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In [3]:
```
Product_details=[]
Supplier_details=dict()
Customer_details=[]
gender={}

fp1=open("Sales(1).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()

Customer_details=tuple(Customer_details)
print(type(Customer_details))
```

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

In [4]:
```
print("\nProduct_details\n",Product_details,end="")
print("\n\nCustomer_details\n",Customer_details,end="")
print("\n\nSupplier_details\n",Supplier_details,end="")
print("\n\nGender_details\n",gender,end="")
```

```
Product_details
 ['Lenovo Laptop', 'Samsung M31', 'Realmi 10pro', 'Oppo F21', 'Lenovo Laptop', 'Samsu
ng M31', 'LG TV 32"', 'Oppo F21', 'Lenovo Laptop', 'Samsung M31', 'LG TV 32"', 'Lenov
o 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 Kiwal
e', 'Sanket Kandalkar', 'Kaustubh Mahajan', 'Yash Mali', 'Siddhi Kiwale', 'Tanuja Mal
i', 'Kaustubh Mahajan', 'Sanket Kandalkar', 'Siddhi Kiwale', 'Kaustubh Mahajan', 'Yas
h Mali')

Supplier_details
 {'P00001': 'Raka Ele.', 'P00002': 'Vijay Sales', 'P00003': 'Gada Ele.', 'P00004': 'S
urya Ele.', 'P00005': 'Raka Ele.', 'P00006': 'Gada Ele.', 'P00007': 'Vijay Sales', 'P
00008': 'Surya Ele.', 'P00009': 'Raka Ele.', 'P00010': 'Gada Ele.', 'P00011': 'Surya
Ele.', 'P00012': 'Raka Ele.', 'P00013': 'Surya Ele.', 'P00014': 'Raka Ele.', 'P0001
5': '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'}
```

In [5]:

```python
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:
      # initializing the count
      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(sort
```

```
{'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
```

In [6]:

```python
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")
```

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

In [7]:

```python
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:
      # initializing the count
      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],"Items")
```

```
{'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
```

In [8]:
```
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")
```

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

In [9]:
```
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:
      # initializing the count
      frequency[item] = 1
# printing the frequency
print("Freqenct is as below:\n",frequency)
marklist = sorted(frequency.items(), key=lambda x:x[1],reverse=True)
sortdict = dict(marklist)
print("\nSorted dict is as below:\n",sortdict)
print("\n\nThe customer who buys most of the products",list(sortdict.keys())[0],
      " buy ",list(sortdict.values())[0],"Items")
```

```
Freqenct 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
```

In [11]:
```
from collections import Counter
counter = dict(Counter(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],
      " buy ",list(sorted_counter.values())[0],"Items")
```

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

In [12]:

```
# 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=male+1
    if gender[name]=="Female":
        female+=1
print("Total no of Male=",male)
print("Total no of Female=",female)
```

```
['Kaustubh Mahajan', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Yash Mali', 'Yash Bagul',
'Tanuja Mali']
Total no of Male= 4
Total no of Female= 2
```

In [ ]: