```
from google.colab import files
uploaded = files.upload()
```

Choose Files Sample - Superstore.csv

- **Sample - Superstore.csv**(text/csv) - 2287806 bytes, last modified: 4/8/2025 - 100% done

```
import pandas as pd

df = pd.read_csv("Sample - Superstore.csv", encoding='latin1')
df.head()
```

	Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country	City	...	Postal Code	Region	Product ID	Category	Cat
0	1	CA-2016-152156	11/8/2016	11/11/2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	...	42420	South	FUR-BO-10001798	Furniture	Book
1	2	CA-2016-152156	11/8/2016	11/11/2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	...	42420	South	FUR-CH-10000454	Furniture	
2	3	CA-2016-138688	6/12/2016	6/16/2016	Second Class	DV-13045	Darrin Van Huff	Corporate	United States	Los Angeles	...	90036	West	OFF-LA-10000240	Office Supplies	
3	4	US-2015-108966	10/11/2015	10/18/2015	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	...	33311	South	FUR-TA-10000577	Furniture	
4	5	US-2015-108966	10/11/2015	10/18/2015	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	...	33311	South	OFF-ST-10000760	Office Supplies	S

5 rows × 21 columns

```
df.info()
df.describe()
df.columns
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 9994 entries, 0 to 9993
Data columns (total 21 columns):
 #   Column         Non-Null Count  Dtype
---  ------         --------------  -----
 0   Row ID         9994 non-null   int64
 1   Order ID       9994 non-null   object
 2   Order Date     9994 non-null   object
 3   Ship Date      9994 non-null   object
 4   Ship Mode      9994 non-null   object
 5   Customer ID    9994 non-null   object
 6   Customer Name  9994 non-null   object
 7   Segment        9994 non-null   object
 8   Country        9994 non-null   object
 9   City           9994 non-null   object
 10  State          9994 non-null   object
 11  Postal Code    9994 non-null   int64
 12  Region         9994 non-null   object
 13  Product ID     9994 non-null   object
 14  Category       9994 non-null   object
 15  Sub-Category   9994 non-null   object
 16  Product Name   9994 non-null   object
 17  Sales          9994 non-null   float64
 18  Quantity       9994 non-null   int64
 19  Discount       9994 non-null   float64
 20  Profit         9994 non-null   float64
dtypes: float64(3), int64(3), object(15)
memory usage: 1.6+ MB
Index(['Row ID', '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.isnull().sum()
```

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

	0
Row ID	0
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

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

```
np.int64(0)
```

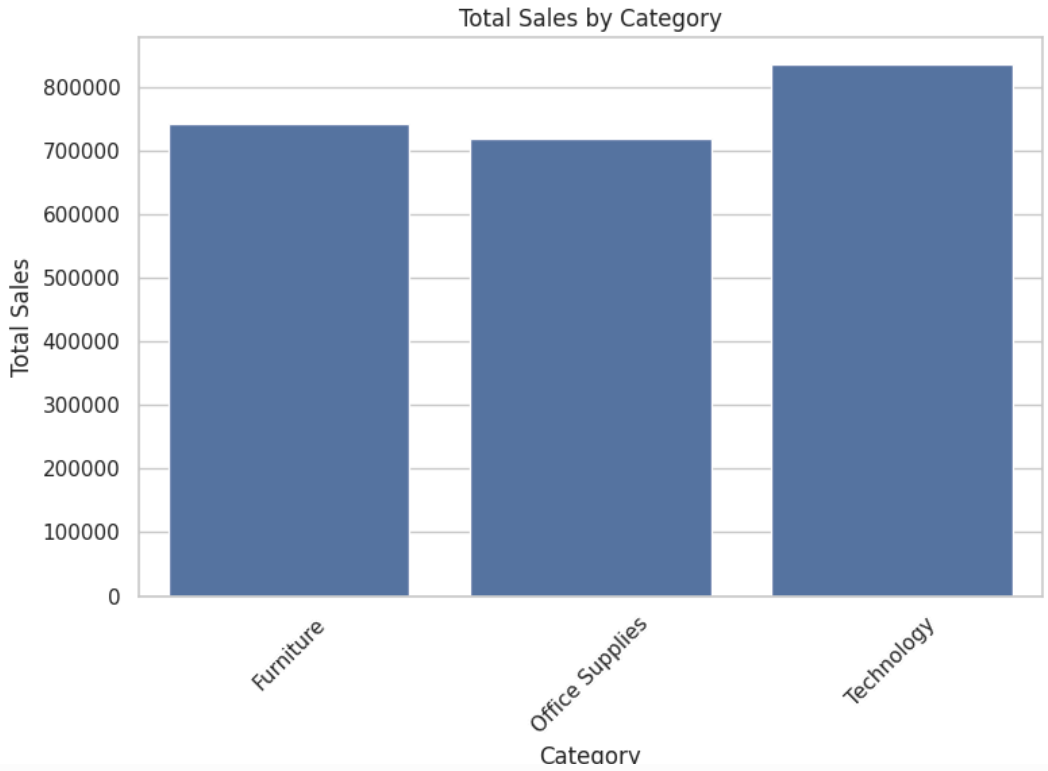
```
df = df.drop_duplicates()
```

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

```
import matplotlib.pyplot as plt
import seaborn as sns


sns.set(style="whitegrid")
```

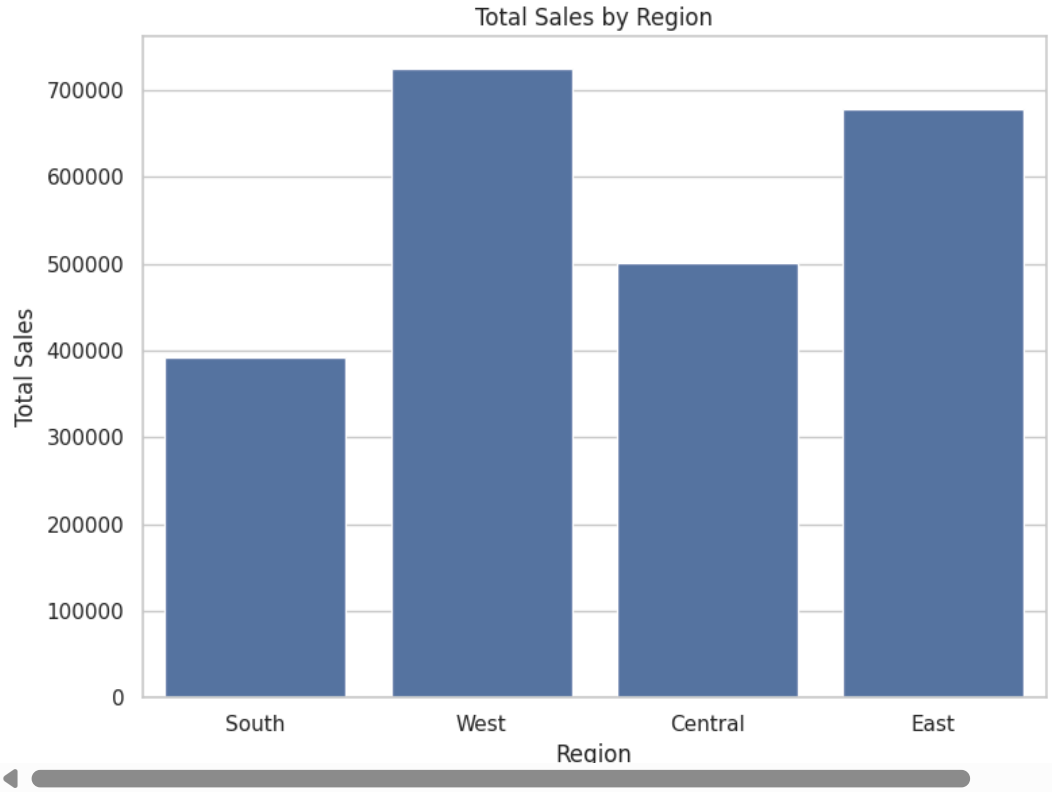
```
plt.figure(figsize=(8,6))
sns.barplot(x='Category', y='Sales', data=df, estimator=sum, ci=None)
plt.title("Total Sales by Category")
plt.ylabel("Total Sales")
plt.xlabel("Category")
plt.xticks(rotation=45)
plt.tight_layout()
plt.show()
```

```
<ipython-input-14-a693d4a5630e>:2: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

  sns.barplot(x='Category', y='Sales', data=df, estimator=sum, ci=None)
```



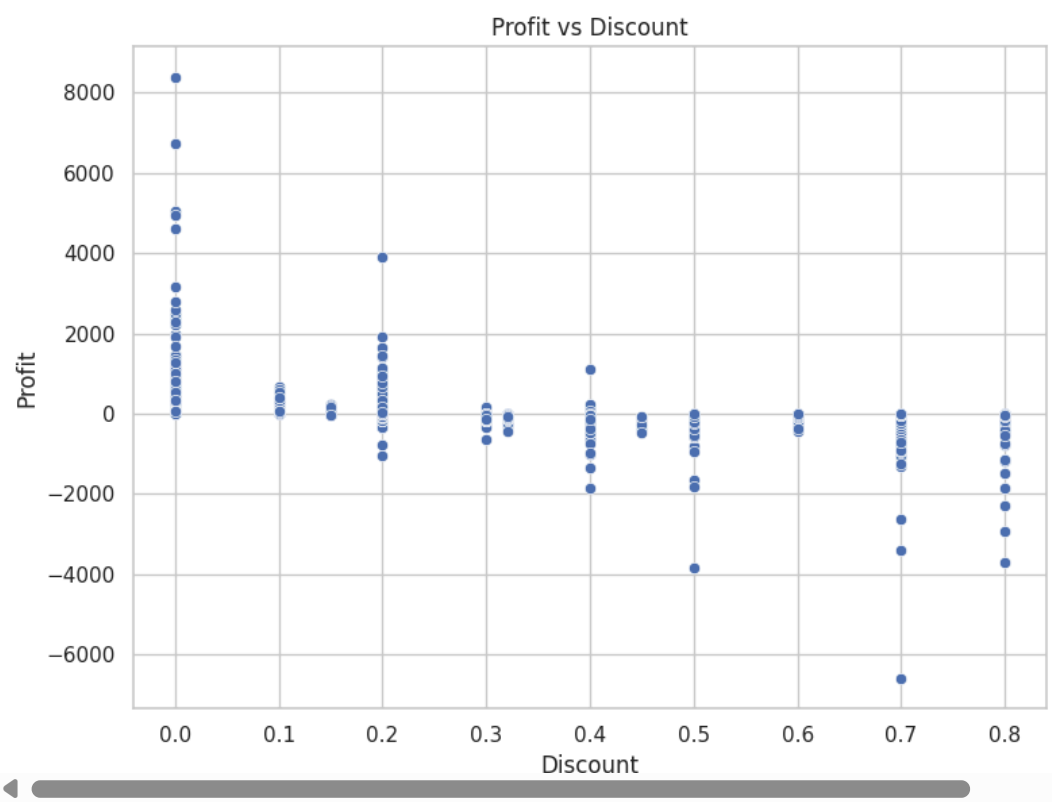

```
plt.figure(figsize=(8,6))
sns.barplot(x='Region', y='Sales', data=df, estimator=sum, ci=None)
plt.title("Total Sales by Region")
plt.ylabel("Total Sales")
plt.xlabel("Region")
plt.tight_layout()
plt.show()
```

```
<ipython-input-15-eb5ab8cf879f>:2: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

  sns.barplot(x='Region', y='Sales', data=df, estimator=sum, ci=None)
```

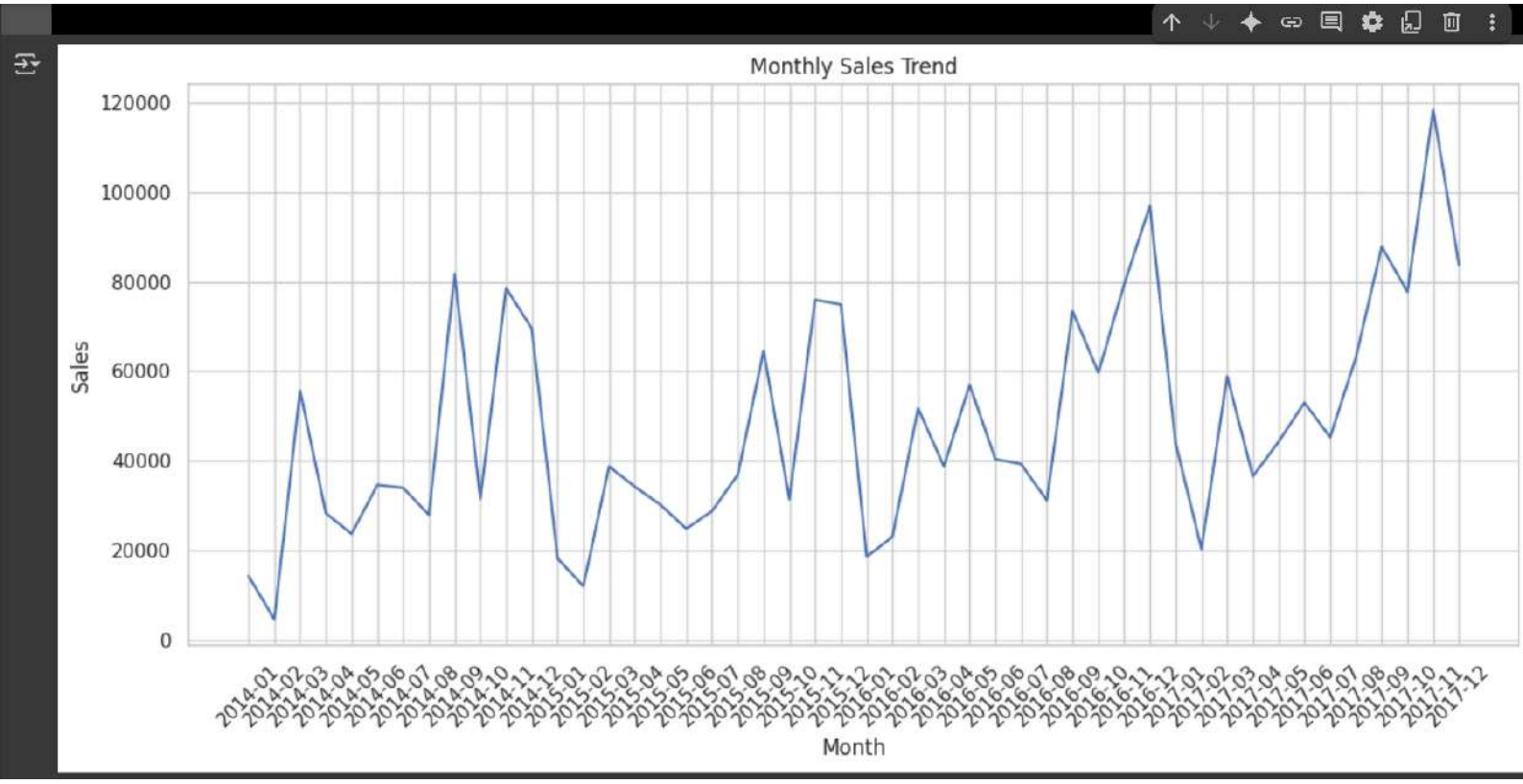



```
plt.figure(figsize=(8,6))
```

```
sns.scatterplot(x= Discount , y= Profit , data=df)
plt.title("Profit vs Discount")
plt.xlabel("Discount")
plt.ylabel("Profit")
plt.tight_layout()
plt.show()
```




```
df['Month'] = df['Order Date'].dt.to_period('M')

monthly_sales = df.groupby('Month')['Sales'].sum().reset_index()
monthly_sales['Month'] = monthly_sales['Month'].astype(str)

plt.figure(figsize=(12,6))
sns.lineplot(x='Month', y='Sales', data=monthly_sales)
plt.xticks(rotation=45)
plt.title("Monthly Sales Trend")
plt.xlabel("Month")
plt.ylabel("Sales")
plt.tight_layout()
plt.show()
```


Monthly Sales Trend
Sales
Month
120000
100000
80000
60000
40000
20000
0