```
import os
print("Notebook is running in:", os.getcwd())
print("Contents of this folder:", os.listdir())
```

```
Notebook is running in: /Users/larsdukart/Downloads/AMAZON_SALES_EDA
Contents of this folder: ['amazon-sales-eda.ipynb', 'READ.md', '.venv', '.g
```

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

```
# 1) Define the folder containing your CSVs
folder = os.path.expanduser("~/Downloads/archive")  # change to your path

# 2) Use glob to grab every ".csv" file in that folder
pattern = os.path.join(folder, "*.csv")
csv_files = glob.glob(pattern)

# 3) Read them all into a list of DataFrames
dfs = [pd.read_csv(fp, low_memory=False) for fp in csv_files]
```

```
# 5) Quick check
print(f"Found {len(csv_files)} files, combined shape: {combined.shape}")
```

```
Found 7 files, combined shape: (178405, 57)
```

```
df.head()
```

	Order ID	Date	Status	Fulfilment	Sales Channel	ship-service-level	Style	SKU
0	405-8078784-5731545	04-30-22	Cancelled	Merchant	Amazon.in	Standard	SET389	SET389-KR-NP-S
1	171-9198151-1101146	04-30-22	Shipped - Delivered to Buyer	Merchant	Amazon.in	Standard	JNE3781	JNE3781-KR-XXXL
2	404-0687676-7273146	04-30-22	Shipped	Amazon	Amazon.in	Expedited	JNE3371	JNE3371-KR-XL
3	403-9615377-8133951	04-30-22	Cancelled	Merchant	Amazon.in	Standard	J0341	J0341-DR-L
4	407-1069790-7240320	04-30-22	Shipped	Amazon	Amazon.in	Expedited	JNE3671	JNE3671-TU-XXXL

```
df.tail()
```

	Order ID	Date	Status	Fulfilment	Sales Channel	ship-service-level	Style	S
128963	406-6001380-7673107	05-31-22	Shipped	Amazon	Amazon.in	Expedited	JNE3697	JNE369 KR-
128964	402-9551604-7544318	05-31-22	Shipped	Amazon	Amazon.in	Expedited	SET401	SET4(KR-NP
128965	407-9547469-3152358	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0157	J015 DR-X
128966	402-6184140-0545956	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0012	J00 SKD-)
128967	408-7436540-8728312	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0003	J00(SET

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 128968 entries, 0 to 128967
Data columns (total 19 columns):
 #   Column              Non-Null Count   Dtype  
---  ------              --------------   -----  
 0   Order ID            128968 non-null  object 
 1   Date                128968 non-null  object 
 2   Status              128968 non-null  object 
 3   Fulfilment          128968 non-null  object 
 4   Sales Channel       128968 non-null  object 
 5   ship-service-level  128968 non-null  object 
 6   Style               128968 non-null  object 
 7   SKU                 128968 non-null  object 
 8   Category            128968 non-null  object 
 9   Size                128968 non-null  object 
 10  ASIN                128968 non-null  object 
 11  Courier Status      128968 non-null  object 
 12  Qty                 128968 non-null  int64  
 13  Amount              128968 non-null  float64
 14  ship-city           128968 non-null  object 
 15  ship-state          128968 non-null  object 
 16  ship-postal-code    128968 non-null  object 
 17  promotion-ids       128968 non-null  object 
 18  B2B                 128968 non-null  bool   
dtypes: bool(1), float64(1), int64(1), object(16)
memory usage: 17.8+ MB
```

```
df.columns
```

```
Index(['Order ID', 'Date', 'Status', 'Fulfilment', 'Sales Channel',
       'ship-service-level', 'Style', 'SKU', 'Category', 'Size', 'ASIN',
       'Courier Status', 'Qty', 'Amount', 'ship-city', 'ship-state',
       'ship-postal-code', 'promotion-ids', 'B2B'],
      dtype='object')
```

```
df.describe()
```

	Qty	Amount
count	128968.000000	128968.000000
mean	0.904449	609.372529
std	0.313331	313.336473
min	0.000000	0.000000
25%	1.000000	413.000000
50%	1.000000	583.000000
75%	1.000000	771.000000
max	15.000000	5584.000000

```
df.describe(include='O')
```

	Order ID	Date	Status	Fulfilment	Sales Channel	ship-service-level	Style	
count	128968	128968	128968	128968	128968	128968	128968	12
unique	120378	91	13	2	2	2	1377	
top	403-4984515-8861958	05-03-22	Shipped	Amazon	Amazon.in	Expedited	JNE3797	JNE3
freq	12	2083	77800	89691	128844	88608	4224	

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

```
Order ID              0
Date                  0
Status                0
Fulfilment            0
Sales Channel         0
ship-service-level    0
Style                 0
SKU                   0
Category              0
Size                  0
ASIN                  0
Courier Status        0
Qty                   0
Amount                0
ship-city             0
ship-state            0
ship-postal-code      0
promotion-ids         0
B2B                   0
dtype: int64
```

```
df.nunique().to_frame(name='Count of unique values')
```

	Count of unique values
Order ID	120378
Date	91
Status	13
Fulfilment	2
Sales Channel	2
ship-service-level	2
Style	1377
SKU	7195
Category	9
Size	11
ASIN	7190
Courier Status	4
Qty	10
Amount	1410
ship-city	8956
ship-state	70
ship-postal-code	9460
promotion-ids	5788
B2B	2

```
df.apply(pd.unique).to_frame(name='Unique Values')
```

	Unique Values
Order ID	[405-8078784-5731545, 171-9198151-1101146, 404...
Date	[04-30-22, 04-29-22, 04-28-22, 04-27-22, 04-26...
Status	[Cancelled, Shipped - Delivered to Buyer, Ship...
Fulfilment	[Merchant, Amazon]
Sales Channel	[Amazon.in, Non-Amazon]
ship-service-level	[Standard, Expedited]
Style	[SET389, JNE3781, JNE3371, J0341, JNE3671, SET...
SKU	[SET389-KR-NP-S, JNE3781-KR-XXXL, JNE3371-KR-X...
Category	[Set, kurta, Western Dress, Top, Ethnic Dress,...
Size	[S, 3XL, XL, L, XXL, XS, 6XL, M, 4XL, 5XL, Free]
ASIN	[B09KXVBD7Z, B09K3WFS32, B07WV4JV4D, B099NRCT7...
Courier Status	[unknown, Shipped, Cancelled, Unshipped]
Qty	[0, 1, 2, 15, 3, 9, 13, 5, 4, 8]
Amount	[647.62, 406.0, 329.0, 753.33, 574.0, 824.0, 6...
ship-city	[MUMBAI, BENGALURU, NAVI MUMBAI, PUDUCHERRY, C...
ship-state	[MAHARASHTRA, KARNATAKA, PUDUCHERRY, TAMIL NAD...
ship-postal-code	[400081.0, 560085.0, 410210.0, 605008.0, 60007...
promotion-ids	[no, Amazon PLCC Free-Financing Universal Merc...
B2B	[False, True]

```
# 1) Clean up any stray spaces in your column names
df.columns = df.columns.str.strip()

# 2) Define the list of columns you *intend* to drop
cols_to_drop = ['index', 'Unnamed: 22', 'fulfilled-by', 'ship-country', 'currer

# 3) Only keep those that are actually present, then drop them
existing = [c for c in cols_to_drop if c in df.columns]
df.drop(columns=existing, inplace=True)
```

```
df.columns = df.columns.str.strip()
```

```
df
```

	Order ID	Date	Status	Fulfilment	Sales Channel	ship-service-level	Style	
0	405-8078784-5731545	04-30-22	Cancelled	Merchant	Amazon.in	Standard	SET389	SET KR-N
1	171-9198151-1101146	04-30-22	Shipped - Delivered to Buyer	Merchant	Amazon.in	Standard	JNE3781	JNE3 KR-X
2	404-0687676-7273146	04-30-22	Shipped	Amazon	Amazon.in	Expedited	JNE3371	JNE3 KF
3	403-9615377-8133951	04-30-22	Cancelled	Merchant	Amazon.in	Standard	J0341	J0 D
4	407-1069790-7240320	04-30-22	Shipped	Amazon	Amazon.in	Expedited	JNE3671	JNE3 TU-X
...	...	...	...	...	...	...	...	
128963	406-6001380-7673107	05-31-22	Shipped	Amazon	Amazon.in	Expedited	JNE3697	JNE3 KF
128964	402-9551604-7544318	05-31-22	Shipped	Amazon	Amazon.in	Expedited	SET401	SET KR-N
128965	407-9547469-3152358	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0157	J0 DR-
128966	402-6184140-0545956	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0012	J0 SKD
128967	408-7436540-8728312	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0003	J0 SE

128968 rows × 19 columns

```
df[df.duplicated(['Order ID','ASIN'], keep=False)]
```

	Order ID	Date	Status	Fulfilment	Sales Channel	ship-service-level	Style	SKU	Category	Si

```
df.drop_duplicates(['Order ID','ASIN'],inplace = True,ignore_index=True)
```

```
df
```

	Order ID	Date	Status	Fulfilment	Sales Channel	ship-service-level	Style	
0	405-8078784-5731545	04-30-22	Cancelled	Merchant	Amazon.in	Standard	SET389	SET KR-N
1	171-9198151-1101146	04-30-22	Shipped - Delivered to Buyer	Merchant	Amazon.in	Standard	JNE3781	JNE3 KR-X
2	404-0687676-7273146	04-30-22	Shipped	Amazon	Amazon.in	Expedited	JNE3371	JNE3 KF
3	403-9615377-8133951	04-30-22	Cancelled	Merchant	Amazon.in	Standard	J0341	J0 D
4	407-1069790-7240320	04-30-22	Shipped	Amazon	Amazon.in	Expedited	JNE3671	JNE3 TU-X
...	...	...	...	...	...	...	...	
128963	406-6001380-7673107	05-31-22	Shipped	Amazon	Amazon.in	Expedited	JNE3697	JNE3 KF
128964	402-9551604-7544318	05-31-22	Shipped	Amazon	Amazon.in	Expedited	SET401	SET KR-N
128965	407-9547469-3152358	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0157	J0 DR-
128966	402-6184140-0545956	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0012	J0 SKD
128967	408-7436540-8728312	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0003	J0 SE

128968 rows × 19 columns

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

```
Order ID              0
Date                  0
Status                0
Fulfilment            0
Sales Channel         0
ship-service-level    0
Style                 0
SKU                   0
Category              0
Size                  0
ASIN                  0
Courier Status        0
Qty                   0
Amount                0
ship-city             0
ship-state            0
ship-postal-code      0
promotion-ids         0
B2B                   0
dtype: int64
```

```
df["Courier Status"]
```

```
0         unknown
1         Shipped
2         Shipped
3         unknown
4         Shipped
          ...
128963    Shipped
128964    Shipped
128965    Shipped
128966    Shipped
128967    Shipped
Name: Courier Status, Length: 128968, dtype: object
```

```
df['Courier Status'].fillna('unknown',inplace=True)
```

```
df["Courier Status"]
```

```
0         unknown
1         Shipped
2         Shipped
3         unknown
4         Shipped
          ...
128963    Shipped
128964    Shipped
128965    Shipped
128966    Shipped
128967    Shipped
Name: Courier Status, Length: 128968, dtype: object
```

```
df["Amount"]
```

```
0         647.62
1         406.00
2         329.00
3         753.33
4         574.00
          ...
128963    517.00
128964    999.00
128965    690.00
128966    1199.00
128967    696.00
Name: Amount, Length: 128968, dtype: float64
```

```
df['Amount'].fillna(0,inplace=True)
```

```
df["promotion-ids"]
```

```
0                                                      no
1         Amazon PLCC Free-Financing Universal Merchant ...
2              IN Core Free Shipping 2015/04/08 23-48-5-108
3                                                      no
4                                                      no
                                ...
128963                                                 no
128964         IN Core Free Shipping 2015/04/08 23-48-5-108
128965                                                 no
128966         IN Core Free Shipping 2015/04/08 23-48-5-108
128967         IN Core Free Shipping 2015/04/08 23-48-5-108
Name: promotion-ids, Length: 128968, dtype: object
```

```
df['promotion-ids'].fillna('no',inplace=True)
```

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

```
Order ID              0
Date                  0
Status                0
Fulfilment            0
Sales Channel         0
ship-service-level    0
Style                 0
SKU                   0
Category              0
Size                  0
ASIN                  0
Courier Status        0
Qty                   0
Amount                0
ship-city             0
ship-state            0
ship-postal-code      0
promotion-ids         0
B2B                   0
dtype: int64
```

```
df["ship-city"]
```

```
0              MUMBAI
1           BENGALURU
2         NAVI MUMBAI
3          PUDUCHERRY
4              CHENNAI
               ...
128963      HYDERABAD
128964       GURUGRAM
128965      HYDERABAD
128966          Halol
128967         Raipur
Name: ship-city, Length: 128968, dtype: object
```

```
df['ship-city'].fillna('unknown', inplace = True)
```

```
df['ship-state'].fillna('unknown', inplace = True)
```

```
/var/folders/kv/pk374tbj0m17370hhh2p4kw80000gn/T/ipykernel_2201/2421501336.
The behavior will change in pandas 3.0. This inplace method will never work

For example, when doing 'df[col].method(value, inplace=True)', try using 'd


  df['ship-state'].fillna('unknown', inplace = True)
```

```
df['ship-postal-code'].fillna('unknown', inplace = True)
```

```
/var/folders/kv/pk374tbj0m17370hhh2p4kw80000gn/T/ipykernel_2201/523218254.p
The behavior will change in pandas 3.0. This inplace method will never work

For example, when doing 'df[col].method(value, inplace=True)', try using 'd


  df['ship-postal-code'].fillna('unknown', inplace = True)
```

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

```
Order ID              0
Date                  0
Status                0
Fulfilment            0
Sales Channel         0
ship-service-level    0
Style                 0
SKU                   0
Category              0
Size                  0
ASIN                  0
Courier Status        0
Qty                   0
Amount                0
ship-city             0
ship-state            0
ship-postal-code      0
promotion-ids         0
B2B                   0
dtype: int64
```

```
df
```

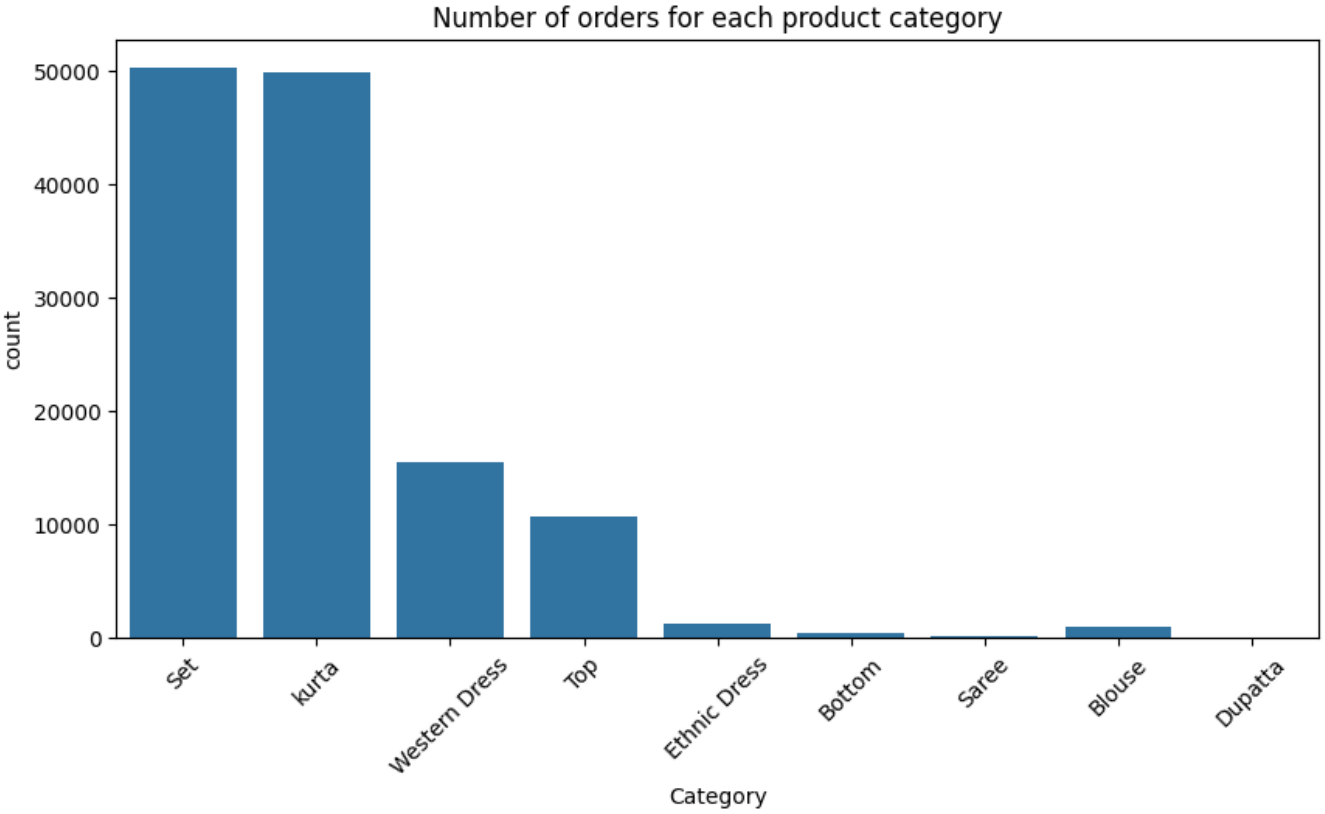
	Order ID	Date	Status	Fulfilment	Sales Channel	ship-service-level	Style	
0	405-8078784-5731545	04-30-22	Cancelled	Merchant	Amazon.in	Standard	SET389	SET KR-N
1	171-9198151-1101146	04-30-22	Shipped - Delivered to Buyer	Merchant	Amazon.in	Standard	JNE3781	JNE3 KR-X
2	404-0687676-7273146	04-30-22	Shipped	Amazon	Amazon.in	Expedited	JNE3371	JNE3 KF
3	403-9615377-8133951	04-30-22	Cancelled	Merchant	Amazon.in	Standard	J0341	J0 D
4	407-1069790-7240320	04-30-22	Shipped	Amazon	Amazon.in	Expedited	JNE3671	JNE3 TU-X
...	...	...	...	...	...	...	...	
128963	406-6001380-7673107	05-31-22	Shipped	Amazon	Amazon.in	Expedited	JNE3697	JNE3 KF
128964	402-9551604-7544318	05-31-22	Shipped	Amazon	Amazon.in	Expedited	SET401	SET KR-N
128965	407-9547469-3152358	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0157	J0 DR-
128966	402-6184140-0545956	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0012	J0 SKD
128967	408-7436540-8728312	05-31-22	Shipped	Amazon	Amazon.in	Expedited	J0003	J0 SE

128968 rows × 19 columns

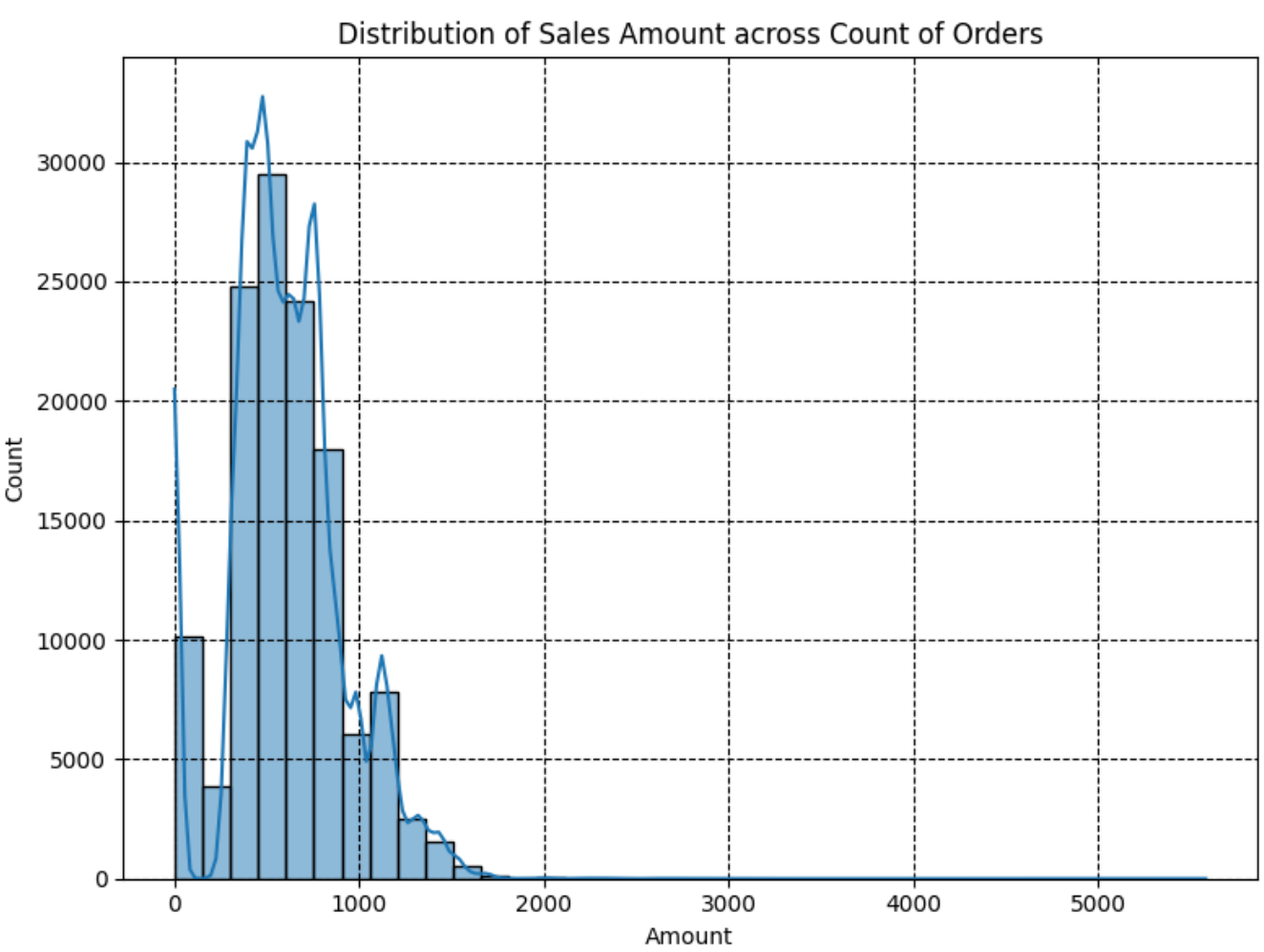
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 128968 entries, 0 to 128967
Data columns (total 19 columns):
 #   Column              Non-Null Count   Dtype  
---  ------              --------------   -----  
 0   Order ID            128968 non-null  object 
 1   Date                128968 non-null  object 
 2   Status              128968 non-null  object 
 3   Fulfilment          128968 non-null  object 
 4   Sales Channel       128968 non-null  object 
 5   ship-service-level  128968 non-null  object 
 6   Style               128968 non-null  object 
 7   SKU                 128968 non-null  object 
 8   Category            128968 non-null  object 
 9   Size                128968 non-null  object 
 10  ASIN                128968 non-null  object 
 11  Courier Status      128968 non-null  object 
 12  Qty                 128968 non-null  int64  
 13  Amount              128968 non-null  float64
 14  ship-city           128968 non-null  object 
 15  ship-state          128968 non-null  object 
 16  ship-postal-code    128968 non-null  object 
 17  promotion-ids       128968 non-null  object 
 18  B2B                 128968 non-null  bool   
dtypes: bool(1), float64(1), int64(1), object(16)
memory usage: 17.8+ MB
```

```
plt.figure(figsize=(10,5))
sns.countplot(x='Category', data=df)
plt.xticks(rotation=45)
plt.title('Number of orders for each product category')
plt.show()
```



```
fig, my_ax = plt.subplots(figsize=(8,6))

sns.histplot(data =df['Amount'], ax=my_ax, binwidth=150, kde=True)
plt.grid(linestyle='--',color='#000000')
plt.title("Distribution of Sales Amount across Count of Orders")
plt.tight_layout()
```



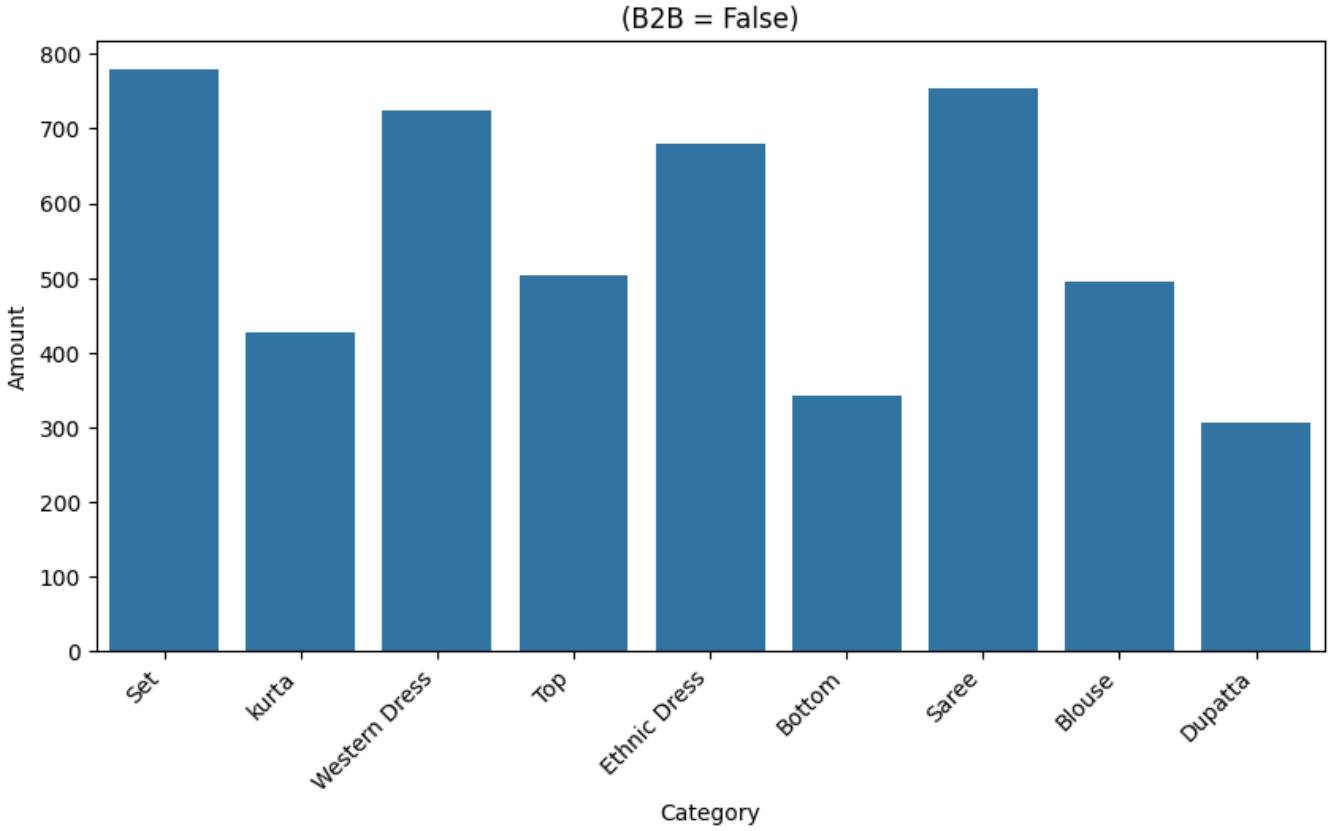

```
df_filtered = df[df['B2B'] == False]

plt.figure(figsize=(10,5))
highely_profitable = sns.barplot(x="Category", y="Amount", data=df_filtered, ci
```

```
plt.setp(highely_profitable.get_xticklabels(), rotation=45, horizontalalignment
```

```
plt.title("(B2B = False)")
```

```
plt.show()
```

```
/var/folders/kv/pk374tbj0m17370hhh2p4kw80000gn/T/ipykernel_2201/4290154467.
The `ci` parameter is deprecated. Use `errorbar=('ci', False)` for the same
  highely_profitable = sns.barplot(x="Category", y="Amount", data=df_filter
```



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