

Dataset shape before operations: (5847, 17)

1) SELECT -> shape: (5847, 11)

Seats	New_Price	Price	Name	Location	Year	Age	Kilometers_Driven	Mileage	Engine	Power
5.0	4.78	12.50	Hyundai Creta 1.6 CRDi SX Option	Pune	2015	10	41000	19.67	1582.0	126.20
5.0	8.61	4.50	Honda Jazz V	Chennai	2011	14	46000	13.00	1199.0	88.70
7.0	4.78	6.00	Maruti Ertiga VDI	Chennai	2012	13	87000	20.77	1248.0	88.76
5.0	4.78	17.74	Audi A4 New 2.0 TDI Multitronic	Coimbatore	2013	12	40670	15.20	1968.0	140.80
5.0	4.78	3.50	Nissan Micra Diesel XV	Jaipur	2013	12	86999	23.08	1461.0	63.10
8.0	21.00	17.50	Toyota Innova Crysta 2.8 GX AT 8S	Mumbai	2016	9	36000	11.36	2755.0	171.50
5.0	4.78	5.20	Volkswagen Vento Diesel Comfortline	Pune	2013	12	64430	20.54	1598.0	103.60
5.0	4.78	1.95	Tata Indica Vista Quadrajet LS	Chennai	2012	13	65932	22.30	1248.0	74.00
5.0	10.65	9.95	Maruti Ciaz Zeta	Kochi	2018	7	25692	21.56	1462.0	103.25
5.0	4.78	4.49	Honda City 1.5 V AT Sunroof	Kolkata	2012	13	60000	16.80	1497.0	116.30

2) FILTER (Delhi & Price > 10) -> shape: (157, 17)

Owner_Type	Mileage	Engine	Power	Seats	New_Price	Price	Fuel_Type_Electric	Fuel_Type_Petrol	Name	Location	Year	Kilometers_Driven
Transmission_Manual	Age	Car_Age										
First	12.70	2179.0	187.70	5.0	4.78	27.00			Land Rover Range Rover 2.2L Pure	Delhi	2014	72000
False	11	11										False
First	13.50	2477.0	175.56	7.0	32.01	15.00			Mitsubishi Pajero Sport 4X4	Delhi	2014	110000
True	11	11										False
First	11.74	1796.0	186.00	5.0	4.78	26.70			Mercedes-Benz New C-Class C 200 CGI Avantgarde	Delhi	2015	58000
False	10	10										True
Second	18.53	1968.0	187.74	5.0	4.78	29.50			Audi A6 2.0 TDI Design Edition	Delhi	2014	56000
False	11	11										False
Second	16.73	1995.0	218.00	5.0	4.78	13.90			BMW 5 Series 2003-2012 525d	Delhi	2011	75000
False	14	14										False
First	13.00	2982.0	168.50	7.0	4.78	16.50			Toyota Fortuner 4x2 Manual	Delhi	2014	107000
True	11	11										False
First	14.80	1595.0	120.70	5.0	4.78	11.25			Mercedes-Benz B Class B180	Delhi	2013	29000
False	12	12										True
First	15.73	1968.0	174.33	5.0	4.78	19.90			Audi Q3 2012-2015 35 TDI Quattro Premium Plus	Delhi	2015	64103
False	10	10										False
First	11.80	2967.0	246.70	5.0	4.78	45.00			Audi A8 L 3.0 TDI quattro	Delhi	2012	56000
False	13	13										False
First	17.90	2143.0	136.00	5.0	4.78	20.26			Mercedes-Benz GLA Class 200 CDI SPORT	Delhi	2015	48000

False 10 10

3) RENAME New_Price -> New_Car_Price_Lakh -> shape: (5847, 17)

				Name	Location	Year	Kilometers_Driven	Owner_Type		
Mileage	Engine	Power	Seats	New_Car_Price_Lakh	Price	Fuel_Type_Electric	Fuel_Type_Petrol	Transmission_Manual	Age	Car_Age
19.67	1582.0	126.20	5.0	4.78	12.50		False	41000	First	False
True	10	10								
13.00	1199.0	88.70	5.0	8.61	4.50		False	46000	First	True
True	14	14								
20.77	1248.0	88.76	7.0	4.78	6.00		False	87000	First	False
True	13	13								
15.20	1968.0	140.80	5.0	4.78	17.74		False	40670	Second	False
False	12	12								
23.08	1461.0	63.10	5.0	4.78	3.50		False	86999	First	False
True	12	12								
11.36	2755.0	171.50	8.0	21.00	17.50		False	36000	First	False
False	9	9								
20.54	1598.0	103.60	5.0	4.78	5.20		False	64430	First	False
True	12	12								
22.30	1248.0	74.00	5.0	4.78	1.95		False	65932	Second	False
True	13	13								
21.56	1462.0	103.25	5.0	10.65	9.95		False	25692	First	True
True	7	7								
16.80	1497.0	116.30	5.0	4.78	4.49		False	60000	First	True
False	13	13								

4) MUTATE (Price_per_1000km added) -> shape: (5847, 18)

Price	Kilometers_Driven	Price_per_1000km
12.50	41000	30.487805
4.50	46000	9.782609
6.00	87000	6.896552
17.74	40670	43.619375
3.50	86999	4.023035
17.50	36000	48.611111
5.20	64430	8.070774
1.95	65932	2.957593
9.95	25692	38.728009
4.49	60000	7.483333

5) ARRANGE (sorted by Price desc) -> shape: (5847, 18)

	Name	Location	Price
Land Rover Range Rover 3.0 Diesel LWB Vogue	Hyderabad	160.00	
Lamborghini Gallardo Coupe	Delhi	120.00	
Jaguar F Type 5.0 V8 S	Hyderabad	100.00	
Land Rover Range Rover Sport SE	Kochi	97.07	
BMW 7 Series 740Li	Coimbatore	93.67	
BMW 7 Series 740Li	Bangalore	93.00	
Mercedes-Benz SLK-Class 55 AMG	Bangalore	90.00	

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BMW X6 xDrive 40d M Sport Ahmedabad 85.00
Mercedes-Benz SLC 43 AMG Coimbatore 83.96
Mercedes-Benz GLS 350d Grand Edition Delhi 79.00
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6) GROUP BY Owner_Type -> shape: (4, 4)

Owner_Type	mean_price	count	avg_mileage
First	10.105076	4811	18.454496
Fourth & Above	3.415000	8	13.862500
Second	7.839719	925	16.914411
Third	5.348058	103	15.853398