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Practical No.2 Input file:

Sales.csv

	A	B	C	D	E
1	Product ID	Product details	Supplier Details	Customer Details	Gender
2	P00001	Lenovo Laptop	Raka Ele.	Kaustubh Mahajan	Male
3	P00002	Samsung M31	Vijay Sales	Siddhi Kiwale	Female
4	P00003	Realmi 10pro	Gada Ele.	Sanket Kandalkar	Male
5	P00004	Oppo F21	Surya Ele.	Yash Mali	Male
6	P00005	Lenovo Laptop	Raka Ele.	Yash Bagul	Male
7	P00006	Samsung M31	Gada Ele.	Siddhi Kiwale	Female
8	P00007	LG TV 32"	Vijay Sales	Sanket Kandalkar	Male
9	P00008	Oppo F21	Surya Ele.	Kaustubh Mahajan	Male
10	P00009	Lenovo Laptop	Raka Ele.	Yash Mali	Male
11	P00010	Samsung M31	Gada Ele.	Siddhi Kiwale	Female
12	P00011	LG TV 32"	Surya Ele.	Sanket Kandalkar	Male
13	P00012	Lenovo Laptop	Raka Ele.	Kaustubh Mahajan	Male
14	P00013	Samsung M31	Surya Ele.	Yash Mali	Male
15	P00014	Realmi 10pro	Raka Ele.	Siddhi Kiwale	Female
16	P00015	Lenovo Laptop	Gada Ele.	Tanuja Mali	Female
17	P00016	Oppo F21	Vijay Sales	Kaustubh Mahajan	Male
18	P00017	LG TV 32"	Deshmukh sales	Sanket Kandalkar	Male
19	P00018	Lenovo Laptop	Raka Ele.	Siddhi Kiwale	Female
20	P00019	Samsung M31	Deshmukh sales	Kaustubh Mahajan	Male
21	P00020	LG TV 32"	Gada Ele.	Yash Mali	Male

Code:

1. Read csv file into python data structure

```
Product_details = []
Supplier_details = dict()
Customer_details = [] #tuple()
gender={}
 fp1              =              open("/content/drive/MyDrive/Colab
Notebooks/Sales.csv","r") data = fp1.readline()

while(True):
   data = fp1.readline()    if
not data:      break;
#print(data)    data =
data.replace("\n","")    temp
= data.split(",")
  Product_details.append(temp[1])
  Customer_details.append(temp[3])
  Supplier_details.update({temp[0]:temp[2]})
gender.update({temp[3]:temp[4]})

fp1.close()
#print(type(Customer_details))
Customer_details = tuple(Customer_details)
print(type(Customer_details))
```

Output:

```
<class 'tuple'>
```

```
print("\nProduct_details\n",Product_details,end="")
print("\nCustomer_details\n",Customer_details,end="")
print("\nSupplier_details\n",Supplier_details,end="")
print("\nGender_details\n",gender,end="")
```

Output:

```
Product_details
 ['Lenovo Laptop', 'Samsung M31', 'Realmi 10pro', 'Oppo F21', 'Lenovo Laptop', 'Samsung M31', '"LG TV 32"""', 'Oppo F21', 'Lenovo Laptop', 'Samsu
Customer_details
 ('Kaustubh Mahajan', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Yash Mali', 'Yash Bagul', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Kaustubh Mahajan', 'Y
Supplier_details
 {'P00001': 'Raka Ele.', 'P00002': 'Vijay Sales', 'P00003': 'Gada Ele.', 'P00004': 'Surya Ele.', 'P00005': 'Raka Ele.', 'P00006': 'Gada Ele.', 'P
Gender_details
 {'Kaustubh Mahajan': 'Male', 'Siddhi Kiwale': 'Female', 'Sanket Kandalkar': 'Male', 'Yash Mali': 'Male', 'Yash Bagul': 'Male', 'Tanuja Mali': 'F
```

2.Find the most popular product for sales

```
frequency = {} # {Lenovo Laptop : 3}
#Iterating over the list for
item in Product_details:
  #checking the element in
dictionary    if item in frequency:
#incrementing the counter
frequency[item] += 1    else:
    #intializing the counter
frequency[item] = 1 #printing the
frequency print(frequency)
marklist = sorted(frequency.items(),key = lambda x:x[1], reverse =
True) sortdict = dict(marklist) print(sortdict) print("The most popular
product for
sales",list(sortdict.keys())[0],"sold",list(sortdict.values())[0],"time
s")
```

Output:

```
{'Lenovo Laptop': 6, 'Samsung M31': 5, 'Realmi 10pro': 2, 'Oppo F21': 3, '"LG TV 32"""': 4}
{'Lenovo Laptop': 6, 'Samsung M31': 5, '"LG TV 32"""': 4, 'Oppo F21': 3, 'Realmi 10pro': 2}
The most popular product for sales Lenovo Laptop sold 6 times
```

OR

```
from collections import Counter counter
= dict(Counter(Product_details))
sorted_counter = sorted(counter.items(),key = lambda x:x[1], reverse =
True) sorted_counter = dict(sorted_counter) print("The most popular
product for
sales",list(sorted_counter.keys())[0],"sold",list(sorted_counter.values
())[0],"times")
```

Output:

```
The most popular product for sales Lenovo Laptop sold 6 times
```

3. Find the best supplier for sales

```
frequency = {}
#Iterating over the list for item in
Supplier_details.values():    #checking
the element in dictionary    if item in
frequency:      #incrementing the
counter      frequency[item] += 1
else:
     #intializing the counter
frequency[item] = 1 #printing the
frequency print(frequency)
marklist = sorted(frequency.items(),key = lambda x:x[1], reverse =
True) sortdict = dict(marklist) print(sortdict) print("The most popular
Supplier for
sales",list(sortdict.keys())[0],"sold",list(sortdict.values())[0],"Item
s")
```

Output:

```
{'Raka Ele.': 6, 'Vijay Sales': 3, 'Gada Ele.': 5, 'Surya Ele.': 4, 'Deshmukh sales': 2}
{'Raka Ele.': 6, 'Gada Ele.': 5, 'Surya Ele.': 4, 'Vijay Sales': 3, 'Deshmukh sales': 2}
The most popular Supplier for sales Raka Ele. sold 6 Items
```

OR

```
from    collections    import    Counter    counter    =
dict(Counter(list(Supplier_details.values())))
sorted_counter = sorted(counter.items(),key = lambda x:x[1], reverse =
True) sorted_counter = dict(sorted_counter) print("The most popular
Supplier for
sales",list(sorted_counter.keys())[0],"sold",list(sorted_counter.values
())[0],"Items")
```

Output:

```
The most popular Supplier for sales Raka Ele. sold 6 times
```

4. Find the customer who buys most of the products

```
frequency = {}
#Iterating over the list for
item in Customer_details:
  #checking the element in
dictionary    if item in frequency:
#incrementing the counter
frequency[item] += 1    else:
     #intializing the counter
frequency[item] = 1 #printing the frequency
print("Frequency is as below: \n",frequency)
marklist = sorted(frequency.items(),key = lambda x:x[1], reverse =
True) sortdict = dict(marklist) print("\n Sorted dict is as below:
\n",sortdict) print("\n\n The customer who buys most of the
products:",list(sortdict.keys())[0],"buy",list(sortdict.values())[0],"I
tems")
```

Output:

```
Frequency is as below:
 {'Kaustubh Mahajan': 5, 'Siddhi Kiwale': 5, 'Sanket Kandalkar': 4, 'Yash Mali': 4, 'Yash Bagul': 1, 'Tanuja Mali': 1}

 Sorted dict is as below:
 {'Kaustubh Mahajan': 5, 'Siddhi Kiwale': 5, 'Sanket Kandalkar': 4, 'Yash Mali': 4, 'Yash Bagul': 1, 'Tanuja Mali': 1}


 The customer who buys most of the products: Kaustubh Mahajan buy 5 Items
```

OR

```
from  collections  import  Counter  counter  =
dict(Counter(list(Customer_details)))
sorted_counter = sorted(counter.items(),key = lambda x:x[1], reverse =
True) sorted_counter = dict(sorted_counter) print("The customer who
buys most of the
products:",list(sorted_counter.keys())[0],"buys",list(sorted_counter.va
lues())[0],"Items")
```

Output:

```
The customer who buys most of the products: Kaustubh Mahajan buys 5 Items
```

5. Find the number of customer who are 'Female'

```
#Identifying unique customers
  from collections import Counter counter =
dict(Counter(list(Customer_details))) names =
list(counter.keys()) print(names) male=0
female=0
 for name in names:    if
gender[name]=="Male":
    male = male + 1    if
gender[name]=="Female":
    female = female + 1 print("Total
no of Males:",male) print("Total no
of Females:",female)
```

Output:

```
['Kaustubh Mahajan', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Yash Mali', 'Yash Bagul', 'Tanuja Mali']
Total no of Males: 4
Total no of Females: 2
```