```python
import numpy
print('numpy : {}'.format(numpy.__version__))

import pandas
print('pandas : {}'.format(pandas.__version__))

import seaborn
print('seaborn : {}'.format(seaborn.__version__))

import sklearn
print('sklearn : {}'.format(sklearn.__version__))

import matplotlib
print('matplotlib : {}'.format(matplotlib.__version__))
```

```
numpy : 1.19.5
pandas : 1.1.5
seaborn : 0.11.2
sklearn : 0.24.2
matplotlib : 3.3.4
```

```python
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
from sklearn.cluster import KMeans
from sklearn import datasets
from matplotlib import pyplot
from pandas.plotting import scatter_matrix
import warnings
warnings.filterwarnings("ignore")
import seaborn as sns
import os

print("Libraries imported successfully")
```

```
Libraries imported successfully
```

```python
df = pd.read_excel("C:\\Users\\LAB\Documents\\sonu\\DA\\
superstore.xls")
print("successful")
```

```
successful
```

```python
df.columns
```

```
Index(['Order ID', 'Order Date', 'Ship Date', 'Ship Mode', 'Customer
ID',
       'Customer Name', 'Segment', 'Country', 'City', 'State', 'Postal
Code',
       'Region', 'Product ID', 'Category', 'Sub-Category', 'Product
```

```
Name',
       'Sales', 'Quantity', 'Discount', 'Profit'],
      dtype='object')
```

df["Category"].unique()

```
array(['Furniture', 'Office Supplies', 'Technology'], dtype=object)
```

df["Sub-Category"].unique()

```
array(['Bookcases', 'Chairs', 'Labels', 'Tables', 'Storage',
       'Furnishings', 'Art', 'Phones', 'Binders', 'Appliances',
'Paper',
       'Accessories', 'Envelopes', 'Fasteners', 'Supplies',
'Machines',
       'Copiers'], dtype=object)
```

df["Segment"].unique()

```
array(['Consumer', 'Corporate', 'Home Office'], dtype=object)
```

df["Category"].value_counts()

```
Office Supplies    6026
Furniture          2121
Technology         1847
Name: Category, dtype: int64
```

df["Category"].value_counts().sum()

```
9994
```

df["Sub-Category"].nunique()

```
17
```

df["Sub-Category"].value_counts()

```
Binders        1523
Paper          1370
Furnishings     957
Phones          889
Storage         846
Art             796
Accessories     775
Chairs          617
Appliances      466
Labels          364
Tables          319
Envelopes       254
Bookcases       228
Fasteners       217
```

```
Supplies          190
Machines          115
Copiers            68
Name: Sub-Category, dtype: int64
```

df["Region"].unique()

```
array(['South', 'West', 'Central', 'East'], dtype=object)
```

df["State"].value_counts()

```
California             2001
New York               1128
Texas                   985
Pennsylvania            587
Washington              506
Illinois                492
Ohio                    469
Florida                 383
Michigan                255
North Carolina          249
Virginia                224
Arizona                 224
Georgia                 184
Tennessee               183
Colorado                182
Indiana                 149
Kentucky                139
Massachusetts           135
New Jersey              130
Oregon                  124
Wisconsin               110
Maryland                105
Delaware                 96
Minnesota                89
Connecticut              82
Missouri                 66
Oklahoma                 66
Alabama                  61
Arkansas                 60
Rhode Island             56
Mississippi              53
Utah                     53
South Carolina           42
Louisiana                42
Nevada                   39
Nebraska                 38
New Mexico               37
Iowa                     30
New Hampshire            27
```

```
Kansas                    24
Idaho                     21
Montana                   15
South Dakota              12
Vermont                   11
District of Columbia      10
Maine                      8
North Dakota               7
West Virginia              4
Wyoming                    1
Name: State, dtype: int64
```

df["State"].unique()

```
array(['Kentucky', 'California', 'Florida', 'North Carolina',
       'Washington', 'Texas', 'Wisconsin', 'Utah', 'Nebraska',
       'Pennsylvania', 'Illinois', 'Minnesota', 'Michigan',
'Delaware',
       'Indiana', 'New York', 'Arizona', 'Virginia', 'Tennessee',
       'Alabama', 'South Carolina', 'Oregon', 'Colorado', 'Iowa',
'Ohio',
       'Missouri', 'Oklahoma', 'New Mexico', 'Louisiana',
'Connecticut',
       'New Jersey', 'Massachusetts', 'Georgia', 'Nevada', 'Rhode
Island',
       'Mississippi', 'Arkansas', 'Montana', 'New Hampshire',
'Maryland',
       'District of Columbia', 'Kansas', 'Vermont', 'Maine',
       'South Dakota', 'Idaho', 'North Dakota', 'Wyoming',
       'West Virginia'], dtype=object)
```

df["State"].nunique()

49

df.nunique()

```
Order ID        5009
Order Date      1237
Ship Date       1334
Ship Mode          4
Customer ID      793
Customer Name    793
Segment            3
Country            1
City             531
State             49
Postal Code      631
Region             4
Product ID      1862
Category           3
```

```
Sub-Category          17
Product Name        1850
Sales               6144
Quantity              14
Discount              12
Profit              7545
dtype: int64
```

df.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 9994 entries, 0 to 9993
Data columns (total 20 columns):
 #   Column         Non-Null Count  Dtype
---  ------         --------------  -----
 0   Order ID       9994 non-null   object
 1   Order Date     9994 non-null   datetime64[ns]
 2   Ship Date      9994 non-null   datetime64[ns]
 3   Ship Mode      9994 non-null   object
 4   Customer ID    9994 non-null   object
 5   Customer Name  9994 non-null   object
 6   Segment        9994 non-null   object
 7   Country        9994 non-null   object
 8   City           9994 non-null   object
 9   State          9994 non-null   object
 10  Postal Code    9994 non-null   int64
 11  Region         9994 non-null   object
 12  Product ID     9994 non-null   object
 13  Category       9994 non-null   object
 14  Sub-Category   9994 non-null   object
 15  Product Name   9994 non-null   object
 16  Sales          9994 non-null   float64
 17  Quantity       9994 non-null   int64
 18  Discount       9994 non-null   float64
 19  Profit         9994 non-null   float64
dtypes: datetime64[ns](2), float64(3), int64(2), object(13)
memory usage: 1.0+ MB
```

df.describe()

	Postal Code	Sales	Quantity	Discount	Profit
count	9994.000000	9994.000000	9994.000000	9994.000000	9994.000000
mean	55190.379428	229.858001	3.789574	0.156203	28.656896
std	32063.693350	623.245101	2.225110	0.206452	234.260108
min	1040.000000	0.444000	1.000000	0.000000	-6599.978000

```
25%     23223.000000      17.280000      2.000000      0.000000
1.728750
50%     56430.500000      54.490000      3.000000      0.200000
8.666500
75%     90008.000000     209.940000      5.000000      0.200000
29.364000
max     99301.000000   22638.480000     14.000000      0.800000
8399.976000
```

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

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

```
df.dtypes
```

```
Order ID                 object
Order Date       datetime64[ns]
Ship Date        datetime64[ns]
Ship Mode                object
Customer ID              object
Customer Name            object
Segment                  object
Country                  object
City                     object
State                    object
Postal Code               int64
Region                   object
Product ID               object
Category                 object
Sub-Category             object
```

```
Product Name            object
Sales                  float64
Quantity                 int64
Discount               float64
Profit                 float64
dtype: object
```

```python
for i in df:
    print(df[i].unique())
```

```
['CA-2016-152156' 'CA-2016-138688' 'US-2015-108966' ... 'CA-2014-
110422'
 'CA-2017-121258' 'CA-2017-119914']
['2016-11-08T00:00:00.000000000' '2016-06-12T00:00:00.000000000'
 '2015-10-11T00:00:00.000000000' ... '2016-06-03T00:00:00.000000000'
 '2015-04-12T00:00:00.000000000' '2014-01-21T00:00:00.000000000']
['2016-11-11T00:00:00.000000000' '2016-06-16T00:00:00.000000000'
 '2015-10-18T00:00:00.000000000' ... '2015-05-23T00:00:00.000000000'
 '2014-01-23T00:00:00.000000000' '2017-03-03T00:00:00.000000000']
['Second Class' 'Standard Class' 'First Class' 'Same Day']
['CG-12520' 'DV-13045' 'SO-20335' 'BH-11710' 'AA-10480' 'IM-15070'
 'HP-14815' 'PK-19075' 'AG-10270' 'ZD-21925' 'KB-16585' 'SF-20065'
 'EB-13870' 'EH-13945' 'TB-21520' 'MA-17560' 'GH-14485' 'SN-20710'
 'LC-16930' 'RA-19885' 'ES-14080' 'ON-18715' 'PO-18865' 'LH-16900'
 'DP-13000' 'JM-15265' 'TB-21055' 'KM-16720' 'PS-18970' 'BS-11590'
 'KD-16270' 'HM-14980' 'JE-15745' 'KB-16600' 'SC-20770' 'DN-13690'
 'JC-16105' 'CS-12400' 'PG-18895' 'GM-14455' 'JS-15685' 'KB-16315'
 'RB-19705' 'PN-18775' 'KD-16345' 'ER-13855' 'RB-19465' 'GZ-14470'
 'LC-16870' 'JM-15250' 'PA-19060' 'CV-12805' 'CL-12565' 'RC-19960'
 'DK-13090' 'GG-14650' 'SC-20725' 'AD-10180' 'PF-19165' 'TS-21610'
 'LS-16975' 'DW-13585' 'LC-16885' 'JD-15895' 'SH-19975' 'SG-20080'
 'HA-14920' 'MG-17680' 'JE-16165' 'TW-21025' 'SP-20650' 'NK-18490'
 'DB-13060' 'NP-18670' 'TT-21070' 'EM-13960' 'RD-19900' 'MJ-17740'
 'BM-11140' 'CS-12130' 'JB-15400' 'SJ-20500' 'JK-15640' 'DK-13150'
 'RM-19675' 'SK-19990' 'FM-14290' 'AM-10360' 'MP-17470' 'MZ-17515'
 'CB-12025' 'VM-21685' 'FH-14365' 'MB-17305' 'BS-11755' 'LC-17140'
 'HK-14890' 'LE-16810' 'JH-15985' 'MS-17980' 'VW-21775' 'JH-15910'
 'JB-15925' 'DS-13180' 'VD-21670' 'EA-14035' 'DB-13120' 'KL-16645'
 'DW-13480' 'LH-17155' 'KC-16540' 'DL-13315' 'DR-12880' 'CC-12670'
 'Dl-13600' 'SB-20290' 'RC-19825' 'AH-10210' 'CB-12535' 'CA-12310'
 'KH-16690' 'BB-10990' 'AG-10495' 'JO-15280' 'AH-10195' 'NZ-18565'
 'KL-16555' 'AS-10225' 'CR-12625' 'SH-20395' 'BP-11185' 'TS-21205'
 'AG-10525' 'SP-20860' 'NM-18445' 'FA-14230' 'GK-14620' 'DJ-13510'
 'PO-18850' 'JL-15850' 'DB-13615' 'AC-10420' 'CC-12550' 'TD-20995'
 'AB-10060' 'JL-15505' 'VB-21745' 'KW-16435' 'JD-16060' 'MK-17905'
 'GT-14755' 'AG-10900' 'MM-18280' 'AR-10405' 'RA-19915' 'AS-10285'
 'LA-16780' 'DO-13435' 'DK-13225' 'NG-18430' 'MV-18190' 'JG-15115'
 'BP-11095' 'VP-21730' 'SS-20140' 'AG-10675' 'LF-17185' 'RF-19840'
 'KH-16510' 'KC-16675' 'CJ-12010' 'PB-19150' 'MP-17965' 'NF-18385'
 'SD-20485' 'KH-16630' 'RB-19795' 'MK-18160' 'PO-19180' 'BB-11545'
```

```
'TB-21595'  'RB-19360'  'EB-13705'  'SC-20095'  'TN-21040'  'JS-15940'
'MH-17785'  'JP-15520'  'JE-15475'  'JG-15805'  'XP-21865'  'EM-14065'
'MT-18070'  'SA-20830'  'CW-11905'  'AJ-10960'  'SS-20590'  'RO-19780'
'MD-17350'  'MY-17380'  'CM-12385'  'LS-17245'  'BN-11515'  'DB-13210'
'MC-17605'  'BD-11605'  'PH-18790'  'MG-18145'  'KB-16240'  'JC-15340'
'RL-19615'  'AA-10375'  'EP-13915'  'DK-12985'  'BD-11500'  'LM-17065'
'AS-10135'  'BD-11320'  'GT-14710'  'AJ-10945'  'OT-18730'  'LP-17080'
'CA-12775'  'JF-15490'  'FP-14320'  'EB-13840'  'JF-15415'  'SF-20200'
'TG-21640'  'CS-11950'  'CC-12145'  'DV-13465'  'BD-11725'  'ZC-21910'
'MS-17830'  'LR-16915'  'TP-21130'  'CK-12205'  'AS-10240'  'AR-10510'
'NB-18655'  'GD-14590'  'CK-12595'  'NG-18355'  'CA-12265'  'SF-20965'
'MO-17800'  'AT-10735'  'FM-14380'  'DJ-13420'  'ME-17725'  'JD-16150'
'JL-15835'  'SC-20305'  'CC-12430'  'AR-10825'  'SR-20740'  'CR-12730'
'EH-14125'  'SP-20545'  'TH-21235'  'RP-19390'  'RB-19570'  'CD-11980'
'DJ-13630'  'GT-14635'  'MC-17845'  'RA-19285'  'NP-18325'  'AB-10165'
'JO-15550'  'JK-15370'  'BN-11470'  'DP-13165'  'TH-21550'  'AP-10915'
'RS-19765'  'SV-20365'  'CK-12325'  'RD-19810'  'MR-17545'  'SC-20695'
'JF-15355'  'EG-13900'  'DS-13030'  'PO-19195'  'SS-20875'  'PB-19105'
'RF-19735'  'YC-21895'  'DC-13285'  'CP-12340'  'BF-11020'  'LH-17020'
'CS-12250'  'AJ-10795'  'BV-11245'  'DL-12865'  'BM-11785'  'LT-17110'
'JK-15730'  'ES-14020'  'RH-19495'  'CD-11920'  'HW-14935'  'MC-18130'
'GM-14440'  'PJ-19015'  'BW-11110'  'TR-21325'  'PG-18820'  'JL-15175'
'BM-11650'  'EM-14095'  'AF-10885'  'GA-14725'  'CK-12760'  'DP-13105'
'BK-11260'  'SJ-20125'  'CM-12445'  'AJ-10780'  'LS-16945'  'GP-14740'
'PK-18910'  'SM-20005'  'AG-10765'  'PM-19135'  'LL-16840'  'JS-15595'
'EL-13735'  'PC-18745'  'HL-15040'  'MS-17365'  'GB-14530'  'JR-16210'
'BE-11335'  'SC-20050'  'RW-19630'  'SE-20110'  'AH-10075'  'JM-15535'
'JJ-15760'  'RK-19300'  'CG-12040'  'RP-19270'  'KC-16255'  'KH-16360'
'GH-14665'  'SW-20275'  'JA-15970'  'DL-12925'  'LW-16990'  'TB-21190'
'BS-11800'  'RW-19690'  'TZ-21580'  'AS-10630'  'TS-21340'  'SL-20155'
'MW-18235'  'RD-19585'  'RA-19945'  'MT-17815'  'VG-21790'  'JS-15880'
'KM-16225'  'HR-14770'  'DE-13255'  'AG-10390'  'JJ-15445'  'JH-15430'
'RD-19660'  'MO-17500'  'NS-18640'  'DG-13300'  'NF-18595'  'MG-17650'
'TS-21160'  'BD-11620'  'CM-12160'  'SN-20560'  'EH-14005'  'FO-14305'
'MS-17710'  'CC-12100'  'DW-13540'  'BT-11395'  'CY-12745'  'BT-11485'
'PS-19045'  'PV-18985'  'NM-18520'  'DL-13495'  'CS-12355'  'FH-14275'
'NC-18340'  'AA-10315'  'LT-16765'  'AP-10720'  'PM-18940'  'AT-10435'
'CA-12055'  'HR-14830'  'BT-11530'  'LH-16750'  'SW-20755'  'SP-20620'
'BF-11170'  'KT-16480'  'BG-11695'  'GM-14680'  'EJ-14155'  'NP-18700'
'MH-18115'  'JR-15700'  'SM-20950'  'CC-12220'  'PF-19225'  'DC-12850'
'BD-11770'  'GM-14500'  'TB-21355'  'JH-16180'  'EB-13975'  'QJ-19255'
'TC-21535'  'CS-12460'  'HG-14965'  'LW-16825'  'MC-17575'  'LP-17095'
'EB-14170'  'GZ-14545'  'CP-12085'  'FG-14260'  'LD-17005'  'AB-10255'
'MN-17935'  'JR-15670'  'JF-15190'  'CM-12115'  'AS-10045'  'BP-11290'
'ND-18370'  'LB-16735'  'KT-16465'  'HM-14860'  'AB-10600'  'SZ-20035'
'MG-17890'  'JK-16120'  'PP-18955'  'YS-21880'  'KM-16375'  'AB-10105'
'HA-14905'  'BT-11305'  'SV-20815'  'RW-19540'  'DK-12835'  'ST-20530'
'MM-17920'  'PW-19030'  'SC-20440'  'TS-21085'  'MC-17425'  'ME-17320'
'NH-18610'  'MB-18085'  'KD-16495'  'KN-16390'  'NP-18685'  'CS-12505'
```

```
'MS-17770'  'CM-12655'  'Co-12640'  'TS-21370'  'JW-15220'  'JD-15790'
'PC-19000'  'AR-10540'  'AI-10855'  'TB-21400'  'PL-18925'  'GH-14425'
'MP-18175'  'JM-15655'  'CL-11890'  'DB-13270'  'IG-15085'  'BO-11425'
'AB-10150'  'JW-16075'  'EB-13750'  'SG-20470'  'CM-12190'  'AW-10840'
'MC-18100'  'TT-21460'  'VG-21805'  'MY-18295'  'RD-19480'  'DP-13390'
'ML-17395'  'JC-15385'  'JG-15160'  'MC-17275'  'NW-18400'  'TB-21280'
'BS-11380'  'HH-15010'  'CD-12280'  'TH-21100'  'MM-18055'  'NS-18505'
'RB-19645'  'SW-20455'  'EB-13930'  'PS-18760'  'HF-14995'  'HZ-14950'
'CD-12790'  'JK-15205'  'FM-14215'  'ED-13885'  'DA-13450'  'JW-15955'
'RM-19375'  'ML-17755'  'CC-12685'  'JE-15610'  'RP-19855'  'TB-21175'
'BE-11455'  'JF-15565'  'PB-19210'  'BT-11680'  'JL-15235'  'CH-12070'
'ND-18460'  'BF-10975'  'KH-16330'  'GW-14605'  'NC-18625'  'ME-18010'
'BP-11230'  'JC-15775'  'AS-10090'  'AC-10450'  'MD-17860'  'DB-13660'
'EH-13990'  'EH-13765'  'SC-20230'  'JE-15715'  'AC-10615'  'JD-16015'
'CB-12415'  'JS-16030'  'LW-17215'  'SC-20800'  'AM-10705'  'RH-19510'
'CT-11995'  'MC-17590'  'CC-12610'  'KA-16525'  'TC-20980'  'BF-11080'
'MM-17260'  'AH-10120'  'BW-11200'  'SW-20245'  'BS-11665'  'RF-19345'
'WB-21850'  'TB-21625'  'AF-10870'  'RB-19435'  'KF-16285'  'JH-15820'
'IL-15100'  'PB-18805'  'RH-19600'  'AW-10930'  'ML-17410'  'DB-13555'
'MH-17620'  'DK-13375'  'BT-11440'  'DB-13405'  'TG-21310'  'BF-11005'
'JM-16195'  'MZ-17335'  'MW-18220'  'MV-17485'  'SM-20320'  'TP-21415'
'JK-15625'  'PJ-18835'  'RS-19420'  'SV-20935'  'BC-11125'  'EM-13825'
'BM-11575'  'KN-16705'  'KW-16570'  'SC-20260'  'CV-12295'  'SG-20605'
'TM-21010'  'EM-13810'  'ML-18040'  'CR-12580'  'AZ-10750'  'PW-19240'
'SC-20380'  'CM-11935'  'GM-14695'  'TB-21250'  'JM-15865'  'SC-20575'
'LS-17200'  'RR-19315'  'DB-12910'  'TT-21220'  'LO-17170'  'KD-16615'
'NB-18580'  'BD-11635'  'CM-12235'  'EN-13780'  'KN-16450'  'BO-11350'
'AG-10300'  'MC-17635'  'TA-21385'  'JF-15295'  'TT-21265'  'SB-20170'
'CL-12700'  'HG-15025'  'NL-18310'  'RR-19525'  'TC-21295'  'SV-20785'
'BE-11410'  'SC-20680'  'DF-13135'  'FH-14350'  'MS-17530'  'RH-19555'
'GA-14515'  'JP-16135'  'Dp-13240'  'MO-17950'  'DL-13330'  'MH-18025'
'DR-12940'  'DM-13015'  'CA-11965'  'AC-10660'  'DM-13345'  'VF-21715'
'CC-12370'  'BF-11275'  'HG-14845'  'BP-11155'  'EM-14140'  'MA-17995'
'AY-10555'  'GB-14575'  'JB-16045'  'MG-17875'  'SR-20425'  'JB-16000'
'DM-12955'  'TC-21475'  'SW-20350'  'RE-19450'  'BF-11215'  'KB-16405'
'JG-15310'  'EC-14050'  'EB-14110'  'JP-15460'  'CS-11845'  'GH-14410'
'PT-19090'  'JL-15130'  'AH-10030'  'CC-12475'  'DW-13195'  'SJ-20215'
'BG-11740'  'LB-16795'  'CM-11815'  'EH-14185'  'TS-21505'  'PR-18880'
'LC-17050'  'CS-12490'  'DH-13075'  'JO-15145'  'AH-10690'  'HJ-14875'
'MH-17455'  'RD-19930'  'SC-20020'  'SU-20665'  'FC-14335'  'RB-19330'
'NC-18535'  'DB-12970'  'MF-17665'  'RM-19750'  'VM-21835'  'EJ-13720'
'NC-18415'  'LS-17230'  'KE-16420'  'DH-13675'  'PF-19120'  'VT-21700'
'MG-17695'  'SP-20920'  'CS-12175'  'DK-12895'  'KM-16660'  'AA-10645'
'DD-13570'  'AH-10465'  'TP-21565'  'EK-13795'  'CR-12820'  'SG-20890'
'AH-10585'  'NF-18475'  'BS-11365'  'SH-20635'  'RD-19720'  'AG-10330'
'GR-14560'  'VS-21820'  'TM-21490'  'TS-21430'  'DB-13360'  'NR-18550'
'CS-11860'  'MF-18250'  'LW-17125'  'AR-10345'  'KS-16300'  'AB-10015'
'LR-17035'  'SS-20410'  'JM-15580'  'JK-15325'  'DM-13525'  'ML-18265'
'MH-17290'  'FC-14245'  'TH-21115'  'JK-16090'  'SB-20185'  'BG-11035'
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  'AO-10810' 'MH-17440' 'SS-20515' 'LD-16855' 'VP-21760' 'TC-21145'
  'IM-15055' 'AR-10570' 'CM-12715' 'FW-14395' 'LC-16960' 'HE-14800'
  'BD-11560' 'HD-14785' 'CJ-11875' 'RS-19870' 'SC-20845' 'RE-19405'
  'SM-20905']
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 'Modesto' 'Garden City' 'Atlantic City' 'Longmont' 'Davis' 'Morgan
Hill'
 'Clifton' 'Sheboygan' 'East Point' 'Rapid City' 'Andover' 'Kissimmee'
 'Shelton' 'Danbury' 'Sanford' 'San Marcos' 'Greeley' 'Mansfield'
'Elyria'
 'Twin Falls' 'Coral Gables' 'Romeoville' 'Marlborough' 'Laurel'
'Bryan'
 'Pine Bluff' 'Aberdeen' 'Hagerstown' 'East Orange' 'Arlington
Heights'
 'Oswego' 'Coon Rapids' 'San Clemente' 'San Luis Obispo' 'Springdale'
 'Lodi' 'Mason']
['Kentucky' 'California' 'Florida' 'North Carolina' 'Washington'
'Texas'
 'Wisconsin' 'Utah' 'Nebraska' 'Pennsylvania' 'Illinois' 'Minnesota'
 'Michigan' 'Delaware' 'Indiana' 'New York' 'Arizona' 'Virginia'
 'Tennessee' 'Alabama' 'South Carolina' 'Oregon' 'Colorado' 'Iowa'
'Ohio'
 'Missouri' 'Oklahoma' 'New Mexico' 'Louisiana' 'Connecticut' 'New
Jersey'
 'Massachusetts' 'Georgia' 'Nevada' 'Rhode Island' 'Mississippi'
 'Arkansas' 'Montana' 'New Hampshire' 'Maryland' 'District of
Columbia'
 'Kansas' 'Vermont' 'Maine' 'South Dakota' 'Idaho' 'North Dakota'
 'Wyoming' 'West Virginia']
[42420 90036 33311 90032 28027 98103 76106 53711 84084 94109 68025
19140
 84057 90049 77095 75080 77041 60540 32935 55122 48185 19901 47150
10024
 12180 90004 60610 85234 22153 10009 49201 38109 77070 35601 94122
27707
 60623 29203 55901 55407 97206 55106 80013 28205 60462 10035 50322
43229
 37620 19805 61701 85023 95661 64055 91104 43055 53132 85254 95123
98105
 98115 73034 90045 19134 88220 78207 77036 62521 71203  6824 75051
92374
 45011  7090 19120 44312 80219 75220 37064 90604 48601 44256 43017
48227
 38401 33614 95051 55044 92037 77506 94513 27514  7960 45231 94110
90301
 33319 80906  7109 48180  8701 22204 80004  7601 33710 19143 90805
92345
 37130 84041 78745  1852 31907  6040 78550 85705 62301  2038 33024
98198
 61604 89115  2886 33180 28403 92646 40475 80027  1841 39212 48187
10801
 28052 32216 47201 13021 73071 94521 60068 79109 11757 90008 92024
77340
```

```
 14609  72701  92627  80134  30318  64118  59405  48234  33801  36116  85204
60653
 54302  45503  92804  98270  97301  78041  75217  43123  10011  48126  31088
94591
 92691  48307   7060  85635  98661  60505  76017  40214  75081  44105  75701
27217
 22980  19013  27511  32137  10550  48205  33012  11572  92105  60201  48183
55016
 71111  50315  93534  23223  28806  92530  68104  98026  92704  53209  41042
44052
  7036  93905   8901  17602   3301  21044  75043   6360  22304  43615  87401
92503
 90503  78664  92054  33433  23464  92563  28540  52601  98502  20016  65109
63376
 61107  33142  78521  10701  94601  28110  20735  30076  72401  47374  94509
33030
 46350  48911  44221  89502  22801  92025  48073  20852  33065  14215  33437
39503
 93727  27834  11561  35630  31204  52402   2908  81001  94533  32725  42071
6457
 11520  90660  84604  84062  30080  24153  44134  36608   2740  75061   8360
85301
 14304  27360  92683  38301  75019  91767  89031  18103  19711  85281  92677
8302
  2149  13601  54915  98006  75002  79907  76051  75007  37167  98031  70506
97224
 60076  75023  23434  46203   7002  28314  27405  21215  53142  66062  98002
74133
 97756  27604  74403   6450  42104  46614   6010  89015  99207  76248  45014
32127
 97504  22901  59801  33178  29501  97477  32712  19601  80020  65807   7501
73120
 23320  79424  65203  37604  36830  92404   1453  59715  85345  44107   8861
91761
 91730  56560  75150  95207  32174  94086   3820  17403  77840  63116   2169
95336
 44240  76903  84106  35810  37918  72209  48146  43302  80122   5408   4401
38671
 47362  48640  57103  80525  47905  37042  95823  91360   2148   1040  87105
89431
 92236  60126   7055  29406  23602  14701  46544  43402  92253  32303  37211
98226
 60098  76117  60090  29483  71901  80112  43130  88001  35244  75034  95687
84107
 53186  93309  33068  45373  78415  90278  32839   7050  70601  60035  11550
46060
 55124  29464  48310  54703  78577  59102  97030  37421  83642  92307  60440
55369
 95695  77489  77581  94403  49505  93277  66212  92592  92399   2151  77301
```

```
60477
 52001 48127 87505 28601 60188 56301 33161 46226 33317 34952 29730
79762
 53214 91911 66502 16602 80229 61821 47401 71854 78539 77520 46142
90712
  2895 54880 76021 98042 74012 33023 33021 77536 67212 78501 52240
83704
  2920 61032 77642 95610 75056 98052 32114 86442 46368 58103 46514
91776
 33063 30328 44060 73505 23666 13440 54601 83501 39401 94526 48858
84321
  6708 30605  4240 61832 85323 30062 85364 54401 99301 60302 32503
77573
 20877 84043 35401 92553 40324 80538 85224 59601 63122 76706 48066
60423
 18018 55113 68801 55125 48237 72756 88101 33458 93101 75104 68701
84020
 48104 91941 83201 49423  6460 60089 92630 96003 95928 13501 72032
82001
 42301 83605 70065  3060 38134 94061 37087 93454 60016 98632 37075
50701
  2138 60067  1915 97405 93030 98059 60025 33445 80022 77590 27893
87124
 27534 98208 90640 92020 77705 33407 79605 61761 63301 60174 93010
97123
 91505 95351 67846  8401 80501 95616 26003 95037  7011 53081 30344
57701
  1810 34741  6484  6810 52302 32771 78666 80634 76063 44035 83301
33134
 60441  1752 20707 77803 71603 57401 21740  7017 60004 60543 55433
92672
 94568 93405 72762 95240 77571 45040 30188]
['South' 'West' 'Central' 'East']
['FUR-BO-10001798' 'FUR-CH-10000454' 'OFF-LA-10000240' ...
 'OFF-AP-10003099' 'TEC-PH-10002645' 'OFF-ST-10001627']
['Furniture' 'Office Supplies' 'Technology']
['Bookcases' 'Chairs' 'Labels' 'Tables' 'Storage' 'Furnishings' 'Art'
 'Phones' 'Binders' 'Appliances' 'Paper' 'Accessories' 'Envelopes'
 'Fasteners' 'Supplies' 'Machines' 'Copiers']
['Bush Somerset Collection Bookcase'
 'Hon Deluxe Fabric Upholstered Stacking Chairs, Rounded Back'
 'Self-Adhesive Address Labels for Typewriters by Universal' ...
 'Eureka Hand Vacuum, Bagless' 'LG G2'
 'Eldon Jumbo ProFile Portable File Boxes Graphite/Black']
[261.96 731.94  14.62 ...  97.98  55.6  243.16]
[ 2  3  5  7  4  6  9  1  8 14 11 13 10 12]
[0.   0.45 0.2  0.8  0.3  0.5  0.7  0.6  0.32 0.1  0.4  0.15]
[ 41.9136 219.582     6.8714 ...    4.1028  13.32     72.948 ]

df.duplicated().sum()
```

```
1  sns.heatmap(df.isnull(),yticklabels=False,cbar=False,cmap="viridis")
```

```
<AxesSubplot:>
```
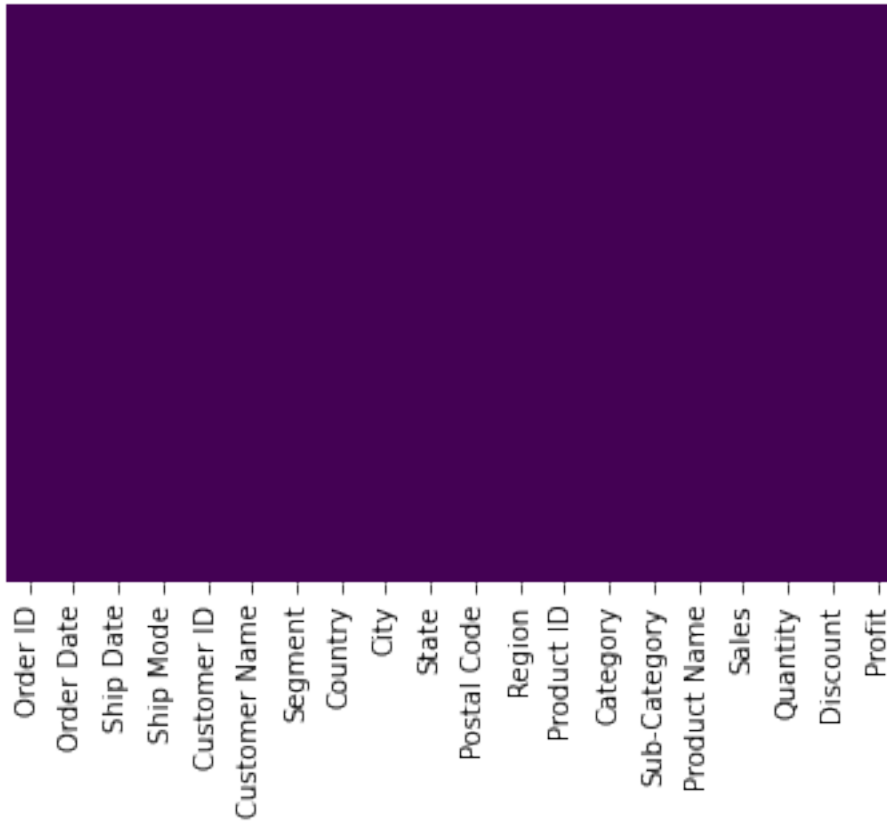


```
df.drop_duplicates()
           Order ID Order Date  Ship Date       Ship Mode Customer ID
\
0      CA-2016-152156 2016-11-08 2016-11-11    Second Class    CG-12520

1      CA-2016-152156 2016-11-08 2016-11-11    Second Class    CG-12520

2      CA-2016-138688 2016-06-12 2016-06-16    Second Class    DV-13045

3      US-2015-108966 2015-10-11 2015-10-18  Standard Class    SO-20335

4      US-2015-108966 2015-10-11 2015-10-18  Standard Class    SO-20335

...               ...        ...        ...             ...         ...

9989   CA-2014-110422 2014-01-21 2014-01-23    Second Class    TB-21400
```

```
9990   CA-2017-121258 2017-02-26 2017-03-03   Standard Class    DB-13060

9991   CA-2017-121258 2017-02-26 2017-03-03   Standard Class    DB-13060

9992   CA-2017-121258 2017-02-26 2017-03-03   Standard Class    DB-13060

9993   CA-2017-119914 2017-05-04 2017-05-09    Second Class     CC-12220


          Customer Name    Segment        Country               City
State  \
0          Claire Gute    Consumer   United States          Henderson
Kentucky
1          Claire Gute    Consumer   United States          Henderson
Kentucky
2       Darrin Van Huff   Corporate  United States        Los Angeles
California
3        Sean O'Donnell   Consumer   United States   Fort Lauderdale
Florida
4        Sean O'Donnell   Consumer   United States   Fort Lauderdale
Florida
...                ...        ...             ...                ...
...
9989  Tom Boeckenhauer   Consumer   United States              Miami
Florida
9990        Dave Brooks   Consumer   United States         Costa Mesa
California
9991        Dave Brooks   Consumer   United States         Costa Mesa
California
9992        Dave Brooks   Consumer   United States         Costa Mesa
California
9993        Chris Cortes  Consumer   United States        Westminster
California

      Postal Code Region       Product ID        Category Sub-
Category  \
0            42420  South  FUR-BO-10001798          Furniture
Bookcases
1            42420  South  FUR-CH-10000454          Furniture
Chairs
2            90036   West  OFF-LA-10000240  Office Supplies
Labels
3            33311  South  FUR-TA-10000577          Furniture
Tables
4            33311  South  OFF-ST-10000760  Office Supplies
Storage
...            ...    ...              ...              ...        ..
.
9989         33180  South  FUR-FU-10001889          Furniture
Furnishings
```

```
9990        92627    West   FUR-FU-10000747         Furniture
Furnishings
9991        92627    West   TEC-PH-10003645        Technology
Phones
9992        92627    West   OFF-PA-10004041  Office Supplies
Paper
9993        92683    West   OFF-AP-10002684  Office Supplies
Appliances

                                         Product Name     Sales
Quantity  \
0                     Bush Somerset Collection Bookcase   261.9600
2
1     Hon Deluxe Fabric Upholstered Stacking Chairs,...   731.9400
3
2     Self-Adhesive Address Labels for Typewriters b...    14.6200
2
3         Bretford CR4500 Series Slim Rectangular Table   957.5775
5
4                       Eldon Fold 'N Roll Cart System    22.3680
2
...                                                  ...       ...
...
9989                          Ultra Door Pull Handle    25.2480
3
9990  Tenex B1-RE Series Chair Mats for Low Pile Car...    91.9600
2
9991                          Aastra 57i VoIP phone   258.5760
2
9992  It's Hot Message Books with Stickers, 2 3/4" x 5"    29.6000
4
9993  Acco 7-Outlet Masterpiece Power Center, Wihtou...   243.1600
2

      Discount     Profit
0         0.00    41.9136
1         0.00   219.5820
2         0.00     6.8714
3         0.45  -383.0310
4         0.20     2.5164
...        ...        ...
9989      0.20     4.1028
9990      0.00    15.6332
9991      0.20    19.3932
9992      0.00    13.3200
9993      0.00    72.9480

[9993 rows x 20 columns]

df = df.drop(columns=["Postal Code"],axis=1)
```

```
df.corr()

          Sales  Quantity  Discount    Profit
Sales     1.000000  0.200795 -0.028190  0.479064
Quantity  0.200795  1.000000  0.008623  0.066253
Discount -0.028190  0.008623  1.000000 -0.219487
Profit    0.479064  0.066253 -0.219487  1.000000

df.cov()

                Sales    Quantity    Discount        Profit
Sales     388434.455308  278.459923  -3.627228  69944.096586
Quantity     278.459923    4.951113   0.003961     34.534769
Discount      -3.627228    0.003961   0.042622    -10.615173
Profit     69944.096586   34.534769 -10.615173  54877.798055

df.iloc[:,0]

0       CA-2016-152156
1       CA-2016-152156
2       CA-2016-138688
3       US-2015-108966
4       US-2015-108966
           ...
9989    CA-2014-110422
9990    CA-2017-121258
9991    CA-2017-121258
9992    CA-2017-121258
9993    CA-2017-119914
Name: Order ID, Length: 9994, dtype: object

plt.figure(figsize=(16,8))
plt.bar('Sub-Category' , 'Category' , data = df)
plt.show()
```
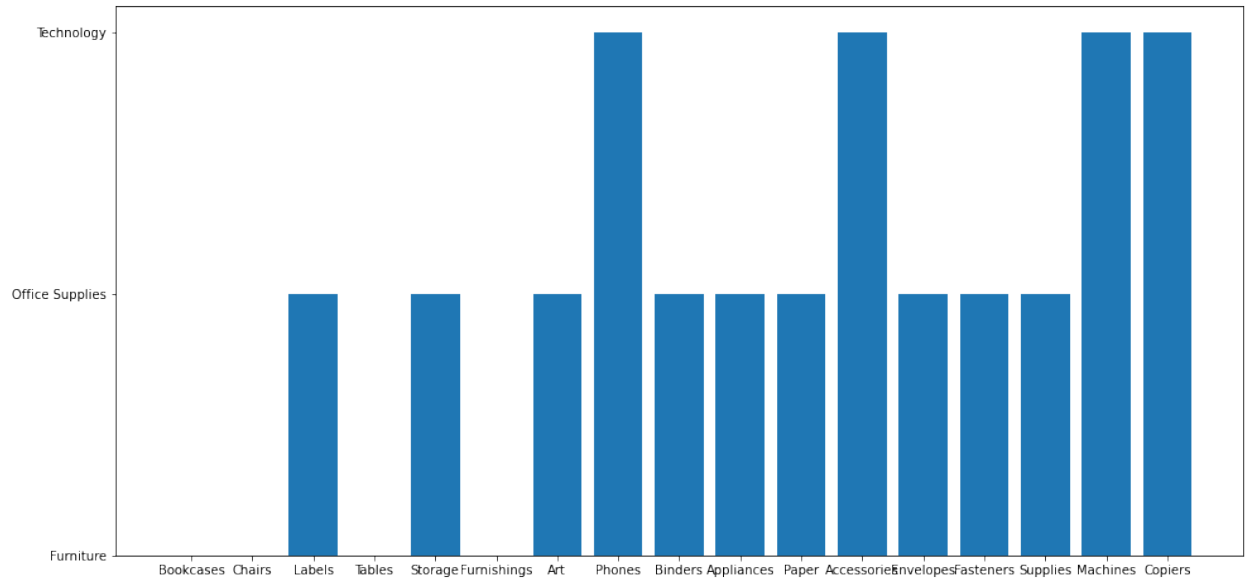
In Furniture Category the frequency of individual item is very less In Office supplies the frequency of individual item is medium And in Technology the Frequency of individual item is high

```
plt.figure(figsize=(12,10))
df['Sub-Category'].value_counts().plot.pie(autopct = "%1.1f%%")
plt.show()
```

Paper — 13.7%
Furnishings — 9.6%
Binders — 15.2%
Phones — 8.9%
Sub-Category
Storage — 8.5%
Copiers — 0.7%
Machines — 1.2%
Supplies — 1.9%
Fasteners — 2.2%
Bookcases — 2.3%
Envelopes — 2.5%
Art — 8.0%
Tables — 3.2%
Accessories — 7.8%
Labels — 3.6%
Chairs — 6.2%
Appliances — 4.7%
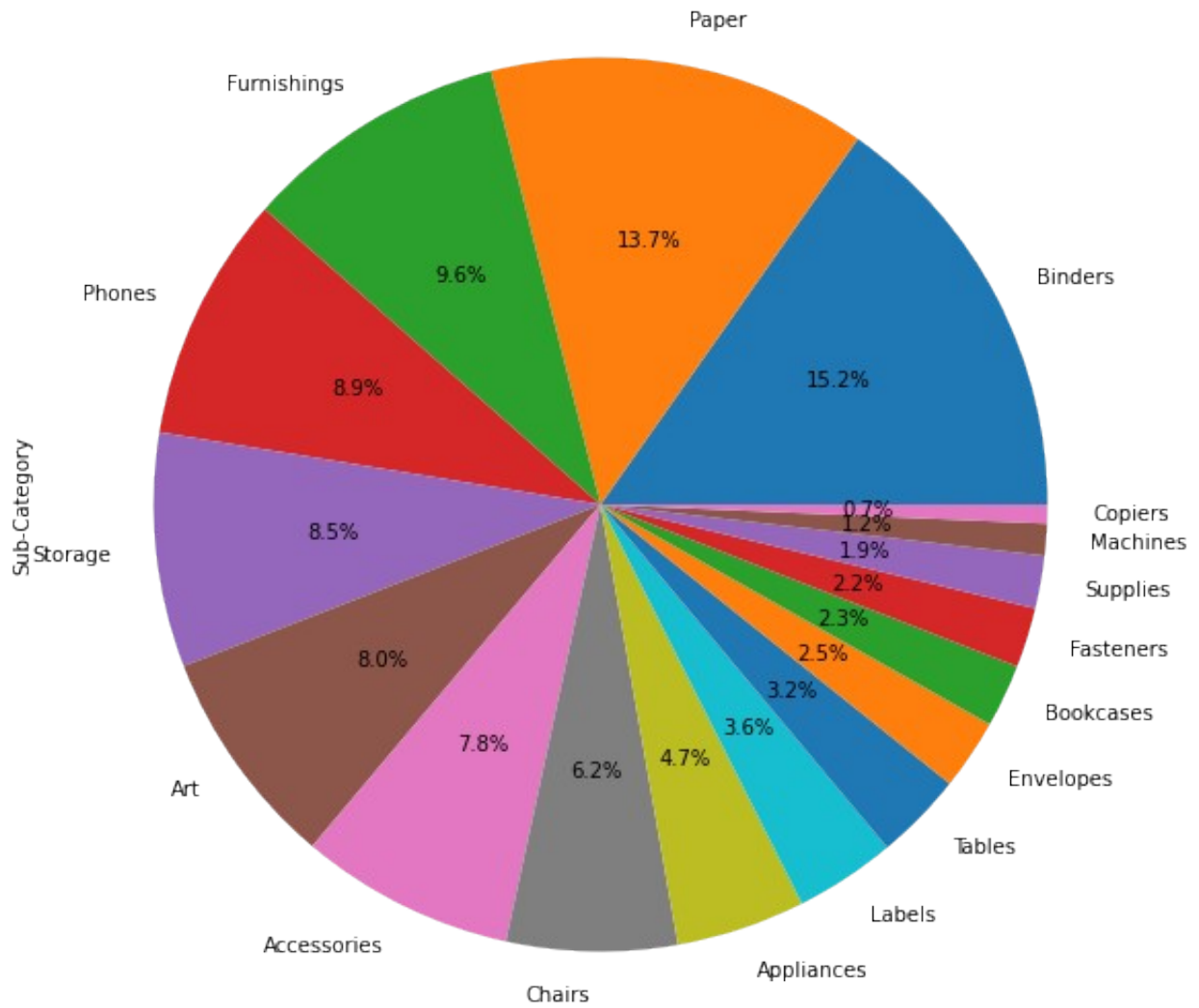
```
df.groupby('Sub-Category')['Profit' , 'Sales'].agg(['sum']).plot.bar()
plt.title("Total Profit and Sales per Sub-Category")
plt.rcParams['figure.figsize'] = [10,8]
plt.show()
```
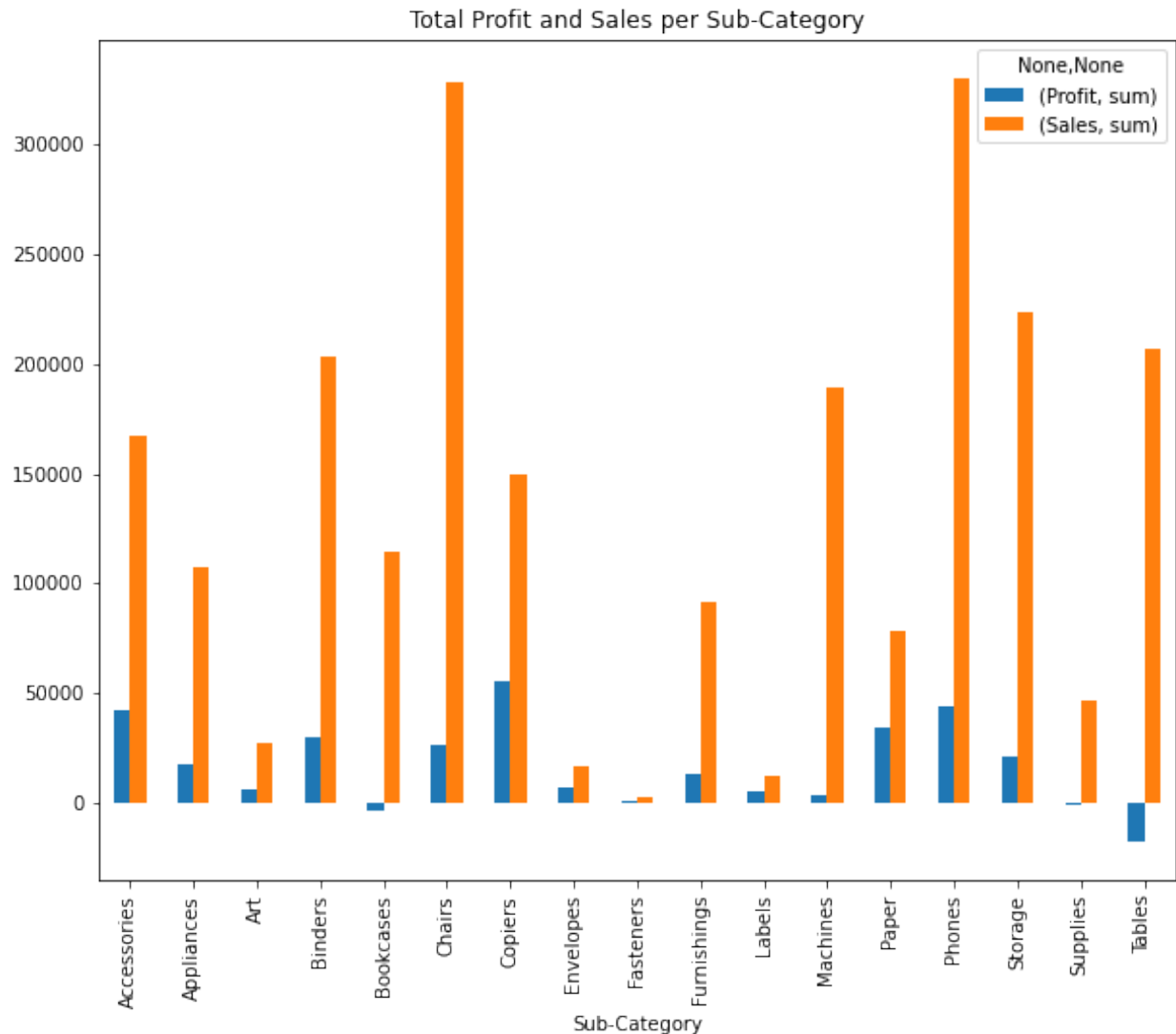
Total Profit and Sales per Sub-Category

Highest Profit is earned in Copiers while Selling price for Chairs and Phones is Extremely high compared to other products. Another thing is People don't preferto buy Tables and Bookcases. Bookcases - Fasteners - Tables - Supplies - Lables and Machines are not Selling that much compare to Other products

```
df.groupby('State')['Profit' , 'Sales'].agg(['sum']).plot.bar()
plt.title("Total Profit and Sales per Region")
plt.rcParams['figure.figsize'] = [10,8]
plt.show()
```

Total Profit and Sales per Region
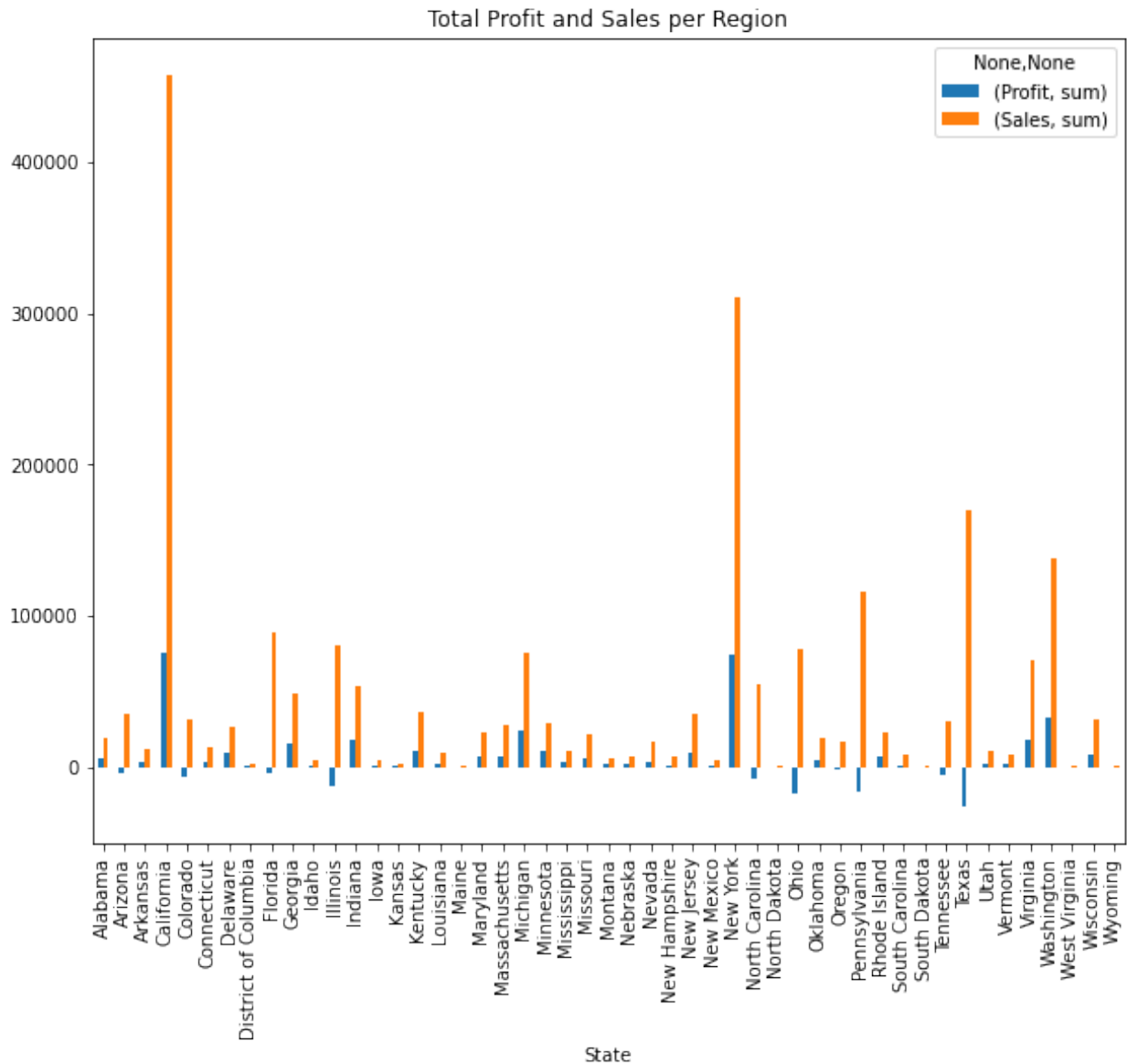
```
print(df['Sub-Category'].value_counts())
plt.figure(figsize = (12,6))
sns.countplot(x = df['Sub-Category'])
plt.xticks(rotation = 90)
plt.show()

Binders        1523
Paper          1370
Furnishings     957
Phones          889
Storage         846
Art             796
Accessories     775
Chairs          617
```

```
Appliances        466
Labels            364
Tables            319
Envelopes         254
Bookcases         228
Fasteners         217
Supplies          190
Machines          115
Copiers            68
Name: Sub-Category, dtype: int64
```
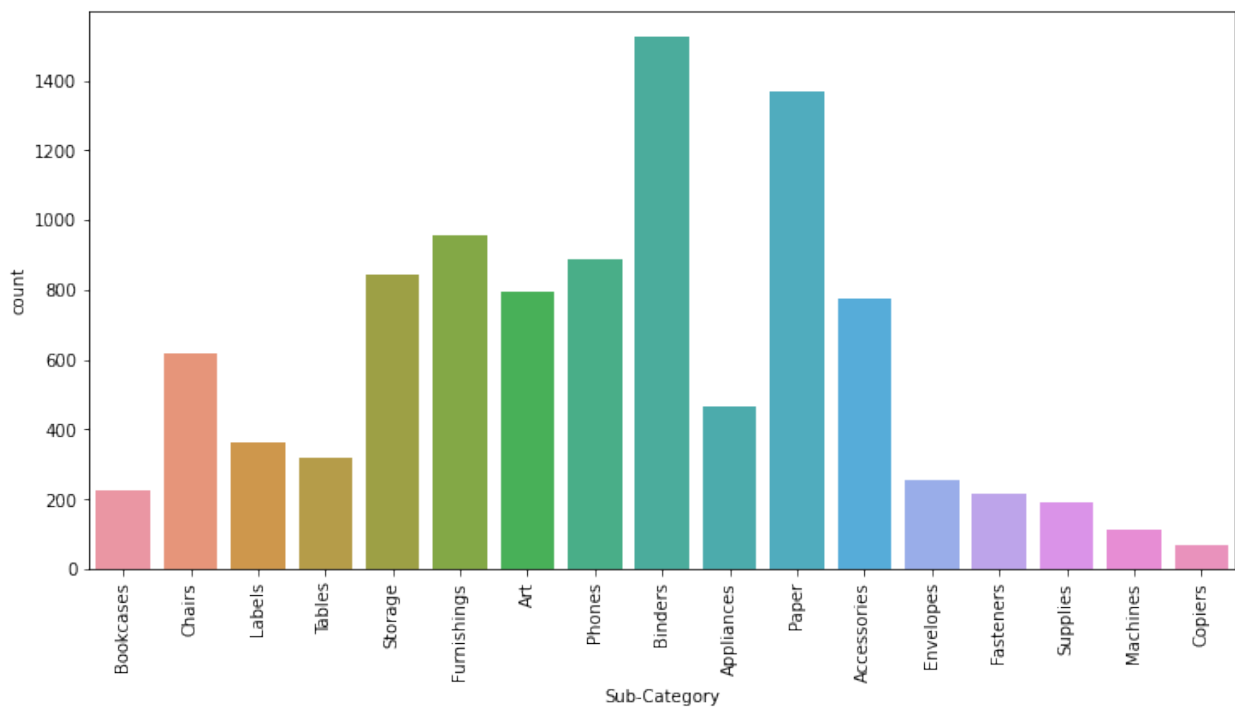


```python
df.groupby('Region')['Profit' , 'Sales'].agg(['sum']).plot.bar()
plt.title("Total Profit and Sales per Region")
plt.rcParams['figure.figsize'] = [10,8]
plt.show()
```

Total Profit and Sales per Region
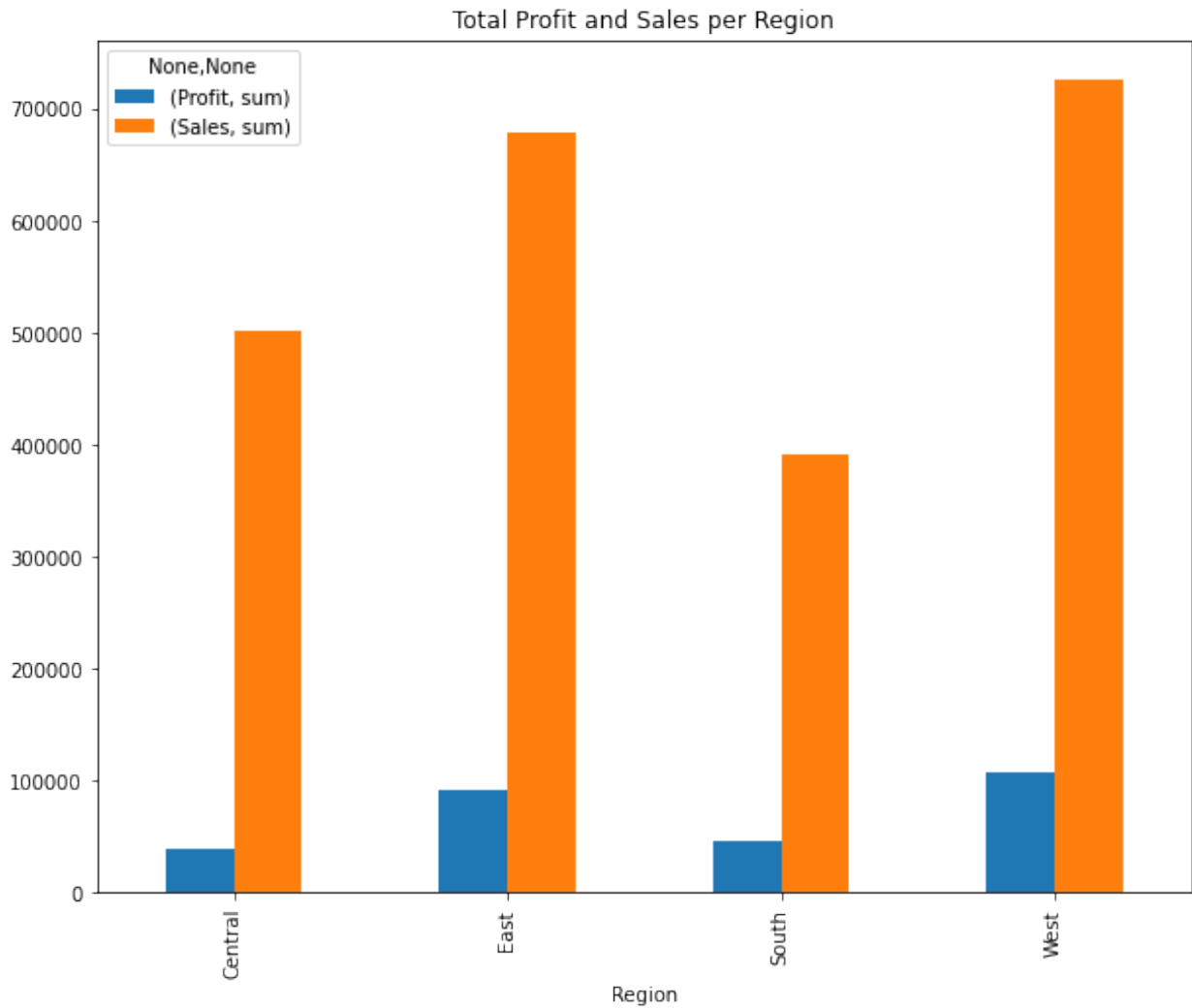
the sales is more in WEST as well as in EAST. In Center Region the sales is Medium but in the South the sales is Less as compare to other region. WEST and EAST Region is in profit as compare to other. But on the otherhand The Central Region is in Less Profit. And the SOUTH Region is little higher than Central.

```
fig,axes = plt.subplots(1,1,figsize = (9,6))
sns.heatmap(df.corr() , annot= True)
plt.show()
```
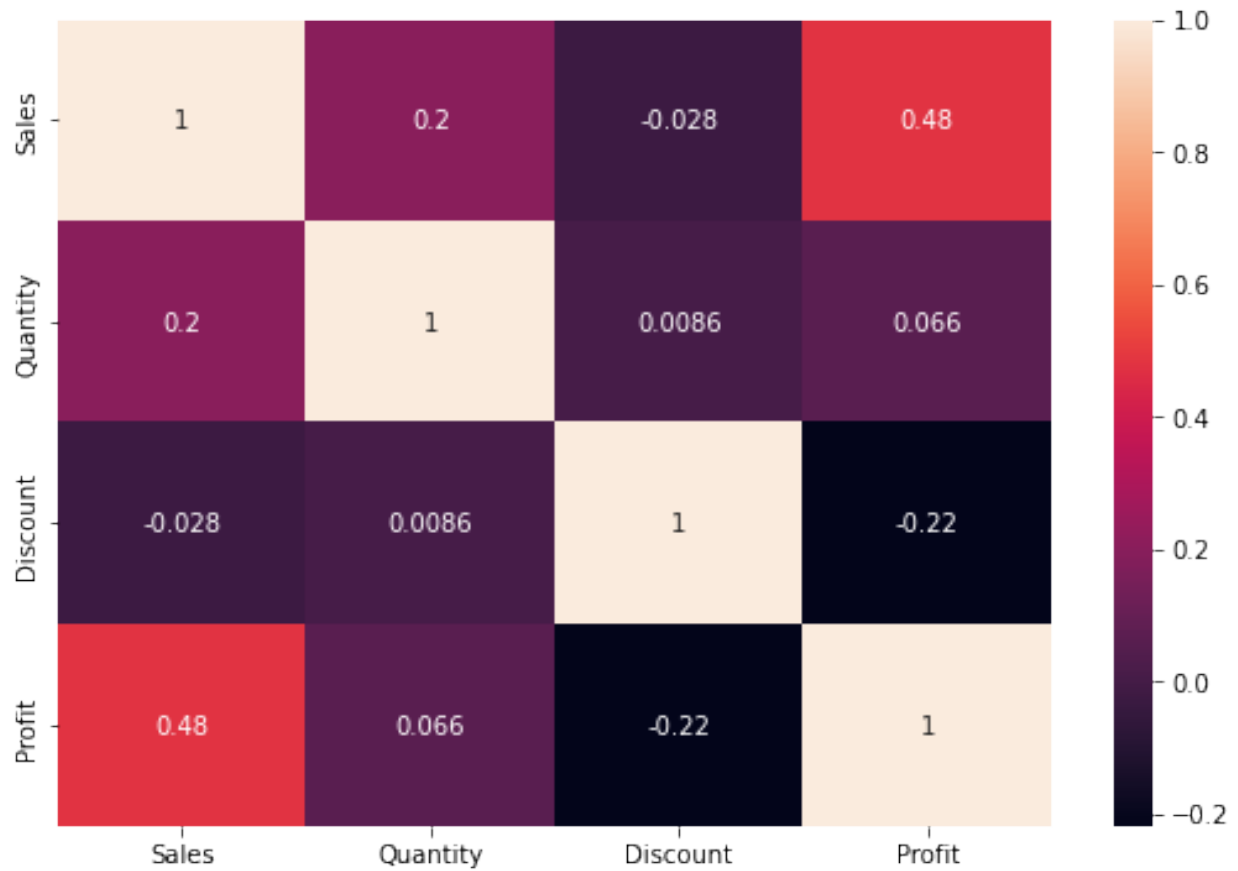
```
#sns.rugplot(x="Sub-Category",y="State", data=df)
sns.violinplot(x="Category",y="Sales", data=df)

<AxesSubplot:xlabel='Category', ylabel='Sales'>
```
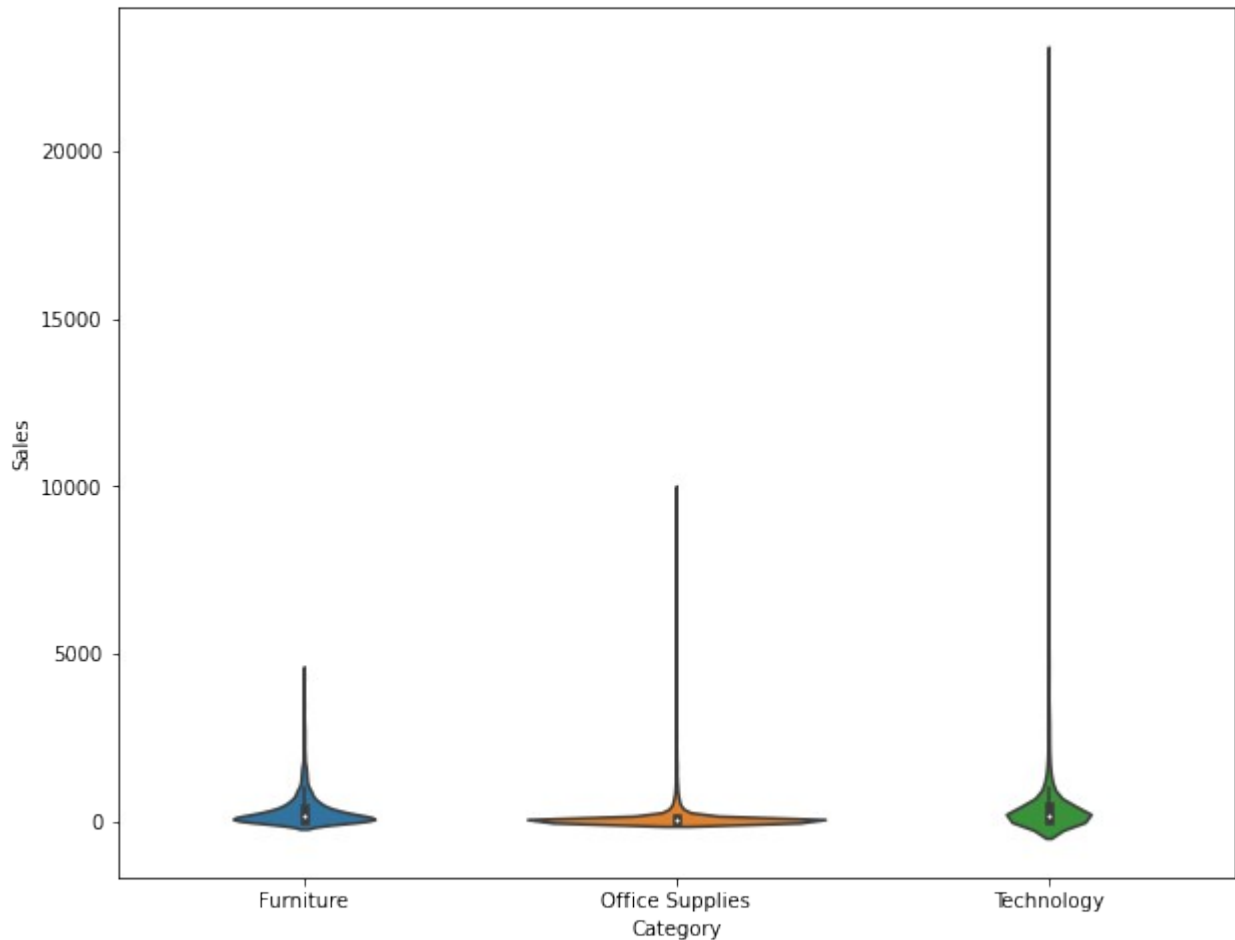
```
df.value_counts()

Order ID        Order Date  Ship Date   Ship Mode       Customer ID
Customer Name           Segment     Country         City            State
Region   Product ID       Category        Sub-Category  Product Name
Sales    Quantity  Discount  Profit
US-2014-150119  2014-04-23  2014-04-27  Standard Class  LB-16795
Laurel Beltran          Home Office  United States  Columbus        Ohio
East     FUR-CH-10002965  Furniture       Chairs          Global Leather
Highback Executive Chair with Pneumatic Height Adjustment, Black
281.372  2        0.3          -12.0588    2
US-2017-169551  2017-07-07  2017-07-09  First Class     RL-19615
Rob Lucas               Consumer     United States  Philadelphia
Pennsylvania  East     TEC-PH-10001363  Technology      Phones
Apple iPhone 5S
683.988  2        0.4          -113.9980   1
CA-2015-164084  2015-09-07  2015-09-12  Standard Class  AG-10525
Andy Gerbode            Corporate    United States  New York City  New
York     East     OFF-ST-10003638  Office Supplies  Storage
Mobile Personal File Cube
70.260   3        0.0          18.9702     1
```

```
OFF-BI-10000605   Office Supplies   Binders        Acco Pressboard Covers
with Storage Hooks, 9 1/2" x 11", Executive Red              6.096    2
0.2        2.0574        1

..
CA-2017-126718   2017-04-29   2017-05-04   Standard Class   KT-16480
Kean Thornton           Consumer      United States   Orange          New
Jersey     East     OFF-LA-10004055   Office Supplies   Labels
Color-Coded Legal Exhibit Labels
4.910    1        0.0          2.4059        1
CA-2017-126676   2017-09-29   2017-10-01   First Class     FH-14365
Fred Hopkins            Corporate     United States   Hempstead       New
York       East     OFF-EN-10004846   Office Supplies   Envelopes
Letter or Legal Size Expandable Poly String Tie Envelopes
7.980    3        0.0          3.9102        1
CA-2017-126662   2017-07-17   2017-07-21   Standard Class   AB-10255
Alejandro Ballentine   Home Office   United States   Los Angeles
California      West     TEC-CO-10004202   Technology        Copiers
Brother DCP1000 Digital 3 in 1 Multifunction Machine
479.984  2        0.2          89.9970       1
CA-2017-126634   2017-03-30   2017-04-01   Second Class     AB-10165
Alan Barnes            Consumer      United States   Lakewood
California      West     FUR-FU-10004973   Furniture         Furnishings
Flat Face Poster Frame
94.200   5        0.0          39.5640       1
CA-2014-100006   2014-09-07   2014-09-13   Standard Class   DK-13375
Dennis Kane            Consumer      United States   New York City   New
York       East     TEC-PH-10002075   Technology        Phones       AT&T
EL51110 DECT
377.970  3        0.0          109.6113      1
Length: 9993, dtype: int64
```

```python
sns.relplot(data=df, x="Region", y="Quantity", hue="Category",
kind="line")
```

```
<seaborn.axisgrid.FacetGrid at 0x17997ff0>
```
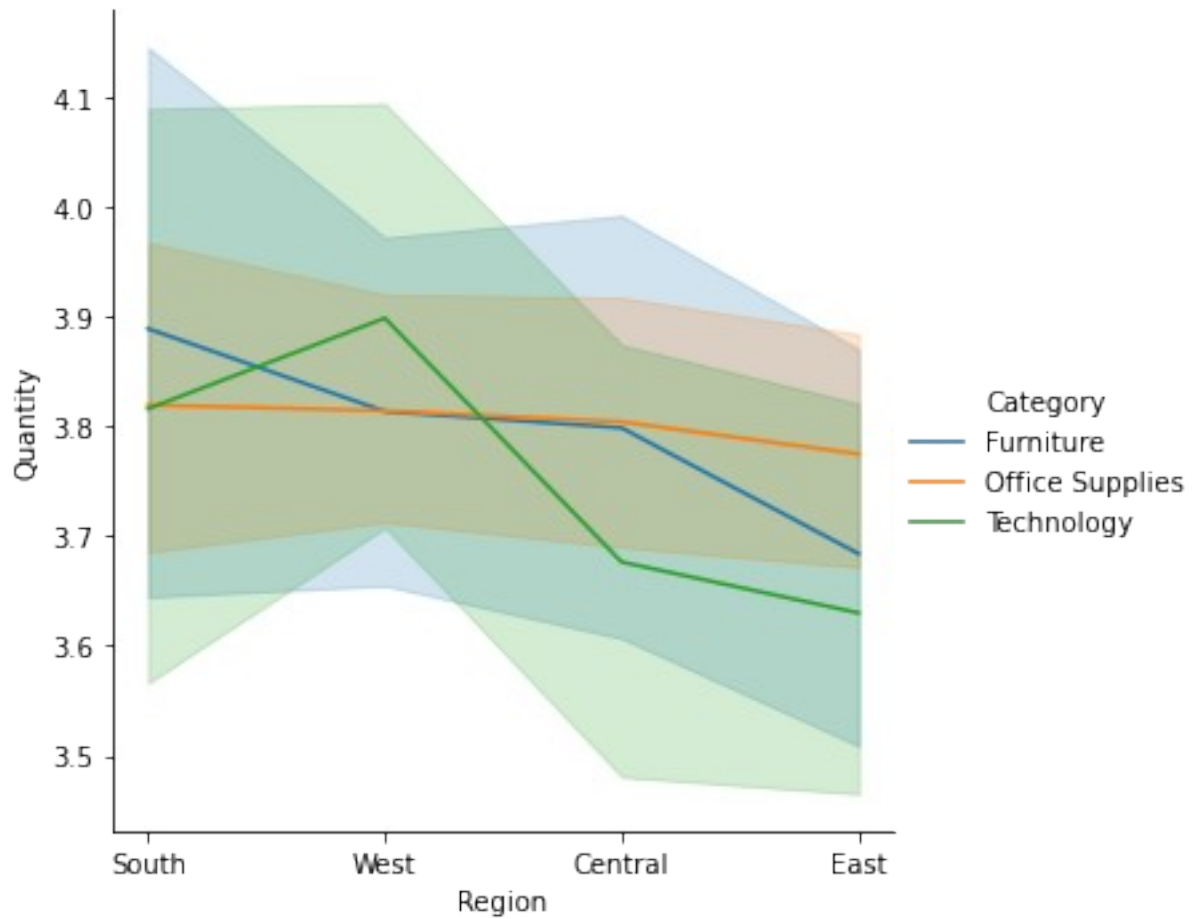
```
sns.relplot(data=df, x="Ship Mode", y="Quantity", hue="Region" )
<seaborn.axisgrid.FacetGrid at 0x179deb30>
```
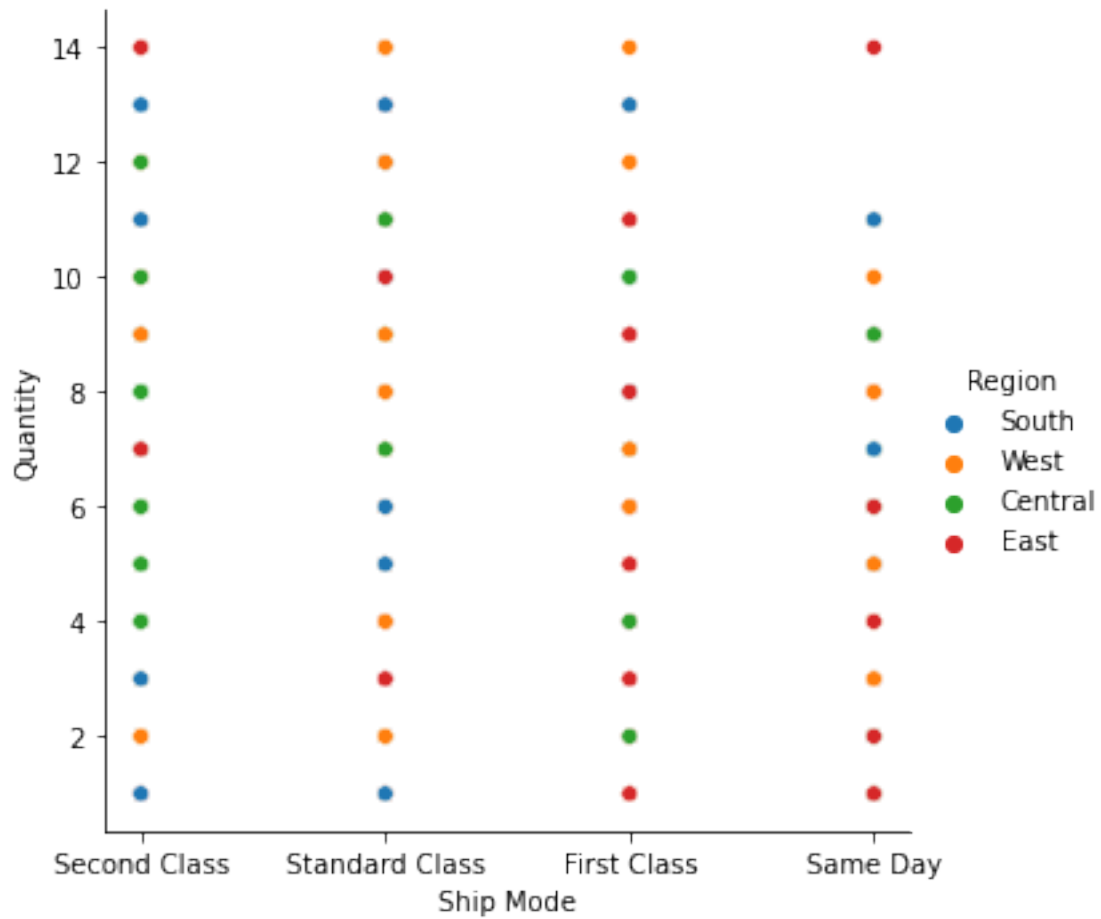
```
sns.countplot(x=df['Segment'])
```

```
<AxesSubplot:xlabel='Segment', ylabel='count'>
```
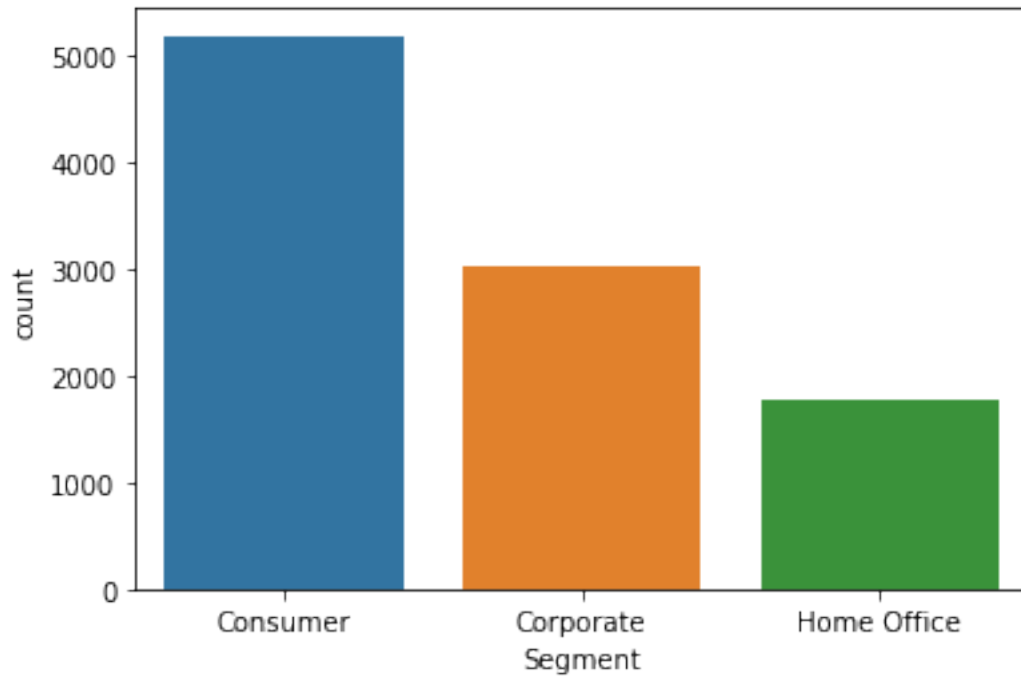
```
plt.Figure(figsize=(40,25))
sns.barplot(x=df['Category'] , y=df['Profit'])

<AxesSubplot:xlabel='Category', ylabel='Profit'>
```
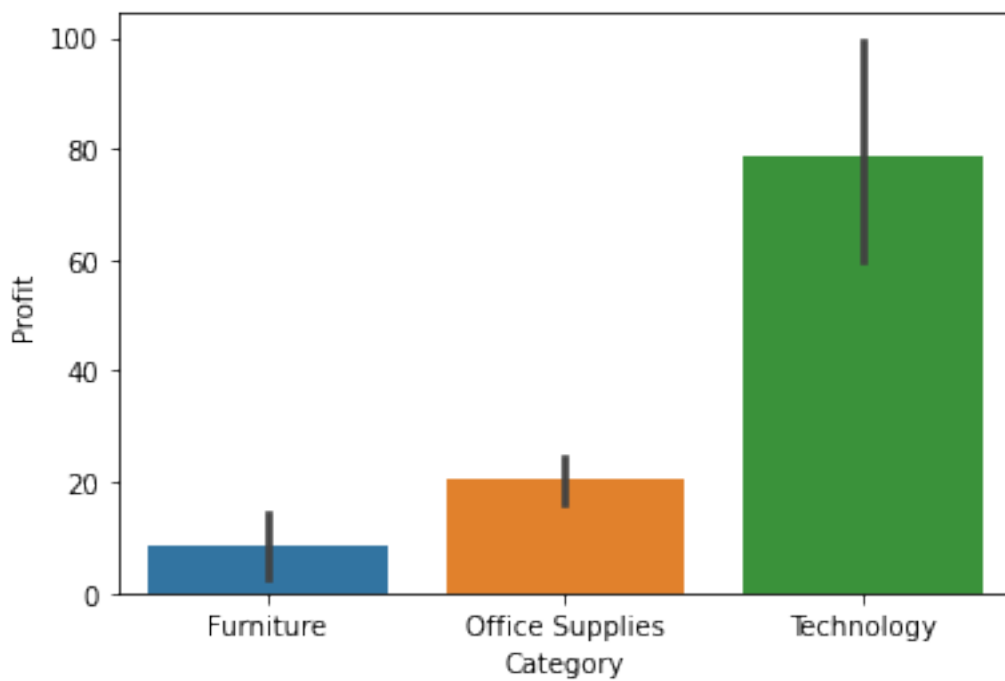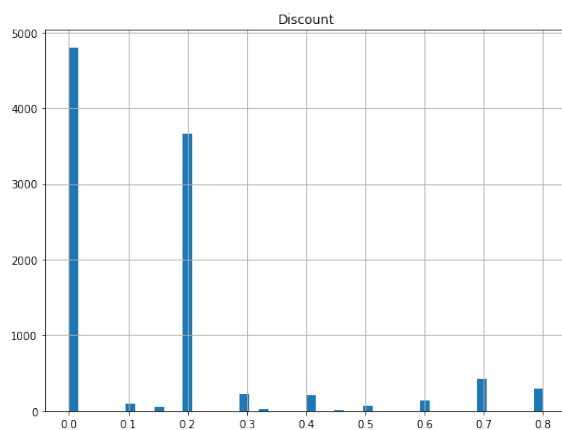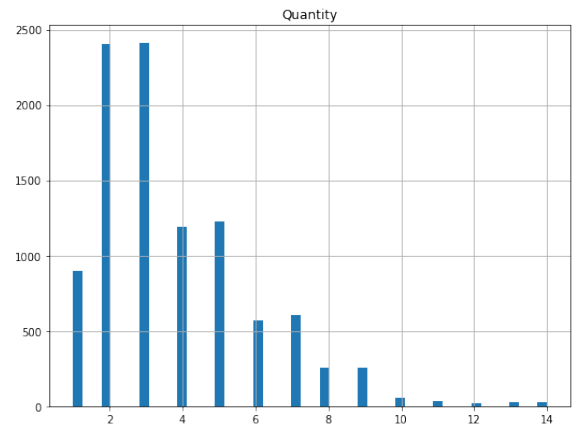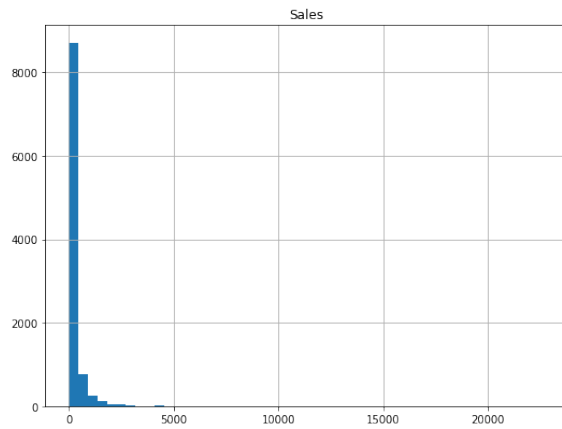


```
plt.figure(figsize= (10,4))
sns.lineplot('Discount','Profit', data = df, color = 'b' , label =
```
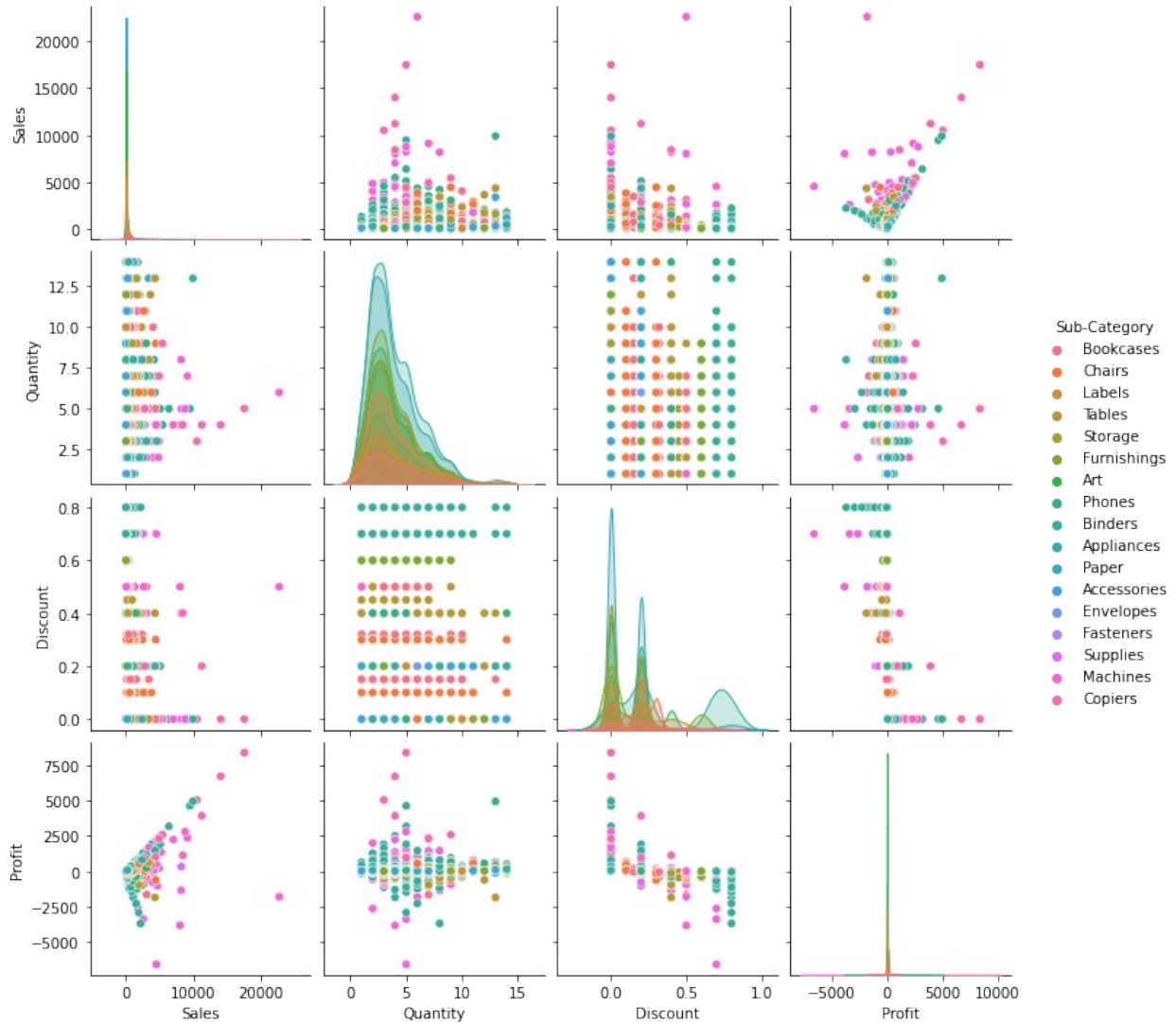
```
'Discount')
plt.legend()
```

```
<matplotlib.legend.Legend at 0xfa3ecf0>
```
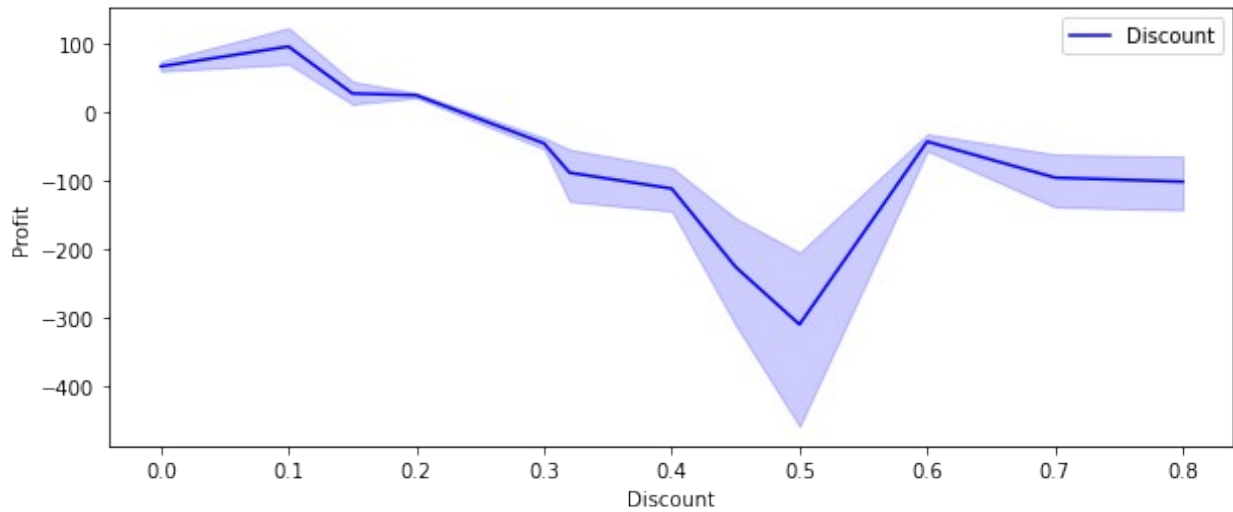

As we can see when the Discount was 0 that time the Profit was between 0 to 100. As the Discount Increasses the Profit Keep Geeting Lower

```
df.hist(bins=50 , figsize=(20,15))
plt.show()
```
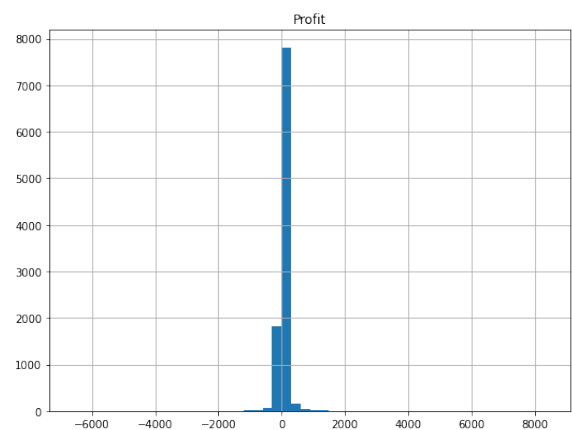
```
figsize=(15,10)
sns.pairplot(df,hue='Sub-Category')

<seaborn.axisgrid.PairGrid at 0x5688890>
```

```
df.groupby("State").Profit.agg(["sum","mean","min","count","median","std","var"])
```

	sum	mean	min	count	median
State					
Alabama	5786.8253	94.865989	0.0000	61	16.87500
Arizona	-3427.9246	-15.303235	-814.4832	224	2.53365
Arkansas	4008.6871	66.811452	1.4190	60	18.34080
California	76381.3871	38.171608	-325.5720	2001	13.30560
Colorado	-6527.8579	-35.867351	-3399.9800	182	3.12480

Connecticut	3511.4918	42.823071	-15.5826	82	12.18310
Delaware	9977.3748	103.930988	-48.7839	96	19.19700
District of Columbia	1059.5893	105.958930	4.4344	10	14.52720
Florida	-3399.3017	-8.875461	-1811.0784	383	2.93400
Georgia	16250.0433	88.315453	0.1134	184	22.24690
Idaho	826.7231	39.367767	1.1151	21	14.70000
Illinois	-12607.8870	-25.625787	-2929.4845	492	-1.81440
Indiana	18382.9363	123.375411	0.0000	149	18.76700
Iowa	1183.8119	39.460397	2.5920	30	13.93560
Kansas	836.4435	34.851813	1.7280	24	11.96880
Kentucky	11199.6966	80.573357	0.0000	139	21.77280
Louisiana	2196.1023	52.288150	1.8672	42	15.65800
Maine	454.4862	56.810775	3.8822	8	30.73400
Maryland	7031.1788	66.963608	-47.1798	105	23.68080
Massachusetts	6785.5016	50.262975	-297.6848	135	16.10960
Michigan	24463.1876	95.934069	0.0000	255	24.22560
Minnesota	10823.1874	121.608847	0.0000	89	16.80000
Mississippi	3172.9762	59.867475	0.0000	53	23.40000
Missouri	6436.2105	97.518341	2.2990	66	15.66450
Montana	1833.3285	122.221900	2.2098	15	13.93920
Nebraska	2037.0942	53.607742	0.2016	38	10.47770
Nevada	3316.7659	85.045279	-109.5822	39	23.80800
New Hampshire	1706.5028	63.203807	-105.3164	27	17.22000
New Jersey	9772.9138	75.176260	-31.3722	130	18.81120
New Mexico	1157.1161	31.273408	-5.6943	37	

State					
					13.34800
New York	74038.5486	65.637011	-553.6476	1128	13.83960
North Carolina	-7490.9122	-30.083985	-3839.9904	249	3.95920
North Dakota	230.1497	32.878529	0.8680	7	8.29440
Ohio	-16971.3766	-36.186304	-6599.9780	469	1.23900
Oklahoma	4853.9560	73.544788	0.5520	66	23.53605
Oregon	-1190.4705	-9.600569	-384.7164	124	3.62880
Pennsylvania	-15559.9603	-26.507598	-1665.0522	587	0.58400
Rhode Island	7285.6293	130.100523	-127.5792	56	18.34850
South Carolina	1769.0566	42.120395	0.5584	42	17.99600
South Dakota	394.8283	32.902358	1.3068	12	14.85905
Tennessee	-5341.6936	-29.189583	-1237.8462	183	2.33640
Texas	-25729.3563	-26.121174	-3701.8928	985	0.33360
Utah	2546.5335	48.047802	0.2016	53	13.03750
Vermont	2244.9783	204.088936	0.9588	11	67.65990
Virginia	18597.9504	83.026564	0.0000	224	19.18125
Washington	33402.6517	66.013146	-73.0548	506	13.44060
West Virginia	185.9216	46.480400	-76.9536	4	21.71680
Wisconsin	8401.8004	76.380004	0.2598	110	25.10085
Wyoming	100.1960	100.196000	100.1960	1	100.19600

	std	var
State		
Alabama	210.901876	44479.601429
Arizona	109.266267	11939.117124
Arkansas	123.249880	15190.532873
California	97.691593	9543.647400
Colorado	276.424024	76410.240842
Connecticut	66.138081	4374.245726
Delaware	518.953513	269312.749126

```
District of Columbia   213.461353     45565.749398
Florida                126.324165     15957.794770
Georgia                283.026694     80104.109456
Idaho                   63.027976      3972.525785
Illinois               175.695233     30868.814827
Indiana                693.643105    481140.757367
Iowa                    73.763444      5441.045702
Kansas                  42.619311      1816.405680
Kentucky               171.126404     29284.246011
Louisiana               83.357777      6948.518922
Maine                   53.816911      2896.259868
Maryland               148.214655     21967.584011
Massachusetts           94.386407      8908.793776
Michigan               374.559894    140295.114453
Minnesota              505.784116    255817.572102
Mississippi             80.793505      6527.590392
Missouri               308.032711     94884.151220
Montana                350.364144    122755.033590
Nebraska               133.163393     17732.489334
Nevada                 265.901543     70703.630825
New Hampshire          119.893107     14374.357098
New Jersey             236.387912     55879.245021
New Mexico              39.290011      1543.704967
New York               232.540498     54075.083184
North Carolina         297.900997     88745.003951
North Dakota            58.123254      3378.312671
Ohio                   341.346473    116517.414355
Oklahoma               109.026519     11886.781743
Oregon                  74.450034      5542.807564
Pennsylvania           136.294675     18576.238478
Rhode Island           384.816449    148083.699355
South Carolina          73.698963      5431.537207
South Dakota            43.803938      1918.784959
Tennessee              176.636392     31200.415012
Texas                  189.022781     35729.611690
Utah                    83.929399      7044.143964
Vermont                301.653921     90995.087755
Virginia               235.266720     55350.429592
Washington             325.305395    105823.600064
West Virginia          125.265494     15691.444107
Wisconsin              124.946125     15611.534206
Wyoming                       NaN              NaN
```

Final Conclusion

- Profit in South & Central Side is Less
- Profit in East & West Refion Side is Better Than South and Central
- Highest Profit is earned in Copiers while Selling Price for Chairs and Phones is extremely high Compare to other Products.

- Negative Correlation between profit and discount Total sum of profit in sale of tables is negative
- In States California is the Top in Buying from Superstore
- Technology Segments are more Profitable