Neural Network & Deep Learning ICP 1

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GitHub Link:
https://github.com/venkat137222/week-1---ICP1

Video Link:

https://drive.google.com/file/d/14taKDe8O6B0tkPRzge8sA-BTpIKoJ1GR/view?usp=sharing

1. Write a program that takes two strings from the user: first_name, last_name. Passthese variables to full name function that should return the (full name).

Code:

```
# 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).

def fullname(first_name, last_name):
    return first_name + " " + last_name

def main():
    first_name = input("Enter your first name: ")
    last_name = input("Enter your last name: ")


    full_name = fullname(first_name, last_name)

    print("Full Name:", full_name)

main()
```

Output:

```
Enter your first name: venkat sai
Enter your last name: prasad
Full Name: venkat sai prasad
```

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

Code:

```
def string_alternative(inputStr):
    resultStr = ""

    for i in range(0, len(inputStr), 2):
        resultStr += inputStr[i]
    return resultStr
def main():

    full_name = input("Enter text: ")

    filteredStr = string_alternative(full_name)

    print("Alternative string :", filteredStr)

main()
```

Output:

```
Enter text: Good Evening
Alternative string : Go vnn
```

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.

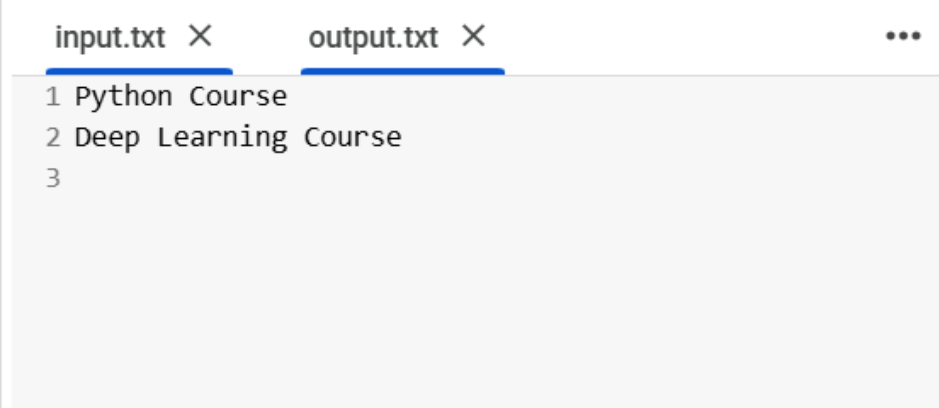
Code:

```
# 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.

  # give the path of both input and output text files

input_file = "input.txt"
output_file = "output.txt"
 # the code opens the input file in read mode to read all lines,

with open(input_file, "r") as file:
    lines = file.readlines()

all_text = " ".join(lines)
```

```python
# 'count_words' function takes input string and returns a dictionary containing word and respective count
def count_words(input_txt):
    word_count = {}
    words = input_txt.split()
    for word in words:
        word = word.strip()
        if word:
            if word in word_count:
                word_count[word] += 1
            else:
                word_count[word] = 1
    return word_count
word_count = count_words(all_text)
writing lines = []
```

```python
writing_lines = []
# Append individual input lines here, by removing the trailing spaces
for line in lines:
    writing_lines.append(line.strip())

writing_lines.append("Word_Count:")

# iterate through dictionary items and append word and respective count
for line, line_count in word_count.items():
    writing_lines.append(f"{line}: {line_count}")
# the code opens the output file in write mode to write all lines,separated by newline

with open(output_file, "w") as file:
    file.write("\n".join(writing_lines))

print("Output has been written to 'output.txt' file.")
```

Input:



Output:

input.txt output.txt

```
Python Course
Deep Learning Course
Word_Count:
Python: 1
Course: 2
Deep: 1
Learning: 1
```

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

Code:

```
[19]
# 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.

# Function to convert height from inches to centimeters
def inches_to_cm(height_in_inches):
    return height_in_inches * 2.54

def main():

  # Enter customer count to take input
    cust_count = int(input("Enter the number of customers: "))
    inch_hyts = []

    # A.  Read heights in inches using nested loop
    for i in range(cust_count):
        hyt = float(input(f"Enter customer height {i+1} (in inches): "))
        inch_hyts.append(hyt)

    # Convert heights to centimeters using nested loop
    heights_cm = []
    for hyt in inch_hyts:

      # calling funtion for convertion
        cm_hyt = inches_to_cm(hyt)
        heights_cm.append(cm_hyt)
```

```
    # B.  Convert heights to centimeters using list comprehension
    heights_comp = [inches_to_cm(height) for height in inch_hyts]

  # print result
    print("customer heights  in centimeters (nested loop):", heights_cm)
    print("customer heights  in centimeters (list-comprehension):", heights_comp)

main()
```

Input and output:

```
Enter the number of customers: 2
Enter customer height 1 (in inches): 72
Enter customer height 2 (in inches): 64
customer heights  in centimeters (nested loop): [182.88, 162.56]
customer heights  in centimeters (list-comprehension): [182.88, 162.56]
```