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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 customers 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
```