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1)Read CSV into python data structure

Input

```
Product_details=[]
Supplier_details=dict()
Customer_details=[] #tuple
gender={}

fp1=open("/sales1.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])
    Supplier_details.update({temp[0]:temp[2]})
    Customer_details.append(temp[3])
    gender.update({temp[3]:temp[4]})

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

print("\n Product_details\n",Product_details,end="")
print("\n Customer_details\n",Customer_details,end="")
print("\n Supplier_details\n",Supplier_details,end="")
print("\n Gender_details\n",gender,end="")
```

Output

```
<class 'tuple'>

 Product_details
```

```
 ['Lenovo Laptop', 'Samsung M31', 'Realmi 10pro', 'Oppo F21', 'Lenovo
Laptop', 'Samsung M31', '"LG TV 32"""', 'Oppo F21', 'Lenovo Laptop',
'Samsung M31', '"LG TV 32"""', 'Lenovo Laptop', 'Samsung M31', 'Realmi
10pro', 'Lenovo Laptop', 'Oppo F21', '"LG TV 32"""', 'Lenovo Laptop',
'Samsung M31', '"LG TV 32"""']
 Customer_details
 ('Kaustubh Mahajan', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Yash Mali',
'Yash Bagul', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Kaustubh Mahajan',
'Yash Mali', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Kaustubh Mahajan',
'Yash Mali', 'Siddhi Kiwale', 'Tanuja Mali', 'Kaustubh Mahajan',
'Sanket Kandalkar', 'Siddhi Kiwale', 'Kaustubh Mahajan', 'Yash Mali')
 Supplier_details
 {'P00001': 'Raka Ele.', 'P00002': 'Vijay Sales', 'P00003': 'Gada
Ele.', 'P00004': 'Surya Ele.', 'P00005': 'Raka Ele.', 'P00006': 'Gada
Ele.', 'P00007': 'Vijay Sales', 'P00008': 'Surya Ele.', 'P00009': 'Raka
Ele.', 'P00010': 'Gada Ele.', 'P00011': 'Surya Ele.', 'P00012': 'Raka
Ele.', 'P00013': 'Surya Ele.', 'P00014': 'Raka Ele.', 'P00015': 'Gada
Ele.', 'P00016': 'Vijay Sales', 'P00017': 'Deshmukh sales', 'P00018':
'Raka Ele.', 'P00019': 'Deshmukh sales', 'P00020': 'Gada Ele.'}
 Gender_details
 {'Kaustubh Mahajan': 'Male', 'Siddhi Kiwale': 'Female', 'Sanket
Kandalkar': 'Male', 'Yash Mali': 'Male', 'Yash Bagul': 'Male', 'Tanuja
Mali': 'Female'}
```

2) Find the most popular product for sales

Input

```
frequency = {}#(lenovo laptop:3)
#iterating over the list
for item in Product_details:
   #checking the elements in dictionary
   if item in frequency:
      #incrementing the counter
      frequency[item] += 1
   else:
      #initializing the frequency
      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],"item
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 items
```

3) Find the best supplier for sales

Input

```
frequency ={}
#iterating over the list
for item in Supplier_details:
   #checking the elements in dictionary
   if item in frequency:
      #incrementing the counter
      frequency[item] += 1
   else:
      #initializing the frequency
      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

```
{'P00001': 1, 'P00002': 1, 'P00003': 1, 'P00004': 1, 'P00005': 1,
'P00006': 1, 'P00007': 1, 'P00008': 1, 'P00009': 1, 'P00010': 1,
'P00011': 1, 'P00012': 1, 'P00013': 1, 'P00014': 1, 'P00015': 1,
'P00016': 1, 'P00017': 1, 'P00018': 1, 'P00019': 1, 'P00020': 1}
{'P00001': 1, 'P00002': 1, 'P00003': 1, 'P00004': 1, 'P00005': 1,
'P00006': 1, 'P00007': 1, 'P00008': 1, 'P00009': 1, 'P00010': 1,
'P00011': 1, 'P00012': 1, 'P00013': 1, 'P00014': 1, 'P00015': 1,
'P00016': 1, 'P00017': 1, 'P00018': 1, 'P00019': 1, 'P00020': 1}
the most popular supplier for sales P00001 sold 1 items
```

4) Find the customer who buys most of the product

Input

```
frequency ={}
#iterating over the list
for item in Customer_details:
   #checking the elements in dictionary
   if item in frequency:
      #incrementing the counter
      frequency[item] += 1
   else:
      #initializing the frequency
      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

```
{'Kaustubh Mahajan': 5, 'Siddhi Kiwale': 5, 'Sanket Kandalkar': 4,
'Yash Mali': 4, 'Yash Bagul': 1, 'Tanuja Mali': 1}
{'Kaustubh Mahajan': 5, 'Siddhi Kiwale': 5, 'Sanket Kandalkar': 4,
'Yash Mali': 4, 'Yash Bagul': 1, 'Tanuja Mali': 1}
the most popular supplier for sales Kaustubh Mahajan sold 5 items
```

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

Input

```
#identify unique customer
from collections import Counter
Counter=dict(Counter(Customer_details))
names=list(Counter.keys())
print(names)
male=0
female=0

for name in names:
  if gender[name]=="Male":
    male +=1
  if gender[name]=="Female":
    female +=1
print("total no of males",male)
print("total no of males",female)
```

Output

```
['Kaustubh Mahajan', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Yash Mali',
'Yash Bagul', 'Tanuja Mali']
total no of males 4
total no of males 2
```