Que 02: Implement below program using Python.

a. Create a class Name as ReadAndWriteData

```python
import csv

class ReadAndWriteData:
```

b. Read the Data from CSV File and should have below three Columns and should contain data

Name, SkillSet, Experience

Kirk, Java, 10 Years

Dan, Python, 5 Years

```python
class ReadAndWriteData:

    def read_data(self,csvFileName):
        print ("\n\n--------- Method : read_data ---------")

        testdata =[] # 'read_data' method will return the data as list of dictionaries

        temp=[] # get all the data and store in 'temp' list
        with open(csvFileName, 'r') as file:
            csvreader = csv.reader(file)

            for row in csvreader:
                temp.append(row)


        key_list=[] # list all the keys [1st row in the file] available in the file for dictionary
        for key in temp[0]:
            key_list.append(key)


        data_set ={} #initialize the dictionary
        for key in key_list:
            data_set[key]=None


        temp.remove(temp[0]) # Remove data headers [1st row] from the data


        for row in temp:
            x=dict(zip(data_set,row)) # assign values to the initialized dictionary keys
            testdata.append(x) # add dictionaries to the testdata list

        print("Successfully read the data from CSV file")
        return testdata
```

c. Build a Data Structure to display the data, which contains in CSV File.

I have used List and Dictionary.

```python
def print_data_knownData(self,testdata): # When user know the data headers available in the CSV file (E.g. : Name, SkillSet, Experience)
    print ("\n\n--------- Method : print_data_knownData ---------")

    for data_set in testdata:
        print (data_set["Name"], "\t", data_set["SkillSet"], "\t", data_set["Experience"] )



def print_data_UnknownData(self, testdata): # When user don't know the data headers available in the CSV file (E.g. : Name, SkillSet, Experience)
    print ("\n\n--------- Method : print_data_UnknownData ---------")

    i=1
    for dataset in testdata:
        temp= list(dataset.keys())
        print ("\nData "+str(i)+" : ")
        for a in temp:
            print (a + " : "+dataset[a])
        i=i+1
```

Output:

```
C:\Users\Vajintha C\Desktop\SDET\SDET-Basic Techademy\Comprehensive Assignment - Vajintha Chandran\Que 02  Python>py ReadAndWriteData.py


--------- Method : read_data ---------
Successfully read the data from CSV file


--------- Method : print_data_knownData ---------
Kirk     Java    10 Years
Dan      Python          5 Years


--------- Method : print_data_UnknownData ---------

Data 1 :
Name : Kirk
SkillSet : Java
Experience : 10 Years

Data 2 :
Name : Dan
SkillSet : Python
Experience : 5 Years
```

Entire code:

```python
# Name: Vajintha Chandran
# Comprehensive Assignment - Que 02
# Added few print statements for logs (E.g. Method names)

import csv

class ReadAndWriteData:

    def read_data(self,csvFileName):
        print ("\n\n--------- Method : read_data ---------")

        testdata =[] # 'read_data' method will return the data as list of dictionaries

        temp=[] # get all the data and store in 'temp' list
        with open(csvFileName, 'r') as file:
            csvreader = csv.reader(file)

            for row in csvreader:
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        data_set ={} #initialize the dictionary
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        for row in temp:
            x=dict(zip(data_set,row)) # assign values to the initialized dictionary keys
            testdata.append(x) # add dictionaries to the testdata list

        print("Successfully read the data from CSV file")
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    def print_data_knownData(self,testdata): # When user know the data headers available in the CSV file (E.g. : Name, SkillSet, Experience)
        print ("\n\n--------- Method : print_data_knownData ---------")

        for data_set in testdata:
            print (data_set["Name"], "\t", data_set["SkillSet"], "\t", data_set["Experience"] )




    def print_data_UnknownData(self, testdata): # When user don't know the data headers available in the CSV file (E.g. : Name, SkillSet, Experience)
        print ("\n\n--------- Method : print_data_UnknownData ---------")

        i=1
        for dataset in testdata:
            temp= list(dataset.keys())
            print ("\nData "+str(i)+" : ")
            for a in temp:
                print (a + " : "+dataset[a])
            i=i+1



a = ReadAndWriteData()
data= a.read_data('Que02TestData.csv') #since file is in same location, didn't add entire location
a.print_data_knownData(data)
a.print_data_UnknownData(data)
```