```
Product_details=[]
Supplier_details={}
Customer_details=[]
gender={}

f1=open('/content/Sales.csv','r')

while(True):
   data=f1.readline()
   if not data:
      break;
   data=data.replace("\n","")
   temp=data.split(",")
   print(temp)
   Product_details.append(temp[1])
   Customer_details.append(temp[3])
   Supplier_details.update({temp[0]:temp[2]})
   gender.update({temp[3]:temp[4]})

f1.close()

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

```
['Product ID', 'Product details', 'Supplier Details', 'Customer
Details', 'Gender']
['P00001', 'Lenovo Laptop', 'Raka Ele.', 'Kaustubh Mahajan', 'Male']
['P00002', 'Samsung M31', 'Vijay Sales', 'Siddhi Kiwale', 'Female']
['P00003', 'Realmi 10pro', 'Gada Ele.', 'Sanket Kandalkar', 'Male']
['P00004', 'Oppo F21', 'Surya Ele.', 'Yash Mali', 'Male']
['P00005', 'Lenovo Laptop', 'Raka Ele.', 'Yash Bagul', 'Male']
['P00006', 'Samsung M31', 'Gada Ele.', 'Siddhi Kiwale', 'Female']
['P00007', '"LG TV 32"""', 'Vijay Sales', 'Sanket Kandalkar', 'Male']
['P00008', 'Oppo F21', 'Surya Ele.', 'Kaustubh Mahajan', 'Male']
['P00009', 'Lenovo Laptop', 'Raka Ele.', 'Yash Mali', 'Male']
['P00010', 'Samsung M31', 'Gada Ele.', 'Siddhi Kiwale', 'Female']
['P00011', '"LG TV 32"""', 'Surya Ele.', 'Sanket Kandalkar', 'Male']
['P00012', 'Lenovo Laptop', 'Raka Ele.', 'Kaustubh Mahajan', 'Male']
['P00013', 'Samsung M31', 'Surya Ele.', 'Yash Mali', 'Male']
['P00014', 'Realmi 10pro', 'Raka Ele.', 'Siddhi Kiwale', 'Female']
['P00015', 'Lenovo Laptop', 'Gada Ele.', 'Tanuja Mali', 'Female']
['P00016', 'Oppo F21', 'Vijay Sales', 'Kaustubh Mahajan', 'Male']
['P00017', '"LG TV 32"""', 'Deshmukh sales', 'Sanket Kandalkar',
'Male']
['P00018', 'Lenovo Laptop', 'Raka Ele.', 'Siddhi Kiwale', 'Female']
['P00019', 'Samsung M31', 'Deshmukh sales', 'Kaustubh Mahajan',
'Male']
['P00020', '"LG TV 32"""', 'Gada Ele.', 'Yash Mali', 'Male']
<class 'tuple'>
```

```
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
 ['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
 ('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
 {'Product ID': '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
 {'Customer Details': 'Gender', 'Kaustubh Mahajan': 'Male', 'Siddhi
Kiwale': 'Female', 'Sanket Kandalkar': 'Male', 'Yash Mali': 'Male',
'Yash Bagul': 'Male', 'Tanuja Mali': 'Female'}
```

```
 # The most popular product

 def most_frequent(Product_details):
     counter = 0
     num = Product_details[0]

     for i in Product_details:
         curr_frequency = Product_details.count(i)
         if (curr_frequency> counter):
            counter = curr_frequency
            num = i
     return num
print(most_frequent(Product_details))
```

Lenovo Laptop

```
#The most popular supplier
frequency = {}
 #iterating over the last
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")
```

```
{'Supplier Details': 1, '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, 'Supplier Details': 1}
the most popular Supplier for sales Raka Ele. sold 6 Items
```

```
# The Customer who buys most of the products

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:
     #initalizing the count
     frequency[item] = 1
#printing the frequency
print("Frequency is as given below: \n ",frequency)
marklist = sorted(frequency.items(), key=lambda x:x[1],reverse=True)
sortlist = 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")
```

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

Sorted Dict is as below;
 {'Raka Ele.': 6, 'Gada Ele.': 5, 'Surya Ele.': 4, 'Vijay Sales': 3,
'Deshmukh sales': 2, 'Supplier Details': 1}


The customer who buys most of the products Raka Ele.  buy 6 Items
```

```python
# No. customer who are females
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 male =",male)
print("Total no of Female =",female)
```

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