import pandas as pd

df=pd.read_excel(r'c:\Users\ASUS\Downloads\
Store_Sales_Dataset.xlsx.xlsx')

df

Date Ir	nvoice ID	Customer Name	Product Category	
0 2025-10-01	INV001	Raj Sharma	Electronics	Bluetooth
Speaker 1 2025-10-01	INV002	Priya Patel	Groceries	Rice
(5kg) 2 2025-10-02	INV003	Rohit Verma	Clothing	
T-Shirt 3 2025-10-03	INV004	Anjali Mehta	Cosmetics	Face
Cream 4 2025-10-03 Headphones	INV005	Aman Yadav	Electronics	
5 2025-10-04 Oil (1L)	INV006	Kavita Joshi	Groceries	Cooking
6 2025-10-05 Jeans	INV007	Pooja Nair	Clothing	
7 2025-10-06 Watch	INV008	Arjun Singh	Electronics	Smart
8 2025-10-07	INV009	Meena Desai	Cosmetics	
Shampoo 9 2025-10-08	INV010	Deepak Patel	Groceries	Sugar
(2kg) 10 2025-10-09	INV011	Sneha Iyer	Clothing	
Jacket 11 2025-10-10	INV012	Ravi Kumar	Electronics	
Power Bank 12 2025-10-11	INV013	Divya Thakur	Cosmetics	
Perfume 13 2025-10-12	INV014	Nitin Joshi	Groceries	Wheat
(10kg) 14 2025-10-13	INV015	Riya Malhotra	Clothing	
Dress 15 2025-10-13	INV016	Arpit Bansal	Electronics	Mobile
Charger 16 2025-10-14	INV017	Tanu Sharma	Groceries	Tea
(500g) 17 2025-10-15	INV018	Ramesh Yadav	Clothing	
Hoodie 18 2025-10-16	INV019	Kavya Kapoor	Electronics	
LED Bulb 19 2025-10-17	INV020	Pankaj Sinha	Cosmetics	Body
Lotion 20 2025-10-18	INV023	Jyoti Singh	Groceries	Dody
20 2023 10 10	1140021	System Singil	010001103	

Milk (1L)	10-19	INV022	Dobini Doc		lothing	
Saree		-	Rohini Das		Clothing	
22 2025- Cable	10-20	INV023	Aman Tiwari	Elec	ctronics	USB
23 2025 -	10-21	INV024	Neha Sethi	Co	smetics	
	10-22	INV025	Shubham Jain	Gr	roceries	Biscuits
	10-23	INV026	Mehul Patel	C	Clothing	Formal
Shirt 26 2025-	10-24	INV027	Neeraj Gupta	Elec	ctronics	Electric
Kettle						
27 2025- (Loaf)	10-25	INV028	Rekha Rani	Gr	roceries	Bread
28 2025- Hair Oil	10-26	INV029	Mohit Arora	Сс	smetics	
29 2025-	10-26	INV030 K	iran Chauhan	Elec	ctronics	Mixer
Grinder						
Quant Location		Price (₹)	Total Amour	ıt (₹) Pay	ment Metho	d Store
0	2	1200		2400	UP	I
Mumbai 1	1	450		450	Cas	h
Delhi 2	3	350		1050	Car	d
Pune						
3 Jaipur	2	600		1200	UP.	I
4	1	1500		1500	Cas	h
Mumbai 5	4	180		720	UP	I
Delhi 6	2	1200		2400	Car	d
Pune						
7 Jaipur	1	2800		2800	UP:	ı
8 Mumbai	3	250		750	Cas	h
9	2	90		180	Car	d
Delhi 10	1	2500		2500	UP	I
Pune 11	1	1000		1000	Cas	h
Jaipur						
12 Mumbai	1	950		950	UP	
13	1	520		520	Cas	h

Delhi 14	2	1800	3600	Card	
Pune	2	1000	3000	Caru	
15	3	300	900	UPI	
Jaipur 16 Mumbai	5	200	1000	Cash	
17 Delhi	1	1600	1600	Card	
18 Pune	6	150	900	UPI	
19 Jaipur	2	500	1000	Cash	
20 Mumbai	5	60	300	UPI	
21 Delhi	1	2200	2200	Card	
22 Pune	4	200	800	UPI	
23 Jaipur	3	400	1200	Cash	
24 Mumbai	6	50	300	UPI	
25 Delhi	2	1100	2200	Card	
26 Pune	1	1800	1800	UPI	
27 Jaipur	4	40	160	Cash	
28 Mumbai	2	250	500	Card	
29 Delhi	1	3500	3500	UPI	
Salesp 0 A. 1 M. 2 N. 3 S 4 A. 5 M. 6 N. 7 S 8 A. 9 M. 10 N. 11 S 12 A.	person Singh Khan Gupta				

```
14
      N. Gupta
15
        S. Rao
16
      A. Singh
17
       M. Khan
18
      N. Gupta
19
        S. Rao
20
      A. Singh
21
       M. Khan
22
      N. Gupta
23
        S. Rao
24
      A. Singh
25
       M. Khan
26
      N. Gupta
27
        S. Rao
28
      A. Singh
       M. Khan
29
#1 View first few rows
print(df.head())
         Date Invoice ID Customer Name Product Category
                                                               Product
Name \
0 2025-10-01
                                             Electronics Bluetooth
                  INV001
                            Raj Sharma
Speaker
   2025-10-01
                  INV002
                                               Groceries
                                                                  Rice
                           Priya Patel
(5kg)
                           Rohit Verma
2 2025-10-02
                  INV003
                                                                     Τ-
                                                Clothing
Shirt
  2025-10-03
                  INV004 Anjali Mehta
                                               Cosmetics
                                                                  Face
Cream
4 2025-10-03
                  INV005
                            Aman Yadav
                                             Electronics
Headphones
   Quantity Unit Price (₹) Total Amount (₹) Payment Method Store
Location \
                                                          UPI
          2
                       1200
                                          2400
Mumbai
          1
                        450
                                           450
                                                         Cash
1
Delhi
          3
                        350
                                          1050
2
                                                         Card
Pune
          2
                        600
                                                          UPI
                                          1200
3
Jaipur
          1
                       1500
                                          1500
                                                         Cash
Mumbai
  Salesperson
     A. Singh
     M. Khan
1
2
     N. Gupta
```

```
3
       S. Rao
4
     A. Singh
# Basic info
df.info()
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 30 entries, 0 to 29
Data columns (total 11 columns):
#
     Column
                       Non-Null Count
                                       Dtype
- - -
     -----
                       30 non-null
 0
     Date
                                       object
     Invoice ID
                       30 non-null
 1
                                       object
 2
    Customer Name
                       30 non-null
                                       object
 3
    Product Category 30 non-null
                                       object
 4
    Product Name
                       30 non-null
                                       object
 5
    Quantity
                       30 non-null
                                       int64
 6
    Unit Price (₹)
                       30 non-null
                                       int64
    Total Amount (₹) 30 non-null
 7
                                       int64
 8
                       30 non-null
    Payment Method
                                       object
 9
     Store Location
                       30 non-null
                                       object
10 Salesperson
                       30 non-null
                                       object
dtypes: int64(3), object(8)
memory usage: 2.7+ KB
#2 Basic Exploration
# Total number of records
print("Total Records:", len(df))
Total Records: 30
# Total quantity sold
print("Total Quantity Sold:", df["Quantity"].sum())
Total Quantity Sold: 73
# Total revenue
print("Total Revenue (₹):", df["Total Amount (₹)"].sum())
Total Revenue (₹): 40380
# Average sale value
print("Average Sale (₹):", df["Total Amount (₹)"].mean())
Average Sale (₹): 1346.0
# Check for missing values
print(df.isnull().sum())
Date
                    0
Invoice ID
                    0
Customer Name
                    0
```

```
Product Category
Product Name
                    0
Quantity
                    0
Unit Price (₹)
                    0
Total Amount (₹)
Payment Method
                    0
Store Location
                    0
Salesperson
                    0
dtype: int64
#3 Filtering
# Sales by a particular salesperson
print(df[df["Salesperson"] == "A. Singh"])
          Date Invoice ID Customer Name Product Category
                                                                Product
Name \
    2025-10-01
                   INV001
                             Raj Sharma
                                              Electronics
                                                           Bluetooth
Speaker
    2025 - 10 - 03
                   INV005
                             Aman Yadav
                                              Electronics
Headphones
    2025 - 10 - 07
                   INV009
                            Meena Desai
                                                Cosmetics
Shampoo
                   INV013 Divya Thakur
12 2025-10-11
                                                Cosmetics
Perfume
16 2025-10-14
                   INV017
                            Tanu Sharma
                                                Groceries
                                                                  Tea
(500g)
20 2025-10-18
                            Jyoti Singh
                                                Groceries
                                                                   Milk
                   INV021
(1L)
24 2025-10-22
                   INV025
                           Shubham Jain
                                                Groceries
                                                             Biscuits
(Pack)
28 2025-10-26
                   INV029
                            Mohit Arora
                                                Cosmetics
Hair Oil
    Quantity Unit Price (₹) Total Amount (₹) Payment Method Store
Location \
                                                           UPI
                        1200
                                           2400
Mumbai
                        1500
           1
                                           1500
                                                          Cash
Mumbai
           3
                         250
                                            750
                                                          Cash
Mumbai
           1
                         950
                                            950
                                                           UPI
12
Mumbai
           5
                         200
                                           1000
16
                                                          Cash
Mumbai
20
           5
                          60
                                            300
                                                           UPI
Mumbai
                                                           UPI
24
           6
                          50
                                            300
Mumbai
28
           2
                         250
                                            500
                                                          Card
```

```
Mumbai
   Salesperson
      A. Singh
0
4
      A. Singh
8
      A. Singh
12
      A. Singh
      A. Singh
16
20
      A. Singh
24
      A. Singh
28
      A. Singh
# All Electronics category sales
print(df[df["Product Category"] == "Electronics"])
          Date Invoice ID Customer Name Product Category
Product Name \
    2025 - 10 - 01
                    INV001
                               Raj Sharma
                                                Electronics Bluetooth
Speaker
    2025 - 10 - 03
                    INV005
                               Aman Yadav
                                                Electronics
Headphones
    2025 - 10 - 06
                    INV008
                              Arjun Singh
                                                Electronics
                                                                    Smart
Watch
11 2025-10-10
                    INV012
                               Ravi Kumar
                                                Electronics
Power Bank
15 2025-10-13
                    INV016
                             Arpit Bansal
                                                Electronics
                                                                 Mobile
Charger
18 2025-10-16
                    INV019
                             Kavya Kapoor
                                                Electronics
LED Bulb
22 2025-10-20
                    INV023
                              Aman Tiwari
                                                                      USB
                                                Electronics
Cable
26 2025-10-24
                    INV027
                             Neeraj Gupta
                                                Electronics
                                                                Electric
Kettle
                    INV030 Kiran Chauhan
                                                                  Mixer
29 2025-10-26
                                                Electronics
Grinder
    Quantity Unit Price (₹) Total Amount (₹) Payment Method Store
Location
           2
                         1200
                                            2400
                                                             UPI
0
Mumbai
4
           1
                         1500
                                            1500
                                                            Cash
Mumbai
           1
                         2800
                                            2800
                                                             UPI
7
Jaipur
           1
                         1000
                                            1000
                                                            Cash
11
Jaipur
           3
                          300
                                             900
                                                             UPI
15
Jaipur
18
           6
                          150
                                             900
                                                             UPI
Pune
```

22	4	200	800	UPI
Pune 26	1	1800	1800	UPI
Pune 29	1	3500	3500	UPI
Delhi	1	3300	3300	011
Sal 0 4 7 11 15 18 22 26 29	Lesperson A. Singh A. Singh S. Rao S. Rao S. Rao N. Gupta N. Gupta N. Gupta M. Khan			
		Amount (₹)"] >		
Produc	Date Inv ct Name \	oice ID Custome	er Name Product Ca	tegory
0 20 Speake	925-10-01 er	INV001 Raj	Sharma Elect	ronics Bluetooth
6 20 Jeans	925-10-05	INV007 Pooj	a Nair Clo	othing
	925-10-06	INV008 Arjun	n Singh Elect	ronics Smart
	925-10-09	INV011 Sneh	na Iyer Clo	othing
	925 - 10 - 13	INV015 Riya Ma	ilhotra Cl	othing
	925-10-19	INV022 Rohi	ni Das Clo	othing
25 20	925-10-23	INV026 Mehul	. Patel Clo	othing Formal
Shirt 29 20 Grinde	925-10-26 er	INV030 Kiran C	hauhan Elect	ronics Mixer
Qu Locati		: Price (₹) Tota	al Amount (₹) Paymo	ent Method Store
0	2	1200	2400	UPI
Mumba:	2	1200	2400	Card
Pune 7	1	2800	2800	UPI
Jaipui 10 Pune	r 1	2500	2500	UPI

```
14
           2
                         1800
                                           3600
                                                           Card
Pune
21
           1
                         2200
                                           2200
                                                           Card
Delhi
25
           2
                         1100
                                           2200
                                                           Card
Delhi
           1
                         3500
                                           3500
                                                            UPI
29
Delhi
   Salesperson
0
      A. Singh
6
      N. Gupta
7
        S. Rao
10
      N. Gupta
14
      N. Gupta
21
       M. Khan
25
       M. Khan
29
       M. Khan
#4 Grouping and Aggregation
# Total sales by product category
print(df.groupby("Product Category")["Total Amount (₹)"].sum())
Product Category
Clothing
               15550
Cosmetics
                5600
Electronics
               15600
Groceries
                3630
Name: Total Amount (₹), dtype: int64
# Average sales per store
print(df.groupby("Store Location")["Total Amount (₹)"].mean())
Store Location
          1421.250000
Delhi
          1180.000000
Jaipur
           962.500000
Mumbai
Pune
          1864.285714
Name: Total Amount (₹), dtype: float64
# Total quantity sold by salesperson
print(df.groupby("Salesperson")["Quantity"].sum())
Salesperson
A. Singh
            25
M. Khan
            13
N. Gupta
            19
S. Rao
            16
Name: Quantity, dtype: int64
```

```
# Count of sales by payment method
print(df["Payment Method"].value counts())
Payment Method
UPI
        13
         9
Cash
Card
         8
Name: count, dtype: int64
# Total revenue per customer
print(df.groupby("Customer Name")["Total Amount (₹)"].sum())
Customer Name
Aman Tiwari
                  800
Aman Yadav
                 1500
Anjali Mehta
                 1200
Arjun Singh
                 2800
Arpit Bansal
                  900
Deepak Patel
                  180
Divya Thakur
                  950
Jyoti Singh
                  300
Kavita Joshi
                  720
Kavya Kapoor
                  900
Kiran Chauhan
                 3500
Meena Desai
                  750
Mehul Patel
                 2200
Mohit Arora
                 500
                 1800
Neeraj Gupta
Neha Sethi
                 1200
Nitin Joshi
                  520
Pankaj Sinha
                 1000
Pooja Nair
                 2400
Priva Patel
                  450
Raj Sharma
                 2400
Ramesh Yadav
                 1600
Ravi Kumar
                 1000
Rekha Rani
                 160
Riya Malhotra
                 3600
Rohini Das
                 2200
Rohit Verma
                 1050
Shubham Jain
                 300
Sneha Iyer
                 2500
Tanu Sharma
                 1000
Name: Total Amount (₹), dtype: int64
#5 Sorting Data
# Sort by total amount (descending)
print(df.sort values("Total Amount (₹)", ascending=False))
```

	invoice ID	Customer Name	Product Category	
Product Name \ 14 2025-10-13	INV015	Riya Malhotra	Clothing	
Dress		,	.	
29 2025-10-26	INV030	Kiran Chauhan	Electronics	Mixer
Grinder 7 2025-10-06	INV008	Arjun Singh	Electronics	Smart
Watch	INVOO	Al Juli Siligli	LIECTIONICS	Siliai C
10 2025 - 10 - 09	INV011	Sneha Iyer	Clothing	
Jacket				
0 2025-10-01	INV001	Raj Sharma	Electronics	Bluetooth
Speaker 6 2025-10-05	INV007	Pooja Nair	Clothing	
Jeans	1111007	100ja Naii	Ctothing	
21 2025-10-19	INV022	Rohini Das	Clothing	
Saree				
25 2025-10-23	INV026	Mehul Patel	Clothing	Formal
Shirt 26 2025-10-24	INV027	Neeraj Gupta	Electronics	Electric
Kettle	1111027	Neeraj Gupta	Liectionics	Ltectife
17 2025 - 10 - 15	INV018	Ramesh Yadav	Clothing	
Hoodie				
4 2025 - 10 - 03	INV005	Aman Yadav	Electronics	
Headphones 23 2025-10-21	INV024	Neha Sethi	Cosmetics	
Lipstick	1111024	Nella Settii	COSINECTCS	
3 2025-10-03	INV004	Anjali Mehta	Cosmetics	Face
Cream		_		
2 2025-10-02	INV003	Rohit Verma	Clothing	
T-Shirt 19 2025-10-17	INV020	Pankaj Sinha	Cosmetics	Body
Lotion	1111020	rankaj Silila	COSINECTCS	Бойу
16 2025-10-14	INV017	Tanu Sharma	Groceries	Tea
(500g)				
11 2025-10-10	INV012	Ravi Kumar	Electronics	
Power Bank 12 2025-10-11	INV013	Divya Thakur	Cosmetics	
Perfume	TIMAGIZ	Divya Illakul	COSINECTCS	
18 2025-10-16	INV019	Kavya Kapoor	Electronics	
LED Bulb		, ,		
15 2025-10-13	INV016	Arpit Bansal	Electronics	Mobile
Charger	TNIVOOO	Amon Tivoni	[]aatronias	LICD
22 2025-10-20 Cable	INV023	Aman Tiwari	Electronics	USB
8 2025-10-07	INV009	Meena Desai	Cosmetics	
Shampoo			00000	
5 2025-10-04	INV006	Kavita Joshi	Groceries	Cooking
0il (1L)	TNV /0.1.4	NELES TEST	C'	\.U 1
13 2025-10-12 (10kg)	INV014	Nitin Joshi	Groceries	Wheat
(IUNG)				

28 2025-	10-26	INV029	Mohit /	Arora		Cosmeti	LCS	
Hair Oil	10 01	TN1/000	Dad	D-+-1		C		D÷ a a
1 2025 - (5kg)	10-01	INV002	Priya I	Patel		Groceri	Les	Rice
24 2025-	10-22	INV025	Shubham	Jain		Groceri	Les	Biscuits
(Pack) 20 2025-		INV021	Jyoti S	Singh		Groceri	Les	
Milk (1L) 9 2025-		INV010	Deepak I	Patel		Groceri	Les	Sugar
(2kg) 27 2025-	10-25	INV028	Rekha	Rani		Groceri	es	Bread
(Loaf)	10 25	1111020	T.G.K.II.G	110112		0.000.2	-00	21 000
	=	Price (₹)	Total	Amount	(₹)	Payment	Method	l Store
Location 14	2	1800		5	3600		Card	1
Pune	_	2000					00.0	
29	1	3500		3	3500		UP]	
Delhi 7	1	2800		2	2800		UP]	
Jaipur	_							
10 Pune	1	2500		4	2500		UP]	
0	2	1200		2	2400		UP]	
Mumbai	2	1200		_	100		C = 100	
6 Pune	2	1200		2	2400		Card	1
21	1	2200		2	2200		Card	i
Delhi 25	2	1100		_	2200		Card	1
Delhi	Z	1100		4	2200		Carc	1
26	1	1800		1	1800		UP]	
Pune 17	1	1600		-	1600		Card	ı
Delhi	1	1000		_	1000		Carc	
4	1	1500		1	1500		Cash	1
Mumbai 23	3	400		1	1200		Cash	1
Jaipur								
3 Jainur	2	600		1	1200		UP]	
Jaipur 2	3	350		1	1050		Card	ł
Pune 19	2	500		-	1000		Cash	
Jaipur	Z	300		_	1000		Casi	ı
16	5	200		1	1000		Cash	1
Mumbai 11	1	1000			1000		Cash	
Jaipur								
12	1	950			950		UP]	

Mumbai				
18	6	150	900	UPI
Pune	_			
15	3	300	900	UPI
Jaipur	4	200	000	UDT
22	4	200	800	UPI
Pune 8	3	250	750	Cash
Mumbai	3	230	730	Casii
5	4	180	720	UPI
Delhi	-	100	120	01 1
13	1	520	520	Cash
Delhi	_	V=V	3_0	33.3.1
28	2	250	500	Card
Mumbai				
1	1	450	450	Cash
Delhi				
24	6	50	300	UPI
Mumbai				
20	5	60	300	UPI
Mumbai		0.0	100	
9	2	90	180	Card
Delhi	4	40	100	Calab
27 Jainur	4	40	160	Cash
Jaipur				
Salesp	erson			

	Salesperson
14	N. Gupta
29	M. Khan
7	S. Rao
10	N. Gupta
0	A. Singh
6	N. Gupta
21	-
25	M. Khan
26	N. Gupta
17	M. Khan
4	A. Singh
23	S. Rao
3	S. Rao
3 2	N. Gupta
19	S. Rao
16	A. Singh
11	S. Rao
12	A. Singh
18	N. Gupta
15	S. Rao
22	N. Gupta
8	A. Singh
5	M. Khan

```
13
       M. Khan
28
      A. Singh
1
       M. Khan
24
      A. Singh
20
      A. Singh
       M. Khan
9
27
        S. Rao
# Sort by location and date
print(df.sort_values(["Store Location", "Date"]))
          Date Invoice ID Customer Name Product Category
Product Name \
    2025 - 10 - 01
                    INV002
                               Priya Patel
                                                   Groceries
                                                                       Rice
(5kg)
    2025 - 10 - 04
                    INV006
                              Kavita Joshi
                                                   Groceries
                                                                Cooking
Oil (1L)
    2025 - 10 - 08
                    INV010
                              Deepak Patel
                                                   Groceries
                                                                     Sugar
(2kg)
                               Nitin Joshi
13 2025-10-12
                    INV014
                                                   Groceries
                                                                    Wheat
(10kg)
17 2025-10-15
                              Ramesh Yadav
                                                    Clothing
                    INV018
Hoodie
21 2025-10-19
                                Rohini Das
                    INV022
                                                    Clothing
Saree
25 2025-10-23
                               Mehul Patel
                                                                    Formal
                    INV026
                                                    Clothing
Shirt
                             Kiran Chauhan
                                                 Electronics
29 2025-10-26
                    INV030
                                                                   Mixer
Grinder
    2025 - 10 - 03
                    INV004
                              Anjali Mehta
                                                   Cosmetics
                                                                       Face
Cream
                               Arjun Singh
                                                 Electronics
    2025-10-06
                    INV008
                                                                      Smart
Watch
11 2025 - 10 - 10
                    INV012
                                Ravi Kumar
                                                 Electronics
Power Bank
15 2025-10-13
                    INV016
                              Arpit Bansal
                                                 Electronics
                                                                  Mobile
Charger
19 2025-10-17
                    INV020
                              Pankaj Sinha
                                                   Cosmetics
                                                                      Body
Lotion
23 2025-10-21
                                Neha Sethi
                                                   Cosmetics
                    INV024
Lipstick
                                Rekha Rani
27 2025 - 10 - 25
                    INV028
                                                   Groceries
                                                                    Bread
(Loaf)
                                                 Electronics Bluetooth
    2025 - 10 - 01
                    INV001
                                Raj Sharma
Speaker
    2025-10-03
                    INV005
                                Aman Yadav
                                                 Electronics
Headphones
                               Meena Desai
    2025 - 10 - 07
                    INV009
                                                   Cosmetics
Shampoo
12 2025-10-11
                    INV013
                              Divya Thakur
                                                   Cosmetics
```

Perfume						
16 2025 - (500g)	10-14	INV017	Tanu Sharma	Gro	ceries	Tea
20 2025- Milk (1L)		INV021	Jyoti Singh	Gro	ceries	
24 2025- (Pack)		INV025	Shubham Jain	Gro	ceries	Biscuits
28 2025- Hair Oil	10-26	INV029	Mohit Arora	Cosi	metics	
2 2025- T-Shirt	10-02	INV003	Rohit Verma	Cl	othing	
6 2025- Jeans	10-05	INV007	Pooja Nair	Cl	othing	
10 2025- Jacket	10-09	INV011	Sneha Iyer	Cl	othing	
14 2025-	10-13	INV015	Riya Malhotra	Cl	othing	
Dress 18 2025-	10-16	INV019	Kavya Kapoor	Elect	ronics	
LED Bulb 22 2025-	10-20	INV023	Aman Tiwari	Elect	ronics	USB
Cable 26 2025- Kettle	10-24	INV027	Neeraj Gupta	Elect	ronics	Electric
	ity Unit	Drico (=	F) Total Amou	n+ (₹) Daym	ont Mothor	l Ctoro
	/	Pilce (-	f) Total Amou	IIIC (K) Payiii	ent Method	i Store
1	1	45	50	450	Cash	1
Delhi 5	4	10	30	720	UPI	-
Delhi	4	10	50	720	UF.	
9	2	Ç	90	180	Card	k
Delhi						
13	1	52	20	520	Cash	1
Delhi 17	1	160	ne.	1600	Card	1
Delhi	_	100	, ,	1000	Care	4
21	1	220	00	2200	Card	t
Delhi 25	2	110	00	2200	Card	t
Delhi 29	1	350	00	3500	UP:	[
Delhi 3	2	60	00	1200	UP	[
Jaipur 7	1	280	00	2800	UP	[
Jaipur 11	1	100	00	1000	Casl	1
Jaipur 15	3	3(00	900	UP	I

Jaipur			1000	6 1	
19 Jaipur	2	500	1000	Cash	
23 Jaipur	3	400	1200	Cash	
27 Jaipur	4	40	160	Cash	
0 Mumbai	2	1200	2400	UPI	
4 Mumbai	1	1500	1500	Cash	
8 Mumbai	3	250	750	Cash	
12	1	950	950	UPI	
Mumbai	5	200	1000	Cash	
Mumbai 20	5	60	300	UPI	
Mumbai 24	6	50	300	UPI	
Mumbai 28	2	250	500	Card	
Mumbai 2	3	350	1050	Card	
Pune 6	2	1200	2400	Card	
Pune 10	1	2500	2500	UPI	
Pune 14	2	1800	3600	Card	
Pune 18 Pune	6	150	900	UPI	
22	4	200	800	UPI	
Pune 26 Pune	1	1800	1800	UPI	
1	esperson M. Khan				
5 9	M. Khan M. Khan				
13	M. Khan				
17 21	M. Khan M. Khan				
25	M. Khan				
29	M. Khan				
3 7	S. Rao S. Rao				

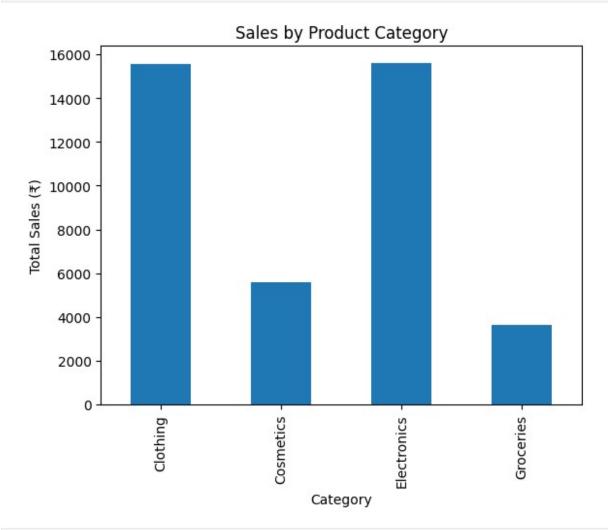
```
11
         S. Rao
15
         S. Rao
19
         S. Rao
23
         S. Rao
27
         S. Rao
0
       A. Singh
4
       A. Singh
8
       A. Singh
12
       A. Singh
16
       A. Singh
       A. Singh
20
24
       A. Singh
28
       A. Singh
2
       N. Gupta
6
       N. Gupta
       N. Gupta
10
14
       N. Gupta
18
       N. Gupta
22
       N. Gupta
26
       N. Gupta
#6: Date-Based Analysis
# Total sales per day
daily_sales = df.groupby("Date")["Total Amount (₹)"].sum()
print(daily_sales)
Date
2025-10-01
                2850
2025 - 10 - 02
                1050
2025 - 10 - 03
                2700
2025 - 10 - 04
                 720
2025 - 10 - 05
                2400
2025 - 10 - 06
                2800
2025 - 10 - 07
                  750
2025 - 10 - 08
                  180
2025 - 10 - 09
                2500
2025 - 10 - 10
                1000
2025 - 10 - 11
                  950
2025 - 10 - 12
                  520
2025 - 10 - 13
                4500
2025 - 10 - 14
                1000
2025 - 10 - 15
                1600
2025 - 10 - 16
                  900
2025 - 10 - 17
                1000
2025 - 10 - 18
                  300
2025 - 10 - 19
                2200
2025 - 10 - 20
                 800
                1200
2025-10-21
2025-10-22
                  300
2025 - 10 - 23
                2200
```

```
2025 - 10 - 24
              1800
2025 - 10 - 25
               160
2025 - 10 - 26
              4000
Name: Total Amount (₹), dtype: int64
# Day with highest revenue
print("Highest revenue day:", daily_sales.idxmax(), "with ₹",
daily sales.max())
Highest revenue day: 2025-10-13 with ₹ 4500
# Total sales per week
df["Date"] = pd.to datetime(df["Date"])
df["Week"] = df["Date"].dt.isocalendar().week
print(df.groupby("Week")["Total Amount (₹)"].sum())
Week
40
       9720
41
       8700
42
      11500
43
      10460
Name: Total Amount (₹), dtype: int64
#7: Top Performers
# Top 3 selling products
print(df.groupby("Product Name")["Total Amount
(₹)"].sum().sort values(ascending=False).head(3))
Product Name
Dress
                 3600
Mixer Grinder
                 3500
Smart Watch
                 2800
Name: Total Amount (₹), dtype: int64
# Top salesperson
print(df.groupby("Salesperson")["Total Amount
(₹)"].sum().sort values(ascending=False).head(1))
Salesperson
            13050
N. Gupta
Name: Total Amount (₹), dtype: int64
# City with most revenue
print(df.groupby("Store Location")["Total Amount
(₹)"].sum().sort values(ascending=False).head(1))
Store Location
Pune
        13050
Name: Total Amount (₹), dtype: int64
```

```
# 9: Visualization
import matplotlib.pyplot as plt

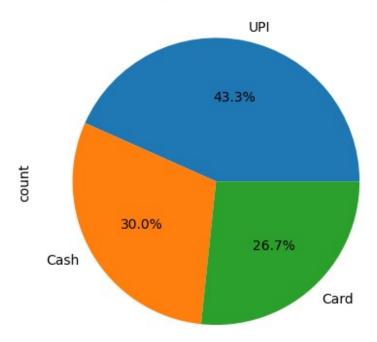
Matplotlib is building the font cache; this may take a moment.

# Bar chart - total sales by category
df.groupby("Product Category")["Total Amount
(₹)"].sum().plot(kind="bar", title="Sales by Product Category")
plt.xlabel("Category")
plt.ylabel("Total Sales (₹)")
plt.show()
```



```
# Pie chart - sales by payment method
df["Payment Method"].value_counts().plot(kind="pie", autopct='%1.1f%
%', title="Payment Methods")
plt.show()
```

Payment Methods



```
# Line chart - daily total revenue
daily_sales.plot(kind="line", marker="o", title="Daily Sales Trend")
plt.xlabel("Date")
plt.ylabel("Revenue (₹)")
plt.show()
```

