SECOND HAND CAR DEALER ANALYSIS USING SQL

Introduction:

Car sales analysis is a crucial process for automotive businesses to understand market trends, evaluate performance, and make informed decisions. SQL (Structured Query Language) plays a vital role in this analysis as it enables the efficient handling, querying, and analysis of large datasets stored in relational databases.

Requirement and Analysis:

1.Read Car data
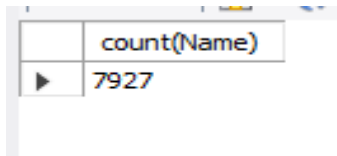
use car_analysis_project

SELECT * FROM car_table;

o/p:

Name	year	selling_price	km_driven	fuel	seller_type	transmission	owner	mileage	engine	max_power	torque	seats
Maruti Zen LX BSII	1998	70000	40000	Petrol	Individual	Manual	Second O...	17.3 kmpl	993 CC	60 bhp	78Nm...	5
Maruti Zen VXI	1998	55000	50000	Petrol	Individual	Manual	Second O...	17.3 kmpl	993 CC	60 bhp	78Nm...	5
Opel Astra 1.6	1998	68000	110000	Petrol	Individual	Manual	Third Owner	13.1 kmpl	1598 CC	77 bhp	121N...	5
Maruti 800 AC	1997	29999	80000	Petrol	Individual	Manual	Third Owner	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Maruti 800 AC	1997	50000	120000	Petrol	Individual	Manual	Second O...	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Maruti 800 AC	1997	50000	60000	Petrol	Individual	Manual	Second O...	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Maruti 800 AC	1997	40000	120000	Petrol	Individual	Manual	First Owner	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Maruti 800 DX	1997	60000	25000	Petrol	Individual	Manual	Third Owner	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Maruti 800 Std	1997	50000	110000	Petrol	Individual	Manual	Second O...	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Maruti Esteem AX	1997	125000	94000	Petrol	Individual	Automatic	Fourth & A...	15.9 kmpl	1298 CC	85 bhp	110N...	5
Maruti Gypsy King Soft Top	1997	300000	186388	Petrol	Individual	Manual	Second O...	14.8 kmpl	1298 CC	80 bhp	103N...	8
Maruti Zen LXI	1997	70000	100000	Petrol	Individual	Manual	Second O...	17.3 kmpl	993 CC	60 bhp	78Nm...	5
Maruti 800 AC	1996	42000	70000	Petrol	Individual	Manual	Third Owner	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Maruti 800 DX	1996	40000	32000	Petrol	Individual	Manual	Second O...	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Maruti 800 Std	1995	55000	70000	Petrol	Individual	Manual	First Owner	16.1 kmpl	796 CC	37 bhp	59Nm...	4
Ambassador Classic 2000 DSZ AC PS	1994	99000	100000	Diesel	Individual	Manual	Second O...	12.8 kmpl	1995 CC	52 bhp	106N...	5
Maruti 800 AC	1994	45000	60000	Petrol	Individual	Manual	First Owner	16.1 kmpl	796 CC	37 bhp	59Nm...	4

Name	year	selling_price	km_driven	fuel	seller_type	transmission	owner	mileage	engine	max_power	torque	seats
Maruti Alto 800 LXI Opt	2023	410000	10000	Petrol	Individual	Manual	First Owner	19.03 kmpl	999 CC	71.01bhp	96Nm	5
Skoda Slavia 1.0 TSI Ambition	2023	1350000	10000	Petrol	Individual	Manual	First Owner	14.08 kmpl	1956 CC	167.67bhp	350nm	5
BMW 3 Series Gran Limousine 320Ld Luxury Line	2023	5800000	1000	Diesel	Dealer	Automatic	First Owner	18.15 kmpl	998 CC	118.35bhp	172Nm	5
MG ZS EV Exclusive	2023	2650000	10000	Electric	Dealer	Automatic	First Owner	32.52 kmpl	998 CC	58.33bhp	78Nm	5
Tata Punch Adventure	2023	715000	10000	Petrol	Individual	Manual	First Owner	12.15 kmpl	1451 CC	141bhp	250Nm	5
Maruti S-Presso VXi Plus	2023	450000	30171	Petrol	Individual	Manual	First Owner	19.03 kmpl	999 CC	71.01bhp	96Nm	5
Maruti S-Presso LXi	2022	425000	1994	Petrol	Dealer	Manual	First Owner	19.47 kmpl	999 CC	113.98bhp	178Nm	5
Hyundai Creta SX Turbo	2022	1895000	22000	Petrol	Individual	Automatic	First Owner	12.15 kmpl	1997 CC	296.3bhp	400Nm	5
Renault Kiger RXT AMT Opt DT	2022	842000	6424	Petrol	Individual	Automatic	First Owner	14.08 kmpl	1956 CC	167.67bhp	350nm	5
Renault KWID CLIMBER	2022	567000	5148	Petrol	Dealer	Manual	First Owner	18.15 kmpl	998 CC	118.35bhp	172Nm	5
Mahindra XUV300 W8 Diesel Sunroof	2022	1197000	5030	Diesel	Individual	Manual	Second O...	32.52 kmpl	998 CC	58.33bhp	78Nm	5
Mahindra XUV700 AX5 Diesel AT	2022	2275000	28000	Diesel	Individual	Automatic	First Owner	12.15 kmpl	1451 CC	141bhp	250Nm	5
Renault Triber RXT	2022	800000	10000	Petrol	Individual	Manual	Second O...	21.01 kmpl	1197 CC	81.80bhp	113Nm	5
Hyundai Creta SX Diesel AT	2021	1950000	8000	Diesel	Individual	Automatic	First Owner	13.38 kmpl	2993 CC	265 bhp	620N...	5
Renault KWID CLIMBER	2021	567000	5868	Petrol	Individual	Manual	First Owner	18.15 kmpl	998 CC	118.35bhp	172Nm	5
Nissan Magnite XV Premium	2021	850000	2963	Petrol	Individual	Manual	First Owner	32.52 kmpl	998 CC	58.33bhp	78Nm	5
Renault Triber RXZ	2021	785000	11192	Petrol	Individual	Manual	Second O...	12.15 kmpl	1451 CC	141bhp	250Nm	5

2.Total cars: To get a count of total records?
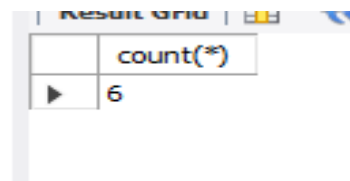
select count(Name) from car_table

o/p:

	count(Name)
▶	7927

3. The manager asked the employee How many cars will be available in 2023

select count(*) from car_table

where year = 2023

Result Grid	
	count(*)
▶	6

4. The manager asked the employee How many cars is available in 2020,2021,2022.

SELECT year, COUNT(*) AS car_count

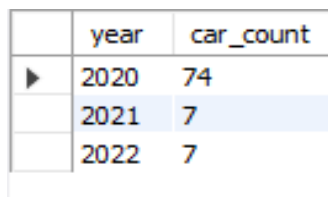FROM car_table

WHERE year IN (2020, 2021, 2022)

GROUP BY Year

ORDER BY year;

o/p:

	year	car_count
▶	2020	74
	2021	7
	2022	7

5. Client asked me to print the total all cars by year. I don't see all the details.

select year,count(*) as Sales_of_cars from car_table

group by year

o/p:

year	Sales_of_cars
2023	6
2022	7
2021	7
2020	74
2019	583
2018	806
2017	1010
2016	856
2015	775
2014	620
2013	668
2012	621
2011	570
2010	375
2009	231
2008	201
2007	173
2006	102
2005	76
2004	51
2003	37
2002	19

2001	6
2000	16
1999	14
1998	9
1997	9
1996	2
1995	1
1994	2

6. Client asked to car dealer agent How many diesel cars will there be in 2020?

select count(*) as Diesel_consumption_of_diesel_in_2020 from car_table where year = '2020' and fuel = 'Diesel'

o/p:

Diesel_consumption_of_diesel_in_2020
20

7. client requested a car dealer agent how many petrol cars will there be in 2020?

select year, count(*) as Fuel_in_petrol from car_table where year = '2020' and fuel = 'petrol'

o/p:

year	Fuel_in_petrol
2020	51

8. The manager told the employee to give a print ALL the fuel cars (petrol, diesel and CNG) come by all year?

select year, fuel,count(*) as Fuel_type from car_table

where fuel in ('petrol', 'diesel', 'CNG')

group by year, fuel

order by year

o/p:

year	fuel	Fuel_type
1994	Diesel	1
1994	Petrol	1
1995	Petrol	1
1996	Petrol	2
1997	Petrol	9
1998	Petrol	9
1999	Diesel	3
1999	Petrol	11
2000	CNG	1
2000	Diesel	3
2000	Petrol	12
2001	Petrol	6
2002	Diesel	3
2002	Petrol	16
2003	Diesel	10
2003	Petrol	27
2004	Diesel	10
2004	Petrol	41
2005	Diesel	22
2005	Petrol	54
2006	Diesel	30

year	fuel	Fuel_type
2006	Petrol	71
2007	Diesel	73
2007	Petrol	96
2008	CNG	1
2008	Diesel	90
2008	Petrol	107
2009	Diesel	98
2009	Petrol	133
2010	CNG	3
2010	Diesel	179
2010	Petrol	184
2011	CNG	4
2011	Diesel	362
2011	Petrol	200
2012	CNG	5
2012	Diesel	407
2012	Petrol	199
2013	CNG	3
2013	Diesel	460
2013	Petrol	203
2014	CNG	4

year	fuel	Fuel_type
2014	Diesel	414
2014	Petrol	202
2015	CNG	2
2015	Diesel	493
2015	Petrol	278
2016	CNG	6
2016	Diesel	421
2016	Petrol	429
2017	CNG	9
2017	Diesel	569
2017	Petrol	432
2018	CNG	5
2018	Diesel	407
2018	Petrol	394
2019	CNG	7
2019	Diesel	224
2019	Petrol	352
2020	CNG	3
2020	Diesel	20
2020	Petrol	51
2021	Diesel	2

2021	Petrol	5
2022	Diesel	2
2022	Petrol	5
2023	Diesel	1
2023	Petrol	4

9. manager said there were more than 100 cars in a given year, which year had more than 100 cars?

SELECT year, COUNT(*) AS total_cars

FROM car_table

GROUP BY year

HAVING COUNT(*) > 100

ORDER BY year;

o/p:

year	total_cars
2006	102
2007	173
2008	201
2009	231
2010	375
2011	570
2012	621
2013	668
2014	620
2015	775
2016	856
2017	1010
2018	806
2019	583

10. The manager said to the employee All cars count details between 2015 and 2023? we need a complete list?

select year, count(name) as Count_of_cars

from car_table

where year between 2015 and 2023

group by year

order by year ;

o/p:

year	Count_of_cars
2015	775
2016	856
2017	1010
2018	806
2019	583
2020	74
2021	7
2022	7
2023	6

11. The manager sasid to the employee All cars details between 2015 to 2023 we need complete list?

SELECT *

FROM car_table

WHERE year BETWEEN 2015 AND 2023

ORDER BY year;

o/p:

Name	year	selling_price	km_driven	fuel	seller_type	transmission	owner	mileage	engine	max_power	torque
Ford EcoSport 1.5 TDCi Titanium Plus BSIV	2015	615000	80000	Diesel	Individual	Manual	First Owner	22.77 kmpl	1498 CC	98.59 bhp	205Nm@ 17
Ford EcoSport 1.5 TDCi Titanium Plus BSIV	2015	600000	90000	Diesel	Individual	Manual	First Owner	22.77 kmpl	1498 CC	98.59 bhp	205Nm@ 17
Ford EcoSport 1.5 TDCi Titanium Plus BSIV	2015	610000	90000	Diesel	Individual	Manual	First Owner	22.77 kmpl	1498 CC	98.59 bhp	205Nm@ 17
Ford EcoSport 1.5 TDCi Titanium Plus BSIV	2015	550000	138000	Diesel	Individual	Manual	First Owner	22.77 kmpl	1498 CC	98.59 bhp	205Nm@ 17
Ford EcoSport 1.5 TDCi Trend Plus BSIV	2015	551000	110000	Diesel	Individual	Manual	First Owner	22.77 kmpl	1498 CC	98.59 bhp	205Nm@ 17
Ford Ecosport 1.5 Ti VCT AT Titanium	2015	625000	70670	Petrol	Trustmark Dealer	Automatic	First Owner	16.5 kmpl	1499 CC	110 bhp	140Nm@ 44
Ford EcoSport 1.5 Ti VCT AT Titanium BE BSIV	2015	680000	64000	Petrol	Dealer	Automatic	First Owner	16.05 kmpl	1499 CC	110.4 bhp	140Nm@ 44
Ford Ecosport 1.5 Ti VCT AT Titanium BSIV	2015	775000	30000	Petrol	Individual	Automatic	First Owner	15.63 kmpl	1499 CC	110.4 bhp	140Nm@ 44
Ford Ecosport 1.5 Ti VCT MT Titanium	2015	555000	20000	Petrol	Individual	Manual	Second Owner	15.8 kmpl	1499 CC	110 bhp	140Nm@ 44
Ford EcoSport 1.5 Ti VCT MT Titanium BSIV	2015	680000	50000	Petrol	Individual	Manual	First Owner	15.85 kmpl	1499 CC	110.4 bhp	140Nm@ 44
Ford EcoSport 1.5 Ti VCT MT Titanium BSIV	2015	800000	25000	Petrol	Individual	Manual	First Owner	15.85 kmpl	1499 CC	110.4 bhp	140Nm@ 44
Ford EcoSport 1.5 Ti VCT MT Titanium BSIV	2015	700000	25000	Petrol	Individual	Manual	First Owner	15.85 kmpl	1499 CC	110.4 bhp	140Nm@ 44
Ford Endeavour 3.0L 4X4 AT	2015	1275000	64000	Diesel	Dealer	Automatic	First Owner	11.4 kmpl	2953 CC	153.86 bhp	380Nm@ 25
Ford Fiesta 1.5 TDCi Titanium	2015	590000	80000	Diesel	Individual	Manual	First Owner	25.01 kmpl	1498 CC	89.75 bhp	204Nm@ 20
Ford Fiesta 1.5 TDCi Trend	2015	501000	80000	Diesel	Individual	Manual	Second Owner	25.01 kmpl	1498 CC	89.75 bhp	204Nm@ 20
Ford Figo 1.5D Base MT	2015	350000	110000	Diesel	Individual	Manual	Second Owner	25.83 kmpl	1498 CC	99 bhp	215Nm@ 17
Ford Figo 1.5D Titanium MT	2015	365000	105000	Diesel	Dealer	Manual	First Owner	25.83 kmpl	1498 CC	99 bhp	215Nm@ 17
Ford Figo 1.5D Titanium MT	2015	480000	80000	Diesel	Individual	Manual	First Owner	25.83 kmpl	1498 CC	99 bhp	215Nm@ 17
Ford Figo 1.5D Titanium MT	2015	580000	52000	Diesel	Individual	Manual	First Owner	25.83 kmpl	1498 CC	99 bhp	215Nm@ 17

Name	year	selling_price	km_driven	fuel	seller_type	transmission	owner	mileage	engine	max_power	torque
Hyundai Creta SX Diesel AT	2021	1950000	8000	Diesel	Individual	Automatic	First Owner	13.38 kmpl	2993 CC	265 bhp	620Nm@ 15
Renault KWID CLIMBER	2021	567000	5868	Petrol	Individual	Manual	First Owner	18.15 kmpl	998 CC	118.35bhp	172Nm
Nissan Magnite XV Premium	2021	850000	2963	Petrol	Individual	Manual	First Owner	32.52 kmpl	998 CC	58.33bhp	78Nm
Renault Triber RXZ	2021	785000	11192	Petrol	Individual	Manual	Second Owner	12.15 kmpl	1451 CC	141bhp	250Nm
Hyundai Tucson Platinum AT	2021	2975000	3600	Petrol	Dealer	Automatic	First Owner	21.01 kmpl	1197 CC	81.80bhp	113Nm
Maruti Alto 800 LXI Opt	2021	358000	29751	Petrol	Dealer	Manual	First Owner	19.03 kmpl	999 CC	71.01bhp	96Nm
Hyundai i20 Sportz Diesel	2021	977000	13522	Diesel	Individual	Manual	First Owner	18.15 kmpl	2198 CC	182.38bhp	450Nm
Maruti S-Presso LXi	2022	425000	1994	Petrol	Dealer	Manual	First Owner	19.47 kmpl	999 CC	113.98bhp	178Nm
Hyundai Creta SX Turbo	2022	1895000	22000	Petrol	Individual	Automatic	First Owner	12.15 kmpl	1997 CC	296.3bhp	400Nm
Renault Kiger RXT AMT Opt DT	2022	842000	6424	Petrol	Individual	Automatic	First Owner	14.08 kmpl	1956 CC	167.67bhp	350nm
Renault KWID CLIMBER	2022	567000	5148	Petrol	Dealer	Manual	First Owner	18.15 kmpl	998 CC	118.35bhp	172Nm
Mahindra XUV300 W8 Diesel Sunroof	2022	1197000	5030	Diesel	Individual	Manual	Second Owner	32.52 kmpl	998 CC	58.33bhp	78Nm
Mahindra XUV700 AX5 Diesel AT	2022	2275000	28000	Diesel	Individual	Automatic	First Owner	12.15 kmpl	1451 CC	141bhp	250Nm
Renault Triber RXT	2022	800000	10000	Petrol	Individual	Manual	Second Owner	21.01 kmpl	1197 CC	81.80bhp	113Nm
Maruti Alto 800 LXI Opt	2023	410000	10000	Petrol	Individual	Manual	First Owner	19.03 kmpl	999 CC	71.01bhp	96Nm
Skoda Slavia 1.0 TSI Ambition	2023	1350000	10000	Petrol	Individual	Manual	First Owner	14.08 kmpl	1956 CC	167.67bhp	350Nm
BMW 3 Series Gran Limousine 320Ld Luxury ...	2023	5800000	1000	Diesel	Dealer	Automatic	First Owner	18.15 kmpl	998 CC	118.35bhp	172Nm
MG ZS EV Exclusive	2023	2650000	10000	Electric	Dealer	Automatic	First Owner	32.52 kmpl	998 CC	58.33bhp	78Nm
Tata Punch Adventure	2023	715000	10000	Petrol	Individual	Manual	First Owner	12.15 kmpl	1451 CC	141bhp	250Nm
Maruti S-Presso VXi Plus	2023	450000	30171	Petrol	Individual	Manual	First Owner	19.03 kmpl	999 CC	71.01bhp	96Nm