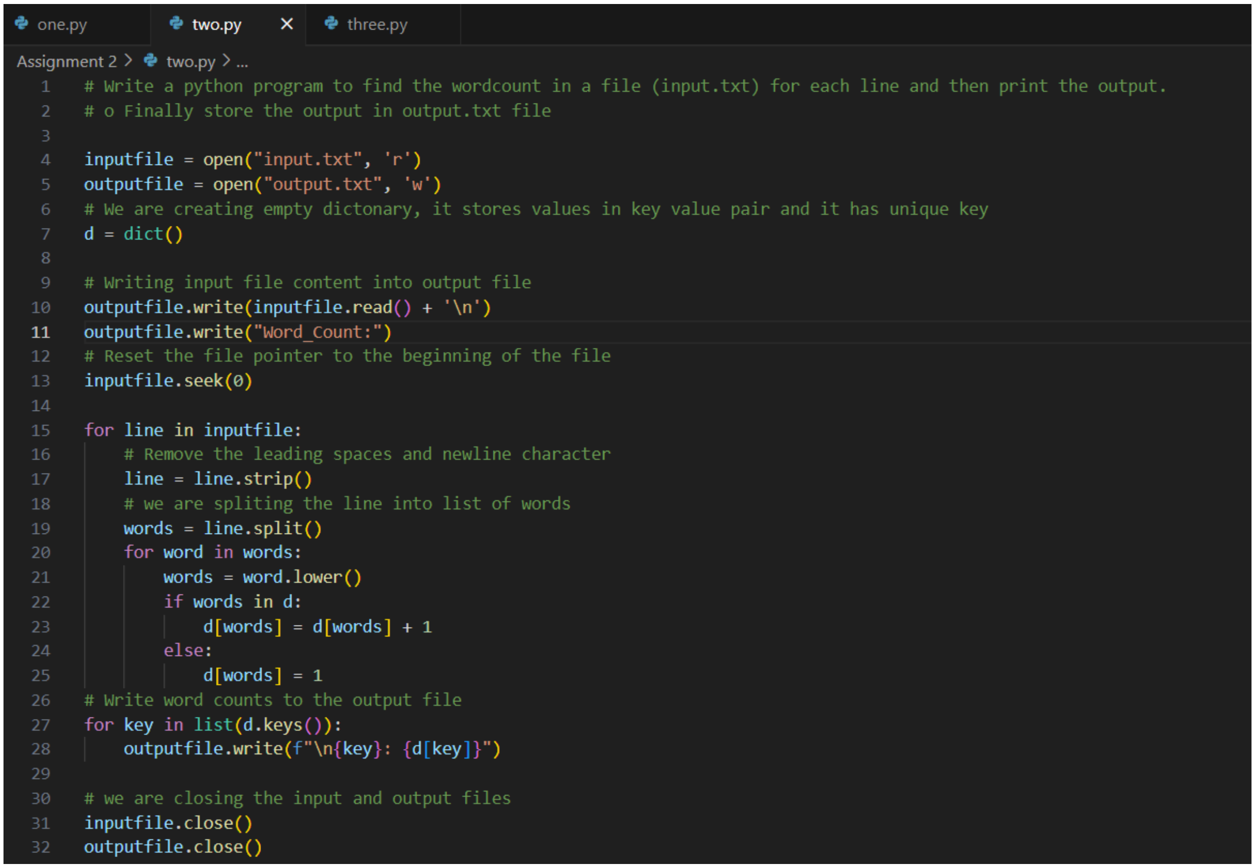
Python: 1

Course: 2

Deep: 1

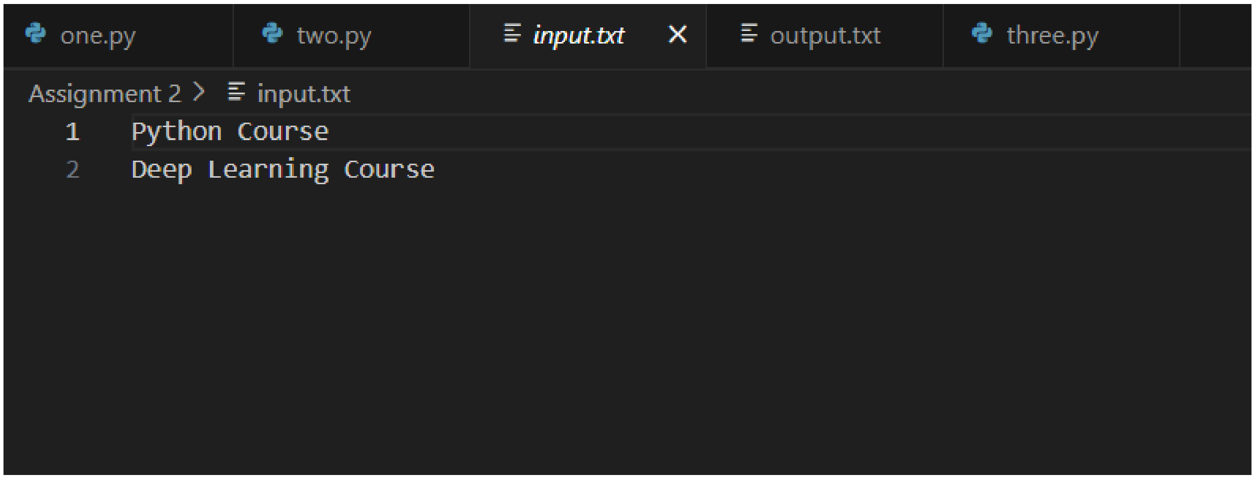
Learning: 1

In the below Code snippet, we are replacing python with pythons

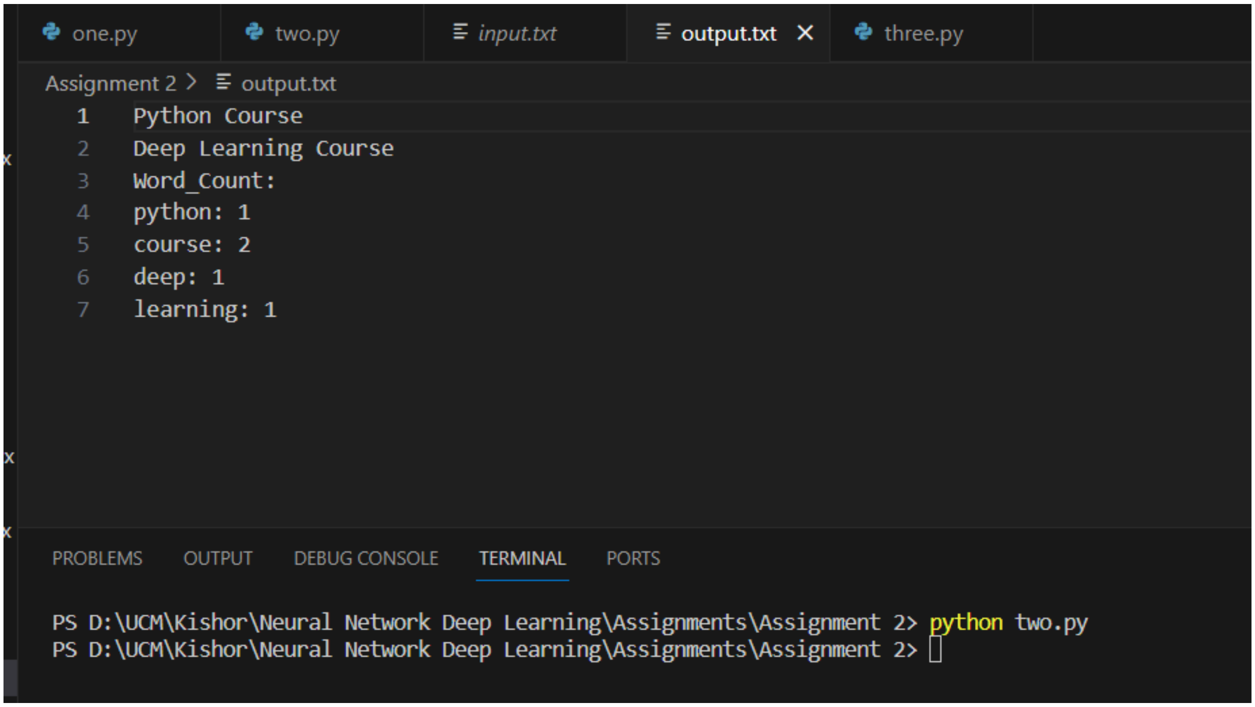


```python
# Write a python program to find the wordcount in a file (input.txt) for each line and then print the output.
# o Finally store the output in output.txt file

inputfile = open("input.txt", 'r')
outputfile = open("output.txt", 'w')
# We are creating empty dictonary, it stores values in key value pair and it has unique key
d = dict()

# Writing input file content into output file
outputfile.write(inputfile.read() + '\n')
outputfile.write("Word_Count:")
# Reset the file pointer to the beginning of the file
inputfile.seek(0)

for line in inputfile:
    # Remove the leading spaces and newline character
    line = line.strip()
    # we are spliting the line into list of words
    words = line.split()
    for word in words:
        words = word.lower()
        if words in d:
            d[words] = d[words] + 1
        else:
            d[words] = 1
# Write word counts to the output file
for key in list(d.keys()):
    outputfile.write(f"\n{key}: {d[key]}")

# we are closing the input and output files
inputfile.close()
outputfile.close()
```

Output:



```
Python Course
Deep Learning Course
```



```
Python Course
Deep Learning Course
Word_Count:
python: 1
course: 2
deep: 1
learning: 1
```

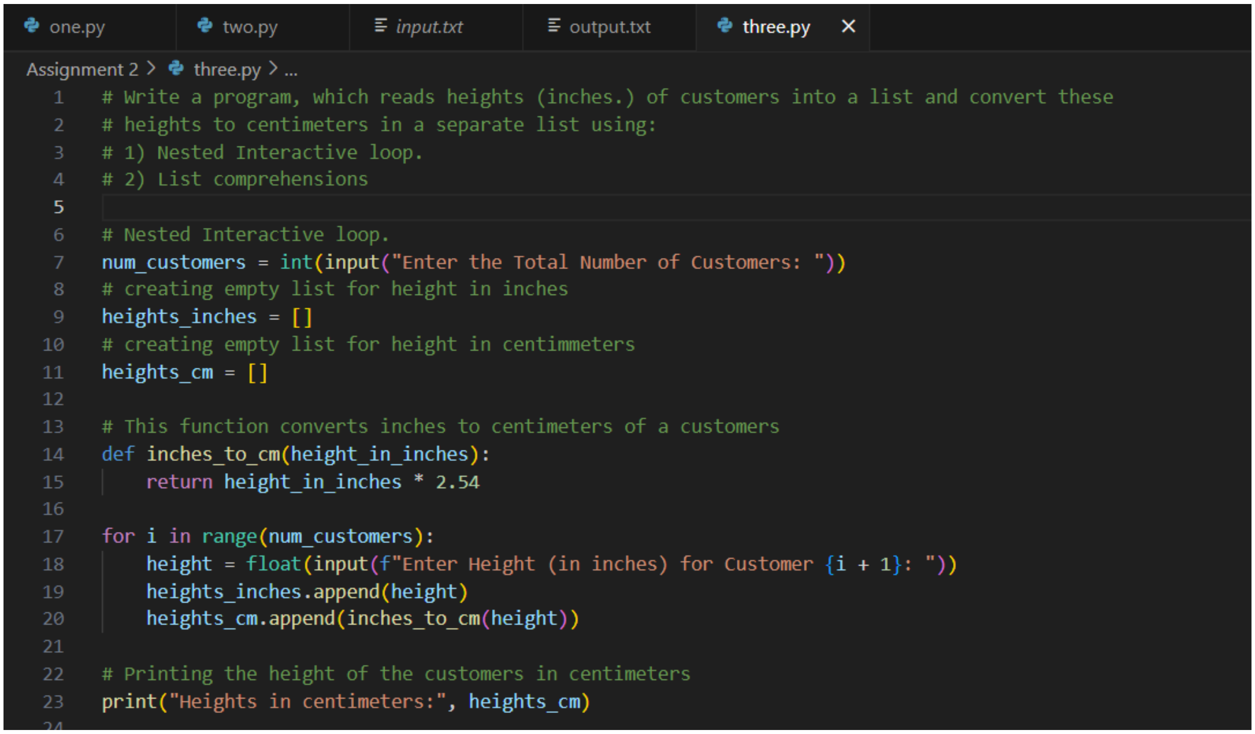
```
PS D:\UCM\Kishor\Neural Network Deep Learning\Assignments\Assignment 2> python two.py
PS D:\UCM\Kishor\Neural Network Deep Learning\Assignments\Assignment 2> 
```

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

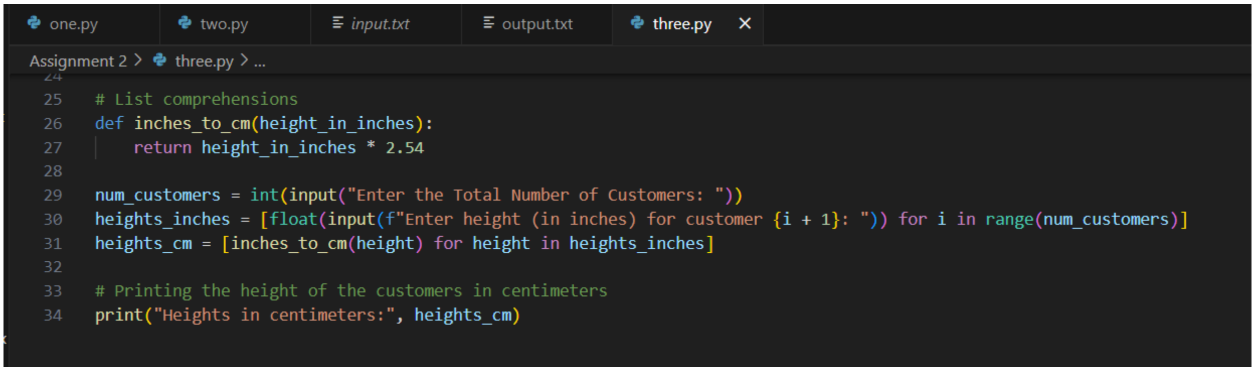
In the below Code snippet, we are calculating the height of the customer into centimeters using two approaches.

Nested Interactive Loop:



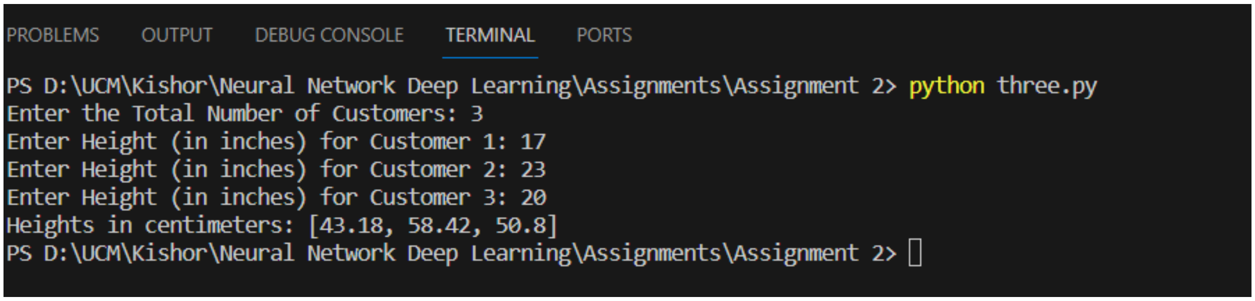
```python
# Write a program, which reads heights (inches.) of customers into a list and convert these
# heights to centimeters in a separate list using:
# 1) Nested Interactive loop.
# 2) List comprehensions

# Nested Interactive loop.
num_customers = int(input("Enter the Total Number of Customers: "))
# creating empty list for height in inches
heights_inches = []
# creating empty list for height in centimmeters
heights_cm = []

# This function converts inches to centimeters of a customers
def inches_to_cm(height_in_inches):
    return height_in_inches * 2.54

for i in range(num_customers):
    height = float(input(f"Enter Height (in inches) for Customer {i + 1}: "))
    heights_inches.append(height)
    heights_cm.append(inches_to_cm(height))

# Printing the height of the customers in centimeters
print("Heights in centimeters:", heights_cm)
```

List Comprehensions :

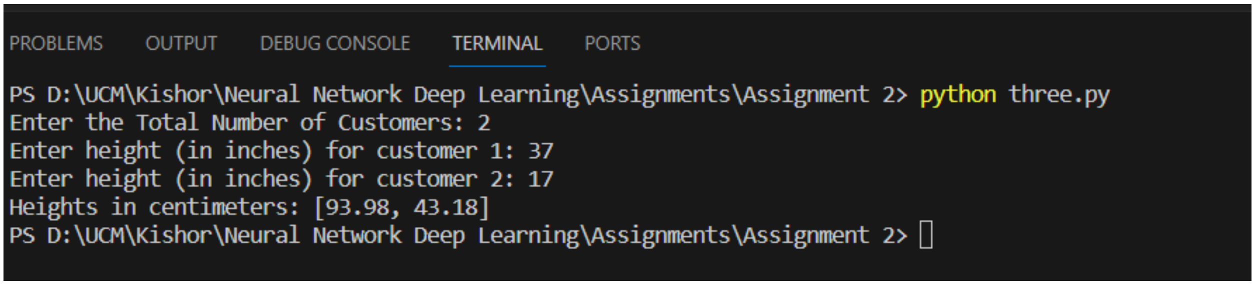


```python
# List comprehensions
def inches_to_cm(height_in_inches):
    return height_in_inches * 2.54

num_customers = int(input("Enter the Total Number of Customers: "))
heights_inches = [float(input(f"Enter height (in inches) for customer {i + 1}: ")) for i in range(num_customers)]
heights_cm = [inches_to_cm(height) for height in heights_inches]

# Printing the height of the customers in centimeters
print("Heights in centimeters:", heights_cm)
```

Output:



```
PS D:\UCM\Kishor\Neural Network Deep Learning\Assignments\Assignment 2> python three.py
Enter the Total Number of Customers: 3
Enter Height (in inches) for Customer 1: 17
Enter Height (in inches) for Customer 2: 23
Enter Height (in inches) for Customer 3: 20
Heights in centimeters: [43.18, 58.42, 50.8]
PS D:\UCM\Kishor\Neural Network Deep Learning\Assignments\Assignment 2>
```



```
PS D:\UCM\Kishor\Neural Network Deep Learning\Assignments\Assignment 2> python three.py
Enter the Total Number of Customers: 2
Enter height (in inches) for customer 1: 37
Enter height (in inches) for customer 2: 17
Heights in centimeters: [93.98, 43.18]
PS D:\UCM\Kishor\Neural Network Deep Learning\Assignments\Assignment 2>
```