```
! pip install kaggle
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/pub
Requirement already satisfied: kaggle in /usr/local/lib/python3.7/dist-packages (1.5.12)
Requirement already satisfied: python-dateutil in /usr/local/lib/python3.7/dist-packages
Requirement already satisfied: certifi in /usr/local/lib/python3.7/dist-packages (from k
Requirement already satisfied: requests in /usr/local/lib/python3.7/dist-packages (from
Requirement already satisfied: python-slugify in /usr/local/lib/python3.7/dist-packages
Requirement already satisfied: six>=1.10 in /usr/local/lib/python3.7/dist-packages (from
Requirement already satisfied: tqdm in /usr/local/lib/python3.7/dist-packages (from kagg
Requirement already satisfied: urllib3 in /usr/local/lib/python3.7/dist-packages (from k
Requirement already satisfied: text-unidecode>=1.3 in /usr/local/lib/python3.7/dist-pack
Requirement already satisfied: idna<3,>=2.5 in /usr/local/lib/python3.7/dist-packages (f
Requirement already satisfied: chardet<4,>=3.0.2 in /usr/local/lib/python3.7/dist-packag
```

```
import os
os.environ["KAGGLE_CONFIG_DIR"] = "/content"
```

```
! kaggle datasets download -d apoorvaappz/global-super-store-dataset
```

```
Warning: Your Kaggle API key is readable by other users on this system! To fix this, you
Downloading global-super-store-dataset.zip to /content
 45% 5.00M/11.1M [00:00<00:00, 46.1MB/s]
100% 11.1M/11.1M [00:00<00:00, 68.2MB/s]
```

```
!unzip  \*.zip && rm.zip
```

```
Archive:  global-super-store-dataset.zip
  inflating: Global_Superstore2.csv
  inflating: Global_Superstore2.xlsx
/bin/bash: rm.zip: command not found
```

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
import numpy as np

%matplotlib inline
```

```
df = pd.read_csv('/content/Global_Superstore2.csv', encoding = 'ISO-8859-1')
df.head()
```

	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	City	S
0	32298	CA-2012-124891	31-07-2012	31-07-2012	Same Day	RH-19495	Rick Hansen	Consumer	New York City	New
1	26341	IN-2013-77878	05-02-2013	07-02-2013	Second Class	JR-16210	Justin Ritter	Corporate	Wollongong	New S W
2	25330	IN-2013-71249	17-10-2013	18-10-2013	First Class	CR-12730	Craig Reiter	Consumer	Brisbane	Queen
3	13524	ES-2013-1579342	28-01-2013	30-01-2013	First Class	KM-16375	Katherine Murray	Home Office	Berlin	
4	47221	SG-2013-4320	05-11-2013	06-11-2013	Same Day	RH-9495	Rick Hansen	Consumer	Dakar	I

5 rows × 24 columns

```
df.shape
```

```
(51290, 24)
```

```
df.describe()
```

```
                Row ID   Postal Code        Sales      Quantity      Discount        Profit
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 51290 entries, 0 to 51289
Data columns (total 24 columns):
 #   Column          Non-Null Count  Dtype  
---  ------          --------------  -----  
 0   Row ID          51290 non-null  int64  
 1   Order ID        51290 non-null  object 
 2   Order Date      51290 non-null  object 
 3   Ship Date       51290 non-null  object 
 4   Ship Mode       51290 non-null  object 
 5   Customer ID     51290 non-null  object 
 6   Customer Name   51290 non-null  object 
 7   Segment         51290 non-null  object 
 8   City            51290 non-null  object 
 9   State           51290 non-null  object 
 10  Country         51290 non-null  object 
 11  Postal Code     9994 non-null   float64
 12  Market          51290 non-null  object 
 13  Region          51290 non-null  object 
 14  Product ID      51290 non-null  object 
 15  Category        51290 non-null  object 
 16  Sub-Category    51290 non-null  object 
 17  Product Name    51290 non-null  object 
 18  Sales           51290 non-null  float64
 19  Quantity        51290 non-null  int64  
 20  Discount        51290 non-null  float64
 21  Profit          51290 non-null  float64
 22  Shipping Cost   51290 non-null  float64
 23  Order Priority  51290 non-null  object 
dtypes: float64(5), int64(2), object(17)
memory usage: 9.4+ MB
```

```
df['Order Date'] = pd.to_datetime(df['Order Date'])
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 51290 entries, 0 to 51289
Data columns (total 24 columns):
 #   Column          Non-Null Count  Dtype         
---  ------          --------------  -----         
 0   Row ID          51290 non-null  int64         
 1   Order ID        51290 non-null  object        
 2   Order Date      51290 non-null  datetime64[ns]
 3   Ship Date       51290 non-null  object        
 4   Ship Mode       51290 non-null  object        
 5   Customer ID     51290 non-null  object        
 6   Customer Name   51290 non-null  object        
 7   Segment         51290 non-null  object        
```

```
 8   City            51290 non-null  object
 9   State           51290 non-null  object
 10  Country         51290 non-null  object
 11  Postal Code     9994 non-null   float64
 12  Market          51290 non-null  object
 13  Region          51290 non-null  object
 14  Product ID      51290 non-null  object
 15  Category        51290 non-null  object
 16  Sub-Category    51290 non-null  object
 17  Product Name    51290 non-null  object
 18  Sales           51290 non-null  float64
 19  Quantity        51290 non-null  int64
 20  Discount        51290 non-null  float64
 21  Profit          51290 non-null  float64
 22  Shipping Cost   51290 non-null  float64
 23  Order Priority  51290 non-null  object
dtypes: datetime64[ns](1), float64(5), int64(2), object(16)
memory usage: 9.4+ MB
```

```
a = df.groupby(['Order Date', 'Profit'])
a.first()
```

	Row ID	Order ID	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Cit
Order Date	Profit							
2011-01-01	**-26.055**	11731	IT-2011-3647632	05-01-2011	Second Class	EM-14140	Eugene Moren	Home Office	Stockholr
	15.342	22254	IN-2011-47883	08-01-2011	Standard Class	JH-15985	Joseph Holt	Consumer	Wagg Wagg
	29.640	48883	HU-2011-1220	05-01-2011	Second Class	AT-735	Annie Thurman	Consumer	Budapes
	36.036	22253	IN-2011-47883	08-01-	Standard Class	JH-15985	Joseph Holt	Consumer	Wagg Wagg

```
df.isnull().any()
```

```
Row ID           False
Order ID         False
Order Date       False
Ship Date        False
Ship Mode        False
Customer ID      False
Customer Name    False
Segment          False
City             False
State            False
Country          False
Postal Code       True
Market           False
Region           False
Product ID       False
Category         False
Sub-Category     False
Product Name     False
Sales            False
Quantity         False
Discount         False
Profit           False
Shipping Cost    False
Order Priority   False
dtype: bool
```

								MX-	03-

```
df.isnull().sum()
```

```
Row ID              0
Order ID            0
Order Date          0
Ship Date           0
Ship Mode           0
Customer ID         0
Customer Name       0
Segment             0
City                0
State               0
Country             0
Postal Code       41296
Market              0
Region              0
Product ID          0
Category            0
Sub-Category        0
Product Name        0
Sales               0
Quantity            0
Discount            0
Profit              0
Shipping Cost       0
Order Priority      0
dtype: int64
```

```
df.drop(columns='Postal Code', inplace=True)
```

```
df.isnull().sum()
```

```
Row ID           0
Order ID         0
Order Date       0
Ship Date        0
Ship Mode        0
Customer ID      0
Customer Name    0
Segment          0
City             0
State            0
Country          0
Market           0
Region           0
Product ID       0
Category         0
Sub-Category     0
Product Name     0
Sales            0
Quantity         0
Discount         0
Profit           0
Shipping Cost    0
Order Priority   0
dtype: int64
```

```
df.head()
```

	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	City	S
0	32298	CA-2012-124891	2012-07-31	31-07-2012	Same Day	RH-19495	Rick Hansen	Consumer	New York City	New
1	26341	IN-2013-77878	2013-05-02	07-02-2013	Second Class	JR-16210	Justin Ritter	Corporate	Wollongong	New S W
2	25330	IN-2013-71249	2013-10-17	18-10-2013	First Class	CR-12730	Craig Reiter	Consumer	Brisbane	Queen
3	13524	ES-2013-1579342	2013-01-28	30-01-2013	First Class	KM-16375	Katherine Murray	Home Office	Berlin	
4	47221	SG-2013-4320	2013-05-11	06-11-2013	Same Day	RH-9495	Rick Hansen	Consumer	Dakar	D

5 rows × 23 columns

```
df.nunique()
```

```
Row ID           51290
Order ID         25035
Order Date        1430
Ship Date         1464
Ship Mode            4
Customer ID       1590
Customer Name      795
Segment              3
City              3636
State             1094
Country            147
Market               7
```

```
Region              13
Product ID       10292
Category             3
Sub-Category        17
Product Name      3788
Sales            22995
Quantity            14
Discount            27
Profit           24575
Shipping Cost    10037
Order Priority       4
dtype: int64
```

```
df['Ship Mode'] = df['Ship Mode'].astype('category')
df['Segment'] = df['Segment'].astype('category')
df['Country'] = df['Country'].astype('category')
df['Market'] = df['Market'].astype('category')
df['Region'] = df['Region'].astype('category')
df['Category'] = df['Category'].astype('category')
df['Sub-Category'] = df['Sub-Category'].astype('category')
df['Order Priority'] = df['Order Priority'].astype('category')
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 51290 entries, 0 to 51289
Data columns (total 23 columns):
 #   Column          Non-Null Count  Dtype         
---  ------          --------------  -----         
 0   Row ID          51290 non-null  int64         
 1   Order ID        51290 non-null  object        
 2   Order Date      51290 non-null  datetime64[ns]
 3   Ship Date       51290 non-null  object        
 4   Ship Mode       51290 non-null  category      
 5   Customer ID     51290 non-null  object        
 6   Customer Name   51290 non-null  object        
 7   Segment         51290 non-null  category      
 8   City            51290 non-null  object        
 9   State           51290 non-null  object        
 10  Country         51290 non-null  category      
 11  Market          51290 non-null  category      
 12  Region          51290 non-null  category      
 13  Product ID      51290 non-null  object        
 14  Category        51290 non-null  category      
 15  Sub-Category    51290 non-null  category      
 16  Product Name    51290 non-null  object        
 17  Sales           51290 non-null  float64       
 18  Quantity        51290 non-null  int64         
 19  Discount        51290 non-null  float64       
 20  Profit          51290 non-null  float64       
 21  Shipping Cost   51290 non-null  float64       
 22  Order Priority  51290 non-null  category      
```

```
dtypes: category(8), datetime64[ns](1), float64(4), int64(2), object(8)
memory usage: 6.3+ MB
```

```
def remove_leading_spaces(df):
    for cols in df.columns:
        if df[cols].dtypes in ['object','category']:
            df[cols] = df[cols].str.strip()
        return df


df = remove_leading_spaces(df)


df.head(3)
```

	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	City	St
0	32298	CA-2012-124891	2012-07-31	31-07-2012	Same Day	RH-19495	Rick Hansen	Consumer	New York City	New
1	26341	IN-2013-77878	2013-05-02	07-02-2013	Second Class	JR-16210	Justin Ritter	Corporate	Wollongong	New S W
2	25330	IN-2013-71249	2013-10-17	18-10-2013	First Class	CR-12730	Craig Reiter	Consumer	Brisbane	Queens

3 rows × 23 columns

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 51290 entries, 0 to 51289
Data columns (total 23 columns):
 #   Column          Non-Null Count  Dtype
---  ------          --------------  -----
 0   Row ID          51290 non-null  int64
 1   Order ID        51290 non-null  object
 2   Order Date      51290 non-null  datetime64[ns]
 3   Ship Date       51290 non-null  object
 4   Ship Mode       51290 non-null  category
 5   Customer ID     51290 non-null  object
```

```
 6   Customer Name   51290 non-null  object
 7   Segment         51290 non-null  category
 8   City            51290 non-null  object
 9   State           51290 non-null  object
 10  Country         51290 non-null  category
 11  Market          51290 non-null  category
 12  Region          51290 non-null  category
 13  Product ID      51290 non-null  object
 14  Category        51290 non-null  category
 15  Sub-Category    51290 non-null  category
 16  Product Name    51290 non-null  object
 17  Sales           51290 non-null  float64
 18  Quantity        51290 non-null  int64
 19  Discount        51290 non-null  float64
 20  Profit          51290 non-null  float64
 21  Shipping Cost   51290 non-null  float64
 22  Order Priority  51290 non-null  category
dtypes: category(8), datetime64[ns](1), float64(4), int64(2), object(8)
memory usage: 6.3+ MB
```

```
df.groupby(['Country']).count()[['Order ID']]
```

Country	Order ID
Afghanistan	55
Albania	16
Algeria	196
Angola	122
Argentina	390
...	...
Venezuela	194
Vietnam	265
Yemen	30
Zambia	102
Zimbabwe	80

147 rows × 1 columns

```
df.groupby(['City']).count()[['Order ID']]
```

City	Order ID
Aachen	17
Aalen	1
Aalst	4
Aba	25
Abadan	11
...	...
Zwedru	1
Zwickau	3
Zwolle	2
eMbalenhle	2

```
df.groupby(['Product ID']).count()[['Order ID']]
```

Product ID	Order ID
FUR-ADV-10000002	2
FUR-ADV-10000108	3
FUR-ADV-10000183	8
FUR-ADV-10000188	5
FUR-ADV-10000190	1
...	...
TEC-STA-10004181	6
TEC-STA-10004536	5
TEC-STA-10004542	5
TEC-STA-10004834	2
TEC-STA-10004927	1

10292 rows × 1 columns

```
top5 = df.groupby(['Country']).sum()[['Quantity']].nlargest(n=5, columns=['Quantity'])
```

Double-click (or enter) to edit

```
top5
```

Country	Quantity
United States	37873
France	10804
Australia	10673
Mexico	10011
Germany	7745

```
df.groupby(['Product ID']).count()[['Order ID']].nlargest(n=5, columns=['Order ID'])
```

Product ID	Order ID
OFF-AR-10003651	35
OFF-AR-10003829	31
OFF-BI-10002799	30
OFF-BI-10003708	30
FUR-CH-10003354	28

```
top5 = df.groupby(['Country']).sum()[['Quantity']].nlargest(n=5, columns=['Quantity'])
```

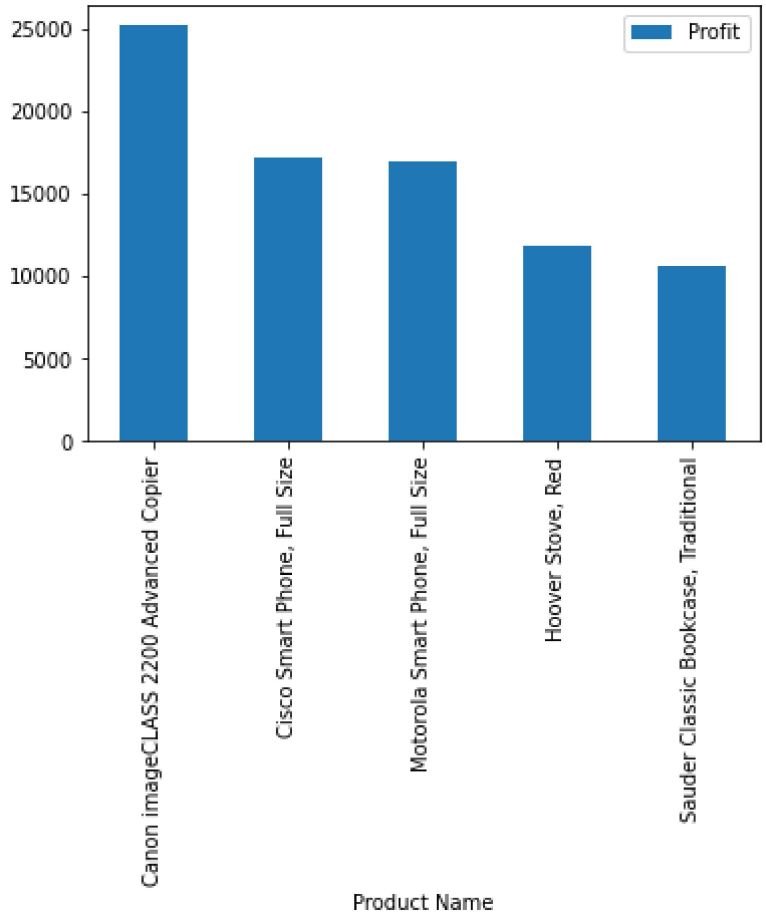
```
df2 = df.groupby(['Product Name']).sum()[['Profit']].nlargest(n=5, columns=['Profit'])
df2
```

Product Name	Profit
Canon imageCLASS 2200 Advanced Copier	25199.9280
Cisco Smart Phone, Full Size	17238.5206
Motorola Smart Phone, Full Size	17027.1130
Hoover Stove, Red	11807.9690
Sauder Classic Bookcase, Traditional	10672.0730

TOP 5 PRODUCT BY TOTAL PROFIT

```
df.groupby(['Product Name']).sum()[['Profit']].sort_values(by="Profit",ascending=False).nlarg
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7f0398aeb350>
```



TOP 5 COUNTRY BY TOTAL PROFIT

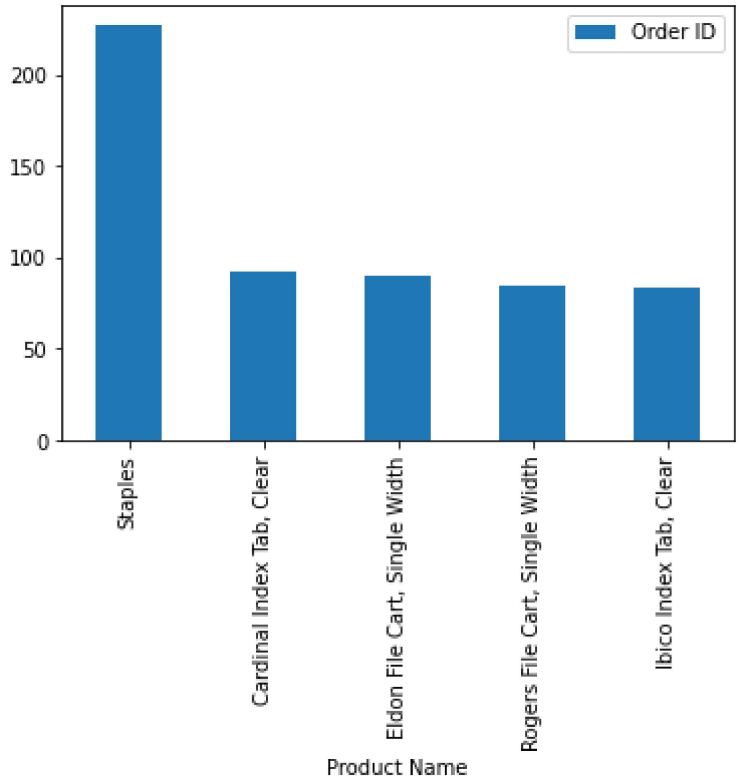
```
df.groupby(['Country']).sum()[['Profit']].sort_values(by="Profit",ascending=False).nlargest(n
plt.show()
```


```
df.groupby('Product Name')['Customer ID'].count().sort_values(ascending=True)
```

```
Product Name
Barricks Coffee Table, with Bottom Storage                                  1
Sanitaire Vibra Groomer IR Commercial Upright Vacuum, Replacement Belts     1
Hewlett-Packard Deskjet 5550 Printer                                        1
Hewlett-Packard Deskjet 3050a All-in-One Color Inkjet Printer               1
Grip Seal Envelopes                                                         1
                                                                          ...
Ibico Index Tab, Clear                                                     83
Rogers File Cart, Single Width                                             84
Eldon File Cart, Single Width                                              90
Cardinal Index Tab, Clear                                                  92
Staples                                                                   227
Name: Customer ID, Length: 3788, dtype: int64
```

TOP 5 PRODUCT BY TOTAL ORDER

```
df.groupby(['Product Name']).count()[['Order ID']].sort_values(by="Order ID",ascending=False)
plt.show()
```

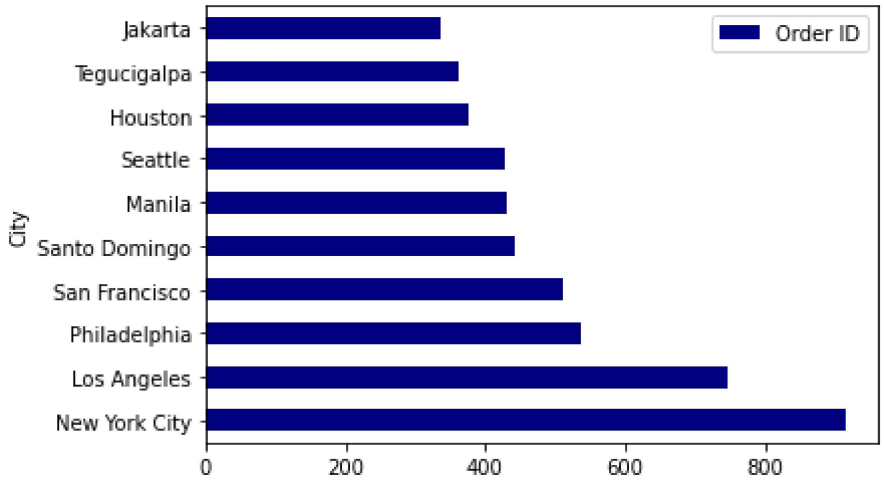


```
df.groupby(['Product Name']).count()[['Order ID']].nlargest(n=5, columns=['Order ID'])
```

Product Name	Order ID
Staples	227
Cardinal Index Tab, Clear	92
Eldon File Cart, Single Width	90
Rogers File Cart, Single Width	84
Ibico Index Tab, Clear	83

TOP 10 CITY BY TOTAL ORDER

```
df.groupby(['City']).count()[['Order ID']].sort_values(by="Order ID",ascending=True).nlargest
plt.show()
```




```
df.isnull().sum()
```

```
Row ID          0
Order ID        0
Order Date      0
Ship Date       0
Ship Mode       0
Customer ID     0
Customer Name   0
Segment         0
City            0
State           0
Country         0
Market          0
Region          0
Product ID      0
Category        0
```

```
Sub-Category      0
Product Name      0
Sales             0
Quantity          0
Discount          0
Profit            0
Shipping Cost     0
Order Priority    0
dtype: int64
```

```
df.dropna(axis=0, inplace=True)
```

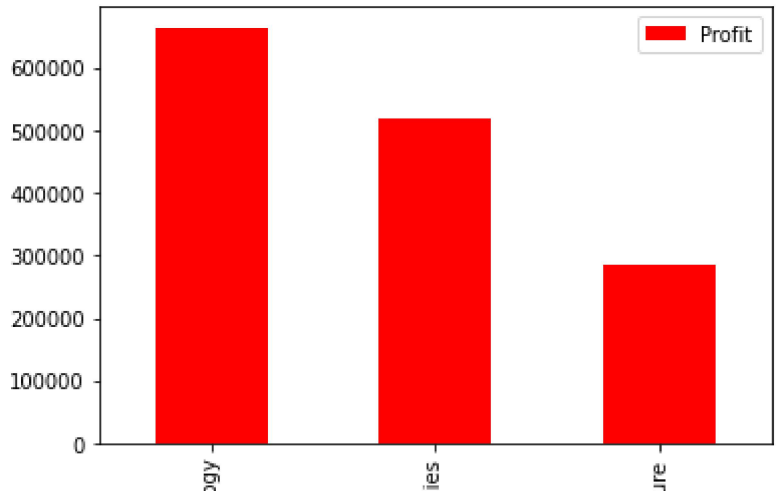
```
df.isnull().sum()
```

```
Row ID            0
Order ID          0
Order Date        0
Ship Date         0
Ship Mode         0
Customer ID       0
Customer Name     0
Segment           0
City              0
State             0
Country           0
Market            0
Region            0
Product ID        0
Category          0
Sub-Category      0
Product Name      0
Sales             0
Quantity          0
Discount          0
Profit            0
Shipping Cost     0
Order Priority    0
dtype: int64
```

```
df.shape
```

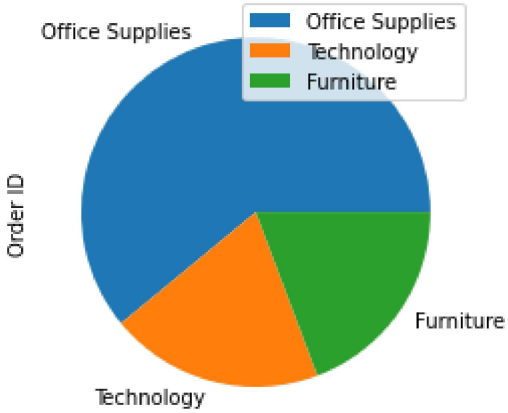
```
(51290, 23)
```

```
df.groupby(['Category']).sum()[['Profit']].sort_values(by="Profit",ascending=False).nlargest(
plt.show()
```



TOTAL ORDER BY CATEGORY

```
df.groupby(['Category']).count()[['Order ID']].sort_values(by="Order ID",ascending=False).nla
plt.show()
```



TOTAL PROFIT BY CATEGORY

```
df.groupby(['Category']).sum()[['Profit']].sort_values(by="Profit",ascending=False).nlargest(
plt.show()
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-47-6738504bc90a> in <module>
----> 1 choromap = go.Figure(data = [country_map],layout = layout)
      2 iplot(choromap)

NameError: name 'go' is not defined
```

SEARCH STACK OVERFLOW

Colab paid products - Cancel contracts here

0s completed at 1:58 PM