

```
import pandas as pd
from google.colab import files
```

```
uploaded=files.upload()
```

No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving Global Superstore.xls to Global Superstore.xls

```
import io
df=pd.read_excel(io.BytesIO(uploaded['Global Superstore.xls']))
print(df)
```

51286	35398	US-2014-102288	2014-06-20	2014-06-24	Standard Class
51287	40470	US-2013-155768	2013-12-02	2013-12-02	Same Day
51288	9596	MX-2012-140767	2012-02-18	2012-02-22	Standard Class
51289	6147	MX-2012-134460	2012-05-22	2012-05-26	Second Class

	Customer ID	Customer Name	Segment	City
0	RH-19495	Rick Hansen	Consumer	New York City
1	JR-16210	Justin Ritter	Corporate	Wollongong
2	CR-12730	Craig Reiter	Consumer	Brisbane
3	KM-16375	Katherine Murray	Home Office	Berlin
4	RH-9495	Rick Hansen	Consumer	Dakar
...
51285	KE-16420	Katrina Edelman	Corporate	Kure
51286	ZC-21910	Zuschuss Carroll	Consumer	Houston
51287	LB-16795	Laurel Beltran	Home Office	Oxnard
51288	RB-19795	Ross Baird	Home Office	Valinhos
51289	MC-18100	Mick Crebagga	Consumer	Tipitapa

	State	Product ID	Category	Sub-Category
0	New York	TEC-AC-10003033	Technology	Accessories
1	New South Wales	FUR-CH-10003950	Furniture	Chairs
2	Queensland	TEC-PH-10004664	Technology	Phones
3	Berlin	TEC-PH-10004583	Technology	Phones
4	Dakar	TEC-SHA-10000501	Technology	Copiers
...
51285	Hiroshima	OFF-FA-10000746	Office Supplies	Fasteners
51286	Texas	OFF-AP-10002906	Office Supplies	Appliances
51287	California	OFF-EN-10001219	Office Supplies	Envelopes
51288	São Paulo	OFF-BI-10000806	Office Supplies	Binders
51289	Managua	OFF-PA-10004155	Office Supplies	Paper

	Product Name	Sales	Quantity
0	Plantronics CS510 - Over-the-Head monaural Wir...	2309.650	7
1	Novimex Executive Leather Armchair, Black	3709.395	9
2	Nokia Smart Phone, with Caller ID	5175.171	9
3	Motorola Smart Phone, Cordless	2892.510	5
4	Sharp Wireless Fax, High-Speed	2832.960	8
...
51285	Advantus Thumb Tacks, 12 Pack	65.100	5
51286	Hoover Replacement Belt for Commercial Guardsm...	0.444	1
51287	#10- 4 1/8" x 9 1/2" Security-Tint Envelopes	22.920	3
51288	Acco Index Tab, Economy	13.440	2
51289	Eaton Computer Printout Paper, 8.5 x 11	61.380	3

	Discount	Profit	Shipping Cost	Order Priority
0	0.0	762.1845	933.570	Critical
1	0.1	-288.7650	923.630	Critical
2	0.1	919.9710	915.490	Medium
3	0.1	-96.5400	910.160	Medium
4	0.0	311.5200	903.040	Critical
...
51285	0.0	4.5000	0.010	Medium
51286	0.8	-1.1100	0.010	Medium
51287	0.0	11.2308	0.010	High
51288	0.0	2.4000	0.003	Medium
51289	0.0	1.8000	0.002	High

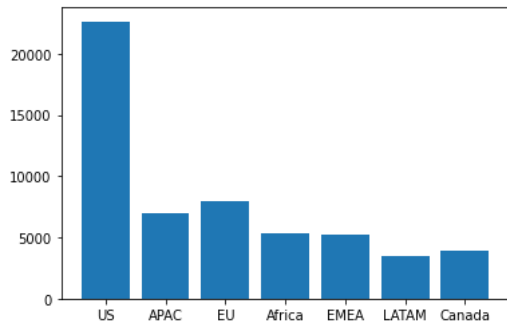
```
[51290 rows x 24 columns]
```

```
df.columns
```

```
Index(['Row ID', 'Order ID', 'Order Date', 'Ship Date', 'Ship Mode',
      'Customer ID', 'Customer Name', 'Segment', 'City', 'State', 'Country',
      'Postal Code', 'Market', 'Region', 'Product ID', 'Category',
      'Sub-Category', 'Product Name', 'Sales', 'Quantity', 'Discount',
      'Profit', 'Shipping Cost', 'Order Priority'],
      dtype='object')
```

```
import matplotlib.pyplot as plt
```

```
market=df['Market']
sales=df['Sales']
plt.bar(market,sales)
plt.show()
```



```
subcategory = df['Sub-Category']
sales=df['Sales']
# Figure Size
fig, ax = plt.subplots(figsize =(16, 9))

# Horizontal Bar Plot
ax.barh(subcategory, sales)

# Remove axes splines
for s in ['top', 'bottom', 'left', 'right']:
    ax.spines[s].set_visible(False)

# Remove x, y Ticks
ax.xaxis.set_ticks_position('none')
ax.yaxis.set_ticks_position('none')

# Add padding between axes and labels
ax.xaxis.set_tick_params(pad = 5)
ax.yaxis.set_tick_params(pad = 10)

# Add x, y gridlines
ax.grid(b = True, color = 'grey',
        linestyle = '-.-', linewidth = 0.5,
        alpha = 0.2)

# Show top values
ax.invert_yaxis()

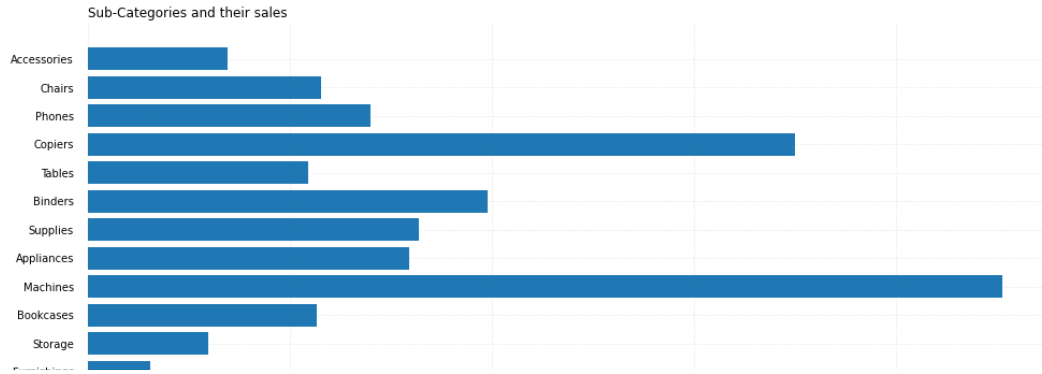
# Add annotation to bars

# Add Plot Title
ax.set_title('Sub-Categories and their sales',
            loc = 'left', )

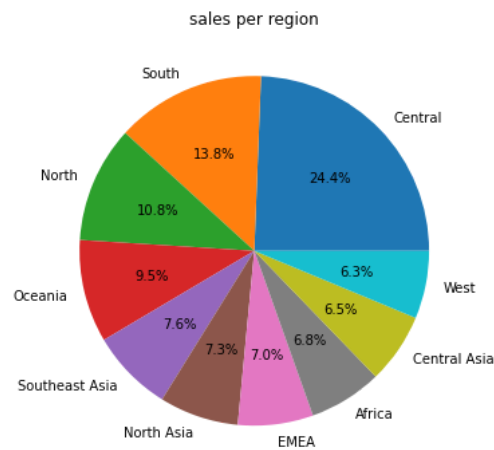
# Add Text watermark
fig.text(0.9, 0.15, 'swarali utekar', fontsize = 12,
        color = 'grey', ha = 'right', va = 'bottom',
        alpha = 0.7)

# Show Plot
plt.show()
```

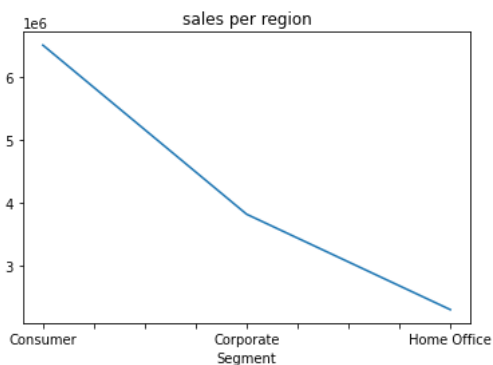
```
<ipython-input-11-834bacfac0f8>:22: MatplotlibDeprecationWarning: The 'b' parameter of grid() has been
ax.grid(b = True, color = 'grey',
```



```
sales_per_region = df.groupby('Region').sum()['Sales'].nlargest(10)
sales_per_region.plot(kind='pie', autopct='%1.1f%%', figsize=(12,6))
plt.title('sales per region')
plt.ylabel('')
plt.show()
```



```
rating_per_genre = df.groupby('Segment').sum()['Sales'].nlargest(10)
rating_per_genre.plot(kind='line')
plt.title('sales per region')
plt.ylabel('')
plt.show()
```



```
!pip install nbconvert
```

```
Looking in indexes: https://pypi.org/simple, https://us-python.pkg.dev/colab-wheels/public/simple/
Requirement already satisfied: nbconvert in /usr/local/lib/python3.9/dist-packages (6.5.4)
Requirement already satisfied: nbclient>=0.5.0 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (0.7.2)
Requirement already satisfied: mistune<2,>=0.8.1 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (0.8.4)
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Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (2.1.2)
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Requirement already satisfied: pandocfilters>=1.4.1 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (1.5.0)
Requirement already satisfied: jupyterlab-pygments in /usr/local/lib/python3.9/dist-packages (from nbconvert) (0.2.2)
Requirement already satisfied: packaging in /usr/local/lib/python3.9/dist-packages (from nbconvert) (23.0)
Requirement already satisfied: Jinja2>=3.0 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (3.1.2)
Requirement already satisfied: traitlets>=5.0 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (5.7.1)
Requirement already satisfied: jupyter-core>=4.7 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (5.2.0)
Requirement already satisfied: nbformat>=5.1 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (5.7.3)
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Requirement already satisfied: tinycss2 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (1.2.1)
Requirement already satisfied: pygments>=2.4.1 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (2.6.1)
Requirement already satisfied: entrypoints>=0.2.2 in /usr/local/lib/python3.9/dist-packages (from nbconvert) (0.4)
Requirement already satisfied: bleach in /usr/local/lib/python3.9/dist-packages (from nbconvert) (6.0.0)
Requirement already satisfied: platformdirs>=2.5 in /usr/local/lib/python3.9/dist-packages (from jupyter-core>=4.7->nbconvert) (3.1)
Requirement already satisfied: jupyter-client>=6.1.12 in /usr/local/lib/python3.9/dist-packages (from nbclient>=0.5.0->nbconvert) (6.1.12)
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Requirement already satisfied: soupsieve>1.2 in /usr/local/lib/python3.9/dist-packages (from beautifulsoup4->nbconvert) (2.4)
Requirement already satisfied: six>=1.9.0 in /usr/local/lib/python3.9/dist-packages (from bleach->nbconvert) (1.15.0)
Requirement already satisfied: webencodings in /usr/local/lib/python3.9/dist-packages (from bleach->nbconvert) (0.5.1)
Requirement already satisfied: pyrsistent!=0.17.0,!0.17.1,!0.17.2,>=0.14.0 in /usr/local/lib/python3.9/dist-packages (from jsonschema) (0.19.3)
Requirement already satisfied: attrs>=17.4.0 in /usr/local/lib/python3.9/dist-packages (from jsonschema>=2.6->nbformat>=5.1->nbconvert) (21.2.0)
Requirement already satisfied: python-dateutil>=2.1 in /usr/local/lib/python3.9/dist-packages (from jupyter-client>=6.1.12->nbclient) (2.8.2)
Requirement already satisfied: tornado>=4.1 in /usr/local/lib/python3.9/dist-packages (from jupyter-client>=6.1.12->nbclient>=0.5.0->nbconvert) (6.1.0)
Requirement already satisfied: pyzmq>=13 in /usr/local/lib/python3.9/dist-packages (from jupyter-client>=6.1.12->nbclient>=0.5.0->nbconvert) (22.3.0)



!jupyter nbconvert --to html sales.ipynb

[NbConvertApp] Converting notebook sales.ipynb to html
[NbConvertApp] Writing 719700 bytes to sales.html

