Neural Network & Deep Learning

(ICP Assignment # 2)

CS 5720

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Video link:

https://drive.google.com/file/d/1ea6yYeuE5WzmyxL7bfm_QXbyFHCY_6Cu/view?usp=share_link

Github link:

https://github.com/Ishyanth/Deep-Learning-Assignments

Question 1:

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).

```
# ICP Assignment-2
CS 5720 Neural Network & Deep Learning
700735513, Satya Ishyanth Kadali
```

```
#Question 1
```

In [1]:

```
# taking input of first name and last name from user
first_name= input("Enter your first name: ")
last_name= input("Enter your last name: ")

# defing function to concatenate first name and last name and return full name
def full_name(x,y):
    fn=x+' '+y
    print("First_name = ",x,"Last_name = ",y, "\n",
        "Full_name = ",fn)
    return fn

# defining function to print every second character of the input string
def string_alternative(z):
    print(z [::2])

# calling functions
fn = full_name(first_name, last_name)
string_alternative(fn)
```

```
Enter your first name: Ishyanth
Enter your last name: Kadali
First_name =  Ishyanth Last_name =  Kadali
 Full_name =  Ishyanth Kadali
Ihat aai
```

1. The code takes input of the user's first and last name.
2. The "full_name" function which concatenates the first and last name and returns the full name.
3. The "string_alternative" function which takes in a string as an argument and prints every second character of the input string.
4. By calling both functions, passing in the first and last name for the "full_name" function and the full name for the "string_alternative" function.

Question 2:

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.

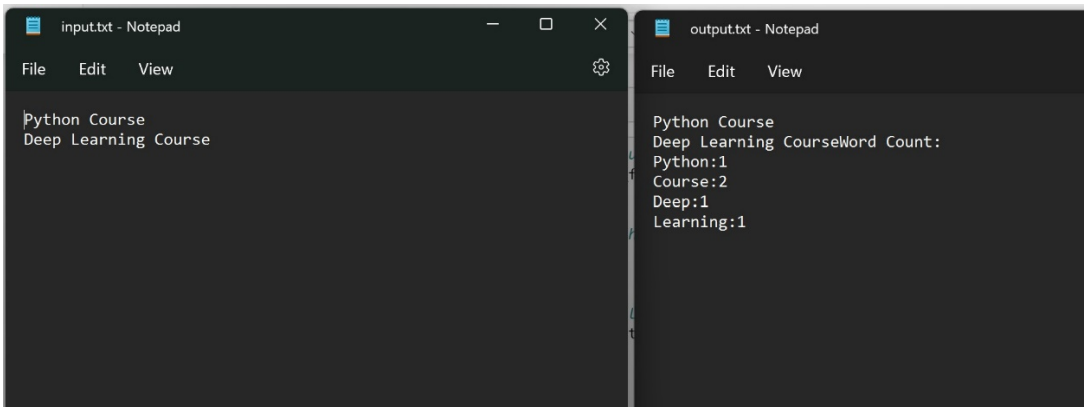
```
#Question 2
```

In [2]:

```
#opening input.txt in read mode and output.txt in write mode
with open('input.txt', 'r') as input_file, open('output.txt', 'w') as output_file:
    #creating an empty dictionary
    content = {}
    #iterating through each line in the input file and writing to the output file
    for line in input_file:

        output_file.write(line)
        # removing whitespaces and spliting the words
        for word in line.strip().split():
            if word in content:
                content[word] += 1
            else:
                content[word] = 1

    output_file.write("\nWord_Count: \n")
    #iterating through the content dictionary
    for word, count in content.items():
        output_file.write(f'{word}:{count}\n')
```



1. The code opens two files, 'input.txt' in read mode and 'output.txt' in write mode.
2. It creates an empty dictionary called 'content'.
3. It reads through each line in the input file and writes it to the output file.
4. For each line, it removes whitespaces and splits the words. It then checks if the word is already in the 'content' dictionary and if it is, it increases the count, otherwise it adds the word as a new key to the dictionary with a count of 1.
5. After writing all the lines from the input file to the output file, it then iterates through the 'content' dictionary and writes each word and its count to the output file in the format 'word:count'.

Question 3:

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

```
# Question 3
1) Using List comprehension
2) Using Nested Interactive Loop
```

In [3]:

```
#taking input from user
Cust = input("Enter Customers heights in inches : ")

# function for conversion inches to centimeters
def conversion(value):
    return value*2.54
#creating list for heights
heights = Cust.split()



#by using list comprehension converting the values in  heights
new_list = [conversion(int(x)) for x in heights]

print("Customers heights in centimeters : ",new_list)
```

```
Enter Customers heights in inches : 70 67 56 80
Customers heights in centimeters :  [177.8, 170.18, 142.24, 203.2]
```

In [4]:

```
#taking input from user
Cust = input("Enter Customers heights in inches : ")

# function for conversion inches to centimeters
def conversion(value):
    return value*2.54

#creating list for heights
heights = Cust.split()

# initializing empty list
new_list = []

#Using Nested Interactive loop
for x in heights:
    value = int(x)
    new_list.append(conversion(value))

print("Customers heights in centimeters : ",new_list)
```

```
Enter Customers heights in inches : 70 67 56 80
Customers heights in centimeters :  [177.8, 170.18, 142.24, 203.2]
```

1. The code takes input of customer heights in inches from user.
2. The function 'conversion' which takes input value and converts inches to centimeters by multiplying the value by 2.54.
3. And creating the list of heights by splitting the input by whitespaces
4. By applying the 'conversion' function to each value in the list of heights using **list comprehension** and using **Nested Interactive Loop** prints the new list of heights in centimeters.