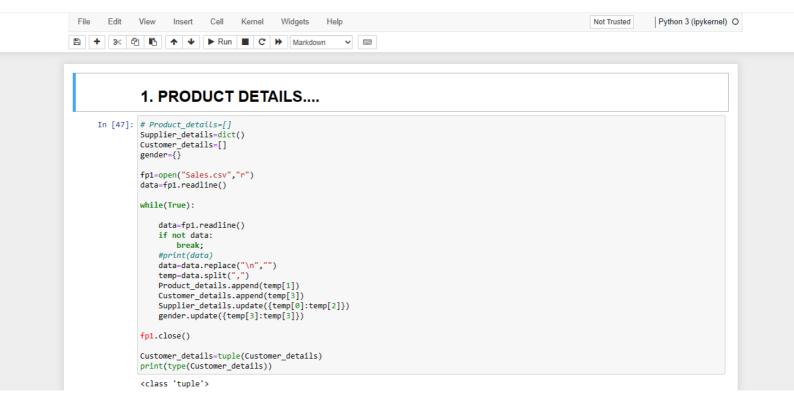Name : – Abhishek Dipakrao Deshmukh.

Div :– F1.

PRN NO. :– 202201090086.

ROLL NO. :– 612.

➢ Prepare/Take datasets for any real-life application. For Ex. Sales of the company. Read the data from Sales.csv/.xls/.txt. Store Product details in the List data structure. Store Supplier Details in Dictionary Data Structure. Store Customer Details in Tuple Data Structure. Now perform the following operations:

✓ Find the most popular product for sale.
✓ Find the best supplier for sales.
✓ Find the customer who buys most of the products.
✓ Find the number of customers who are 'Female'

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1. PRODUCT DETAILS....

```python
In [47]: # Product_details=[]
         Supplier_details=dict()
         Customer_details=[]
         gender={}

         fp1=open("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[3]})

         fp1.close()

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

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

```
In [38]: print("\nproduct_details\n",Product_details,end="")
         print("\ncustomer_details\n",Customer_details,end="")
         print("\supplier_details\n",supplier_details,end="")
```

```
product_details
 ['Lenovo Laptop', 'Samsung M31', 'Realmi 10pro', 'Oppo F21', 'Lenovo Laptop', 'Samsung M31', '"LG TV 32"""', 'Oppo F21', 'Leno
vo 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', 'Kau
stubh Mahajan', 'Yash Mali', 'Siddhi Kiwale', 'Sanket Kandalkar', 'Kaustubh Mahajan', 'Yash Mali', 'Siddhi Kiwale', 'Siddhi Kiw
ale', 'Kaustubh Mahajan', 'Sanket Kandalkar', 'Siddhi Kiwale', 'Kaustubh Mahajan', 'Yash Mali')\supplier_details
 {'Lenovo Laptop': 'Raka Ele.', 'Samsung M31': 'Deshmukh sales', 'Realmi 10pro': 'Raka Ele.', 'Oppo F21': 'Vijay Sales', '"LG T
V 32"""': 'Gada Ele.'}
```

2. Find the most popular product for sales.

```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(sortdict.values())[0],"times")
```

```
{'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
```

3. Find the best supplier for sales

```
In [40]: 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
```

4. Find the customer who buys most of the products.

```python
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\n': 5, 'Siddhi Kiwale\n': 6, 'Sanket Kandalkar\n': 4, 'Yash Mali\n': 4, 'Yash Bagul\n': 1}

Sorted dict is as below:
 {'Siddhi Kiwale\n': 6, 'Kaustubh Mahajan\n': 5, 'Sanket Kandalkar\n': 4, 'Yash Mali\n': 4, 'Yash Bagul\n': 1}


The customer who buys most of the products Siddhi Kiwale
  buy  6 Items
```

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

```
In [49]: # 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']
         Total no of Male= 0
         Total no of Female= 0
```

```
In [43]: d1={"A":10,"B":9,"C":8}
         d1
```

```
Out[43]: {'A': 10, 'B': 9, 'C': 8}
```

```
In [44]: newlist=sorted(d1.items(), key=lambda x:x[0],reverse=False)
```

```
In [45]: dict11=dict(newlist)
```

```
In [46]: dict11
```

```
Out[46]: {'A': 10, 'B': 9, 'C': 8}
```