

```
In [1]: import pandas as pd
```

```
In [2]: store = pd.read_csv(r"C:\Users\Asus.LAPTOP-EMBE8J7O\Downloads\Sample - Superstore_Orde
```

```
In [3]: store
```

Out[3]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	W F X
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	
3	Office Supplies	Naperville	United States	Phillina Ober	SAFCO	04-01-2020	US-2020-112326	60540	
4	Office Supplies	Philadelphia	United States	Mick Brown	Avery	05-01-2020	US-2020-141817	19143	F
...
10189	Office Supplies	New York City	United States	Patrick O'Donnell	Wilson Jones	30-12-2023	US-2023-143259	10009	J
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533	
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538	
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009	
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A	

10194 rows × 19 columns

In [4]: id(store)

Out[4]: 2405625971952

In [5]: `len(store)` *# by default rows*

Out[5]: 10194

In [6]: `store.shape` *# dimension of rows and columns*

Out[6]: (10194, 19)

In [7]: `store.columns`

Out[7]: Index(['Category', 'City', 'Country/Region', 'Customer Name', 'Manufacturer',
'Order Date', 'Order ID', 'Postal Code', 'Product Name', 'Region',
'Segment', 'Ship Date', 'Ship Mode', 'State/Province', 'Sub-Category',
'Discount', 'Profit', 'Quantity', 'Sales'],
dtype='object')

In [8]: `len(store.columns)`

Out[8]: 19

In [9]: `store.dtypes`

Out[9]:

Category	object
City	object
Country/Region	object
Customer Name	object
Manufacturer	object
Order Date	object
Order ID	object
Postal Code	object
Product Name	object
Region	object
Segment	object
Ship Date	object
Ship Mode	object
State/Province	object
Sub-Category	object
Discount	float64
Profit	float64
Quantity	int64
Sales	float64
dtype:	object

In [10]: `store.info()`

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 10194 entries, 0 to 10193
Data columns (total 19 columns):
#   Column                Non-Null Count  Dtype
---  -
0   Category              10194 non-null  object
1   City                  10194 non-null  object
2   Country/Region        10194 non-null  object
3   Customer Name         10194 non-null  object
4   Manufacturer          10194 non-null  object
5   Order Date            10194 non-null  object
6   Order ID              10194 non-null  object
7   Postal Code           10194 non-null  object
8   Product Name          10194 non-null  object
9   Region                10194 non-null  object
10  Segment               10194 non-null  object
11  Ship Date             10194 non-null  object
12  Ship Mode             10194 non-null  object
13  State/Province        10194 non-null  object
14  Sub-Category          10194 non-null  object
15  Discount              10194 non-null  float64
16  Profit                10194 non-null  float64
17  Quantity              10194 non-null  int64
18  Sales                 10194 non-null  float64
dtypes: float64(3), int64(1), object(15)
memory usage: 1.5+ MB
```

In [11]:

store.isnull()

Out[11]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	Product Name	Region
0	False	False	False	False	False	False	False	False	False	False
1	False	False	False	False	False	False	False	False	False	False
2	False	False	False	False	False	False	False	False	False	False
3	False	False	False	False	False	False	False	False	False	False
4	False	False	False	False	False	False	False	False	False	False
...
10189	False	False	False	False	False	False	False	False	False	False
10190	False	False	False	False	False	False	False	False	False	False
10191	False	False	False	False	False	False	False	False	False	False
10192	False	False	False	False	False	False	False	False	False	False
10193	False	False	False	False	False	False	False	False	False	False

10194 rows × 19 columns

In [12]:

store.isnull().sum()

```
Out[12]: Category      0
City      0
Country/Region  0
Customer Name  0
Manufacturer  0
Order Date  0
Order ID  0
Postal Code  0
Product Name  0
Region  0
Segment  0
Ship Date  0
Ship Mode  0
State/Province  0
Sub-Category  0
Discount  0
Profit  0
Quantity  0
Sales  0
dtype: int64
```

```
In [13]: store.head()
```

Out[13]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	Product Name
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	Message Book Four 5 1/2 X 4" Form
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	GB Standard Plastic Binding System Comb
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	Avery 50
3	Office Supplies	Naperville	United States	Phillina Ober	SAFCO	04-01-2020	US-2020-112326	60540	SAFCO Boltless Steel Shelving
4	Office Supplies	Philadelphia	United States	Mick Brown	Avery	05-01-2020	US-2020-141817	19143	Avery Heavy Duty EverBold Pen Styl Fluorescer

```
In [14]: store.tail()
```

Out[14]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	
10189	Office Supplies	New York City	United States	Patrick O'Donnell	Wilson Jones	30-12-2023	US-2023-143259	10009	
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533	
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538	
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009	A
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A	I

In [15]: store.head(3)

Out[15]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	Product Name
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	Message Book, Wirebound, Four 5 1/2" X 4" Form...
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	GBC Standard Plastic Binding Systems Combs
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	Avery 508

In [16]: store.tail(3)

Out[16]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	F
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538	
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009	A
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A	



In [17]: store[:]

Out[17]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	W F X
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	
3	Office Supplies	Naperville	United States	Phillina Ober	SAFCO	04-01-2020	US-2020-112326	60540	
4	Office Supplies	Philadelphia	United States	Mick Brown	Avery	05-01-2020	US-2020-141817	19143	F
...
10189	Office Supplies	New York City	United States	Patrick O'Donnell	Wilson Jones	30-12-2023	US-2023-143259	10009	J
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533	
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538	
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009	
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A	

10194 rows × 19 columns

In [18]: store[:, -1]

Out[18]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A	
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009	
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538	
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533	
10189	Office Supplies	New York City	United States	Patrick O'Donnell	Wilson Jones	30-12-2023	US-2023-143259	10009	J
...	
4	Office Supplies	Philadelphia	United States	Mick Brown	Avery	05-01-2020	US-2020-141817	19143	F
3	Office Supplies	Naperville	United States	Phillina Ober	SAFCO	04-01-2020	US-2020-112326	60540	
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	W F X

10194 rows × 19 columns

In [19]: store[:,10]

Out[19]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	Fr
10	Office Supplies	Henderson	United States	Maria Etezadi	Southworth	06-01-2020	US-2020-167199	42420	Gr E
20	Furniture	Dover	United States	Seth Vernon	DAX	11-01-2020	US-2020-130092	19901	D, Fr
30	Office Supplies	San Francisco	United States	Brian Dahlen	Tennsco	13-01-2020	US-2020-157147	94109	Cc
40	Office Supplies	Scottsdale	United States	Toby Swindell	GBC	19-01-2020	US-2020-146591	85254	GE C
...
10150	Office Supplies	Newark	United States	Dan Reichenbach	BIC	27-12-2023	US-2023-134404	43055	f
10160	Office Supplies	New York City	United States	Jennifer Ferguson	Storex	28-12-2023	US-2023-164826	10024	
10170	Technology	New York City	United States	Jennifer Ferguson	Other	28-12-2023	US-2023-164826	10024	
10180	Office Supplies	New York City	United States	Michael Chen	Other	29-12-2023	US-2023-102638	10035	lc
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533	C

1020 rows × 19 columns



In [20]: store[:10]

Out[20]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	Product Name
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	Message Book Wirebound Four 5 1/2 X 4" Form
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	GB Standard Plastic Binding System Comb
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	Avery 50
3	Office Supplies	Naperville	United States	Phillina Ober	SAFCO	04-01-2020	US-2020-112326	60540	SAFCO Boltless Steel Shelvin
4	Office Supplies	Philadelphia	United States	Mick Brown	Avery	05-01-2020	US-2020-141817	19143	Avery H Lite EverBol Pen Styl Fluorescer
5	Furniture	Henderson	United States	Maria Etezadi	Global	06-01-2020	US-2020-167199	42420	Global Delux High-Bac Manager Cha
6	Office Supplies	Henderson	United States	Maria Etezadi	Rogers	06-01-2020	US-2020-167199	42420	Roger Handhel Barr Penc Sharpene
7	Office Supplies	Athens	United States	Jack O'Briant	Dixon	06-01-2020	US-2020-106054	30605	Dixon Pran Watercol Pencils, 10 Color Se w
8	Office Supplies	Henderson	United States	Maria Etezadi	Ibico	06-01-2020	US-2020-167199	42420	Ibico H Tec Manu Bindin Syster
9	Office Supplies	Henderson	United States	Maria Etezadi	Alliance	06-01-2020	US-2020-167199	42420	Alliance Super-Siz Band Assorte Size

In [21]: `store[10:]`

Out[21]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code
10	Office Supplies	Henderson	United States	Maria Etezadi	Southworth	06-01-2020	US-2020-167199	42420
11	Office Supplies	Los Angeles	United States	Lycoris Saunders	Xerox	06-01-2020	US-2020-130813	90049
12	Technology	Henderson	United States	Maria Etezadi	Other	06-01-2020	US-2020-167199	42420
13	Technology	Henderson	United States	Maria Etezadi	GE	06-01-2020	US-2020-167199	42420
14	Furniture	Huntsville	United States	Vivek Sundaresam	Howard Miller	07-01-2020	US-2020-105417	77340
...
10189	Office Supplies	New York City	United States	Patrick O'Donnell	Wilson Jones	30-12-2023	US-2023-143259	10009
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A

10184 rows × 19 columns

In [22]: store

Out[22]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	W F X
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	
3	Office Supplies	Naperville	United States	Phillina Ober	SAFCO	04-01-2020	US-2020-112326	60540	
4	Office Supplies	Philadelphia	United States	Mick Brown	Avery	05-01-2020	US-2020-141817	19143	F
...
10189	Office Supplies	New York City	United States	Patrick O'Donnell	Wilson Jones	30-12-2023	US-2023-143259	10009	J
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533	
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538	
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009	
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A	

10194 rows × 19 columns

In [23]: store.dtypes

```
Out[23]: Category      object
City      object
Country/Region  object
Customer Name  object
Manufacturer  object
Order Date    object
Order ID      object
Postal Code   object
Product Name  object
Region        object
Segment       object
Ship Date     object
Ship Mode     object
State/Province  object
Sub-Category  object
Discount      float64
Profit        float64
Quantity      int64
Sales         float64
dtype: object
```

```
In [24]: store.columns
```

```
Out[24]: Index(['Category', 'City', 'Country/Region', 'Customer Name', 'Manufacturer',
              'Order Date', 'Order ID', 'Postal Code', 'Product Name', 'Region',
              'Segment', 'Ship Date', 'Ship Mode', 'State/Province', 'Sub-Category',
              'Discount', 'Profit', 'Quantity', 'Sales'],
              dtype='object')
```

```
In [25]: store[['Category', 'City']]
```

Out[25]:

	Category	City
0	Office Supplies	Houston
1	Office Supplies	Naperville
2	Office Supplies	Naperville
3	Office Supplies	Naperville
4	Office Supplies	Philadelphia
...
10189	Office Supplies	New York City
10190	Office Supplies	Fairfield
10191	Office Supplies	Loveland
10192	Technology	New York City
10193	Office Supplies	Charlottetown

10194 rows × 2 columns

```
In [26]: store_categorical_data = store[['Category', 'City', 'Country/Region', 'Customer Name',
              'Order Date', 'Order ID', 'Postal Code', 'Product Name', 'Region',
              'Segment', 'Ship Date', 'Ship Mode', 'State/Province', 'Sub-Category' ]]
```

In [27]:

store_categorical_data

Out[27]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	VFX
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	
3	Office Supplies	Naperville	United States	Phillina Ober	SAFCO	04-01-2020	US-2020-112326	60540	
4	Office Supplies	Philadelphia	United States	Mick Brown	Avery	05-01-2020	US-2020-141817	19143	F
...
10189	Office Supplies	New York City	United States	Patrick O'Donnell	Wilson Jones	30-12-2023	US-2023-143259	10009	J
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533	
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538	
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009	
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A	

10194 rows × 15 columns


```
In [28]: store_categorical_data.dtypes
```

```
Out[28]: Category      object  
City                object  
Country/Region      object  
Customer Name       object  
Manufacturer        object  
Order Date          object  
Order ID            object  
Postal Code         object  
Product Name        object  
Region             object  
Segment            object  
Ship Date           object  
Ship Mode           object  
State/Province      object  
Sub-Category        object  
dtype: object
```

```
In [29]: store_numerical_data = store[['Discount', 'Profit', 'Quantity', 'Sales']]
```

```
In [31]: store_numerical_data.dtypes
```

```
Out[31]: Discount      float64  
Profit      float64  
Quantity      int64  
Sales      float64  
dtype: object
```

```
In [32]: store
```

Out[32]:

	Category	City	Country/Region	Customer Name	Manufacturer	Order Date	Order ID	Postal Code	
0	Office Supplies	Houston	United States	Darren Powers	Message Book	03-01-2020	US-2020-103800	77015	W F X
1	Office Supplies	Naperville	United States	Phillina Ober	GBC	04-01-2020	US-2020-112326	60540	
2	Office Supplies	Naperville	United States	Phillina Ober	Avery	04-01-2020	US-2020-112326	60540	
3	Office Supplies	Naperville	United States	Phillina Ober	SAFCO	04-01-2020	US-2020-112326	60540	
4	Office Supplies	Philadelphia	United States	Mick Brown	Avery	05-01-2020	US-2020-141817	19143	F
...
10189	Office Supplies	New York City	United States	Patrick O'Donnell	Wilson Jones	30-12-2023	US-2023-143259	10009	J
10190	Office Supplies	Fairfield	United States	Erica Bern	GBC	30-12-2023	US-2023-115427	94533	
10191	Office Supplies	Loveland	United States	Jill Matthias	Other	30-12-2023	US-2023-156720	80538	
10192	Technology	New York City	United States	Patrick O'Donnell	Other	30-12-2023	US-2023-143259	10009	
10193	Office Supplies	Charlottetown	Canada	Harry Olson	Wilson Jones	30-12-2023	CA-2023-143500	C0A	

10194 rows × 19 columns

In [33]: store.describe()

Out[33]:

	Discount	Profit	Quantity	Sales
count	10194.000000	10194.000000	10194.000000	10194.000000
mean	0.155385	28.673417	3.791838	228.225854
std	0.206249	232.465115	2.228317	619.906839
min	0.000000	-6599.978000	1.000000	0.444000
25%	0.000000	1.760800	2.000000	17.220000
50%	0.200000	8.690000	3.000000	53.910000
75%	0.200000	29.297925	5.000000	209.500000
max	0.800000	8399.976000	14.000000	22638.480000

In []: