Data Analytics SQL Mini-Project

Insight number 1 –

-- PRINT ALL SETAILS FROM CARS24 DATA SET AND CALCULATE TOTAL MILEAGE FOR EACH CAR, FILTER BY TOTAL MILEAGE GREATER THAN 500, AND ORDER BY YEAR

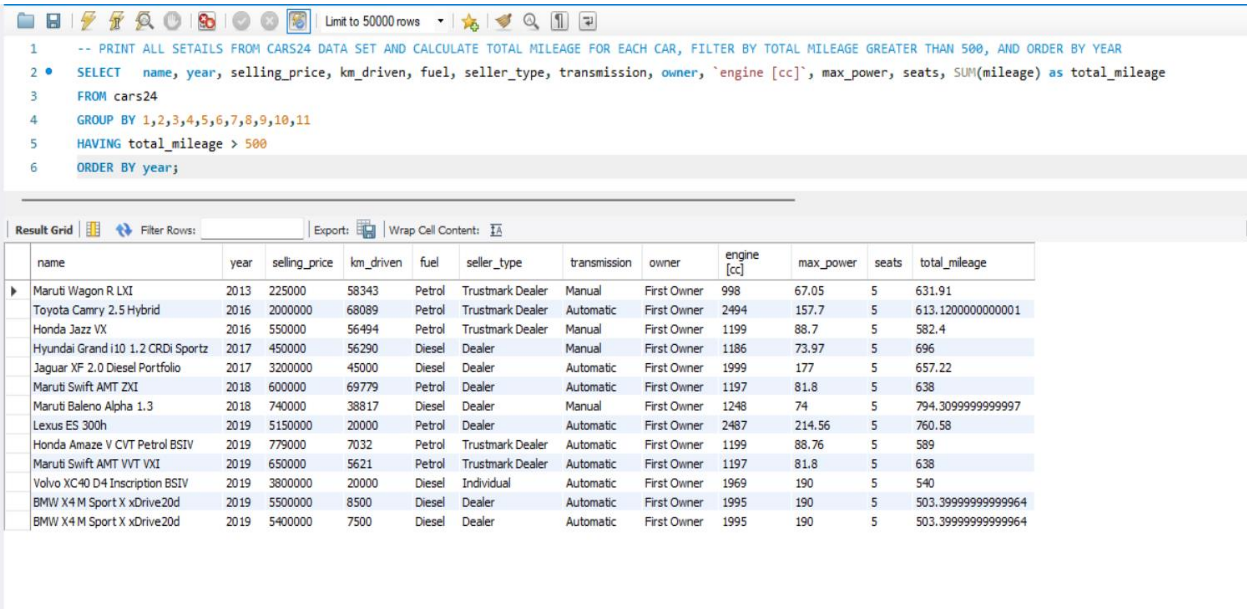
SELECT name, year, selling_price, km_driven, fuel, seller_type, transmission, owner, `engine [cc]`, max_power, seats, SUM(mileage) as total_mileage

FROM cars24

GROUP BY 1,2,3,4,5,6,7,8,9,10,11

HAVING total_mileage > 500

ORDER BY year;



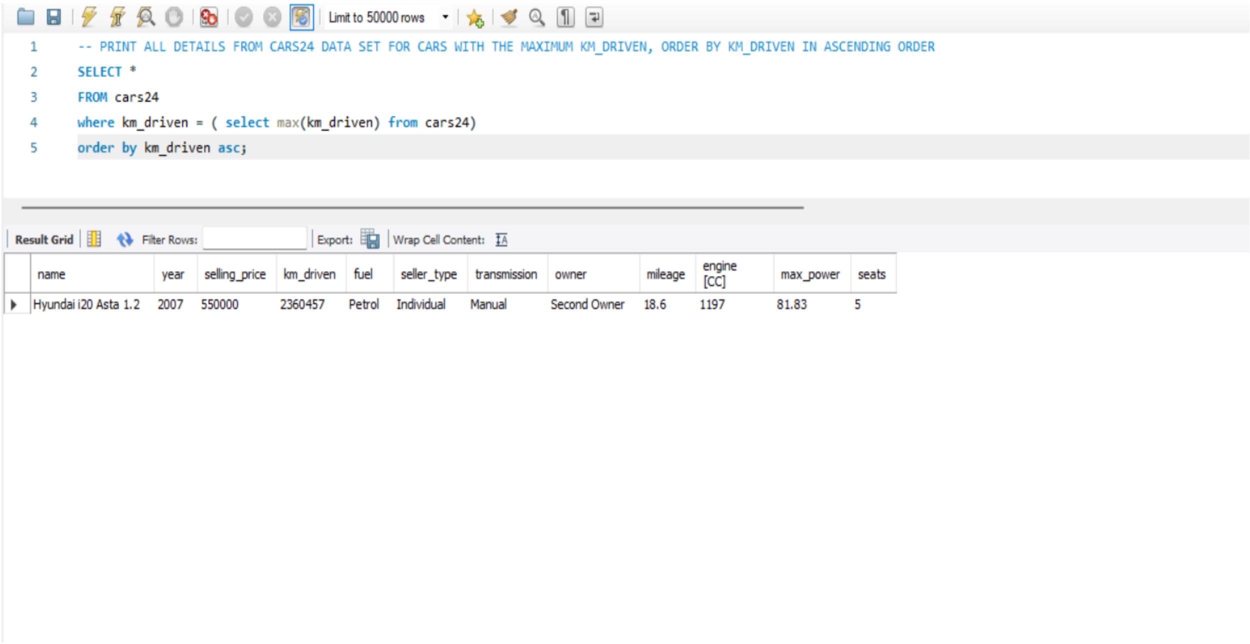
```
-- PRINT ALL SETAILS FROM CARS24 DATA SET AND CALCULATE TOTAL MILEAGE FOR EACH CAR, FILTER BY TOTAL MILEAGE GREATER THAN 500, AND ORDER BY YEAR
SELECT   name, year, selling_price, km_driven, fuel, seller_type, transmission, owner, `engine [cc]`, max_power, seats, SUM(mileage) as total_mileage
FROM cars24
GROUP BY 1,2,3,4,5,6,7,8,9,10,11
HAVING total_mileage > 500
ORDER BY year;
```

name	year	selling_price	km_driven	fuel	seller_type	transmission	owner	engine [cc]	max_power	seats	total_mileage
Maruti Wagon R LXI	2013	225000	58343	Petrol	Trustmark Dealer	Manual	First Owner	998	67.05	5	631.91
Toyota Camry 2.5 Hybrid	2016	2000000	68089	Petrol	Trustmark Dealer	Automatic	First Owner	2494	157.7	5	613.1200000000001
Honda Jazz VX	2016	550000	56494	Petrol	Trustmark Dealer	Manual	First Owner	1199	88.7	5	582.4
Hyundai Grand i10 1.2 CRDi Sportz	2017	450000	56290	Diesel	Dealer	Manual	First Owner	1186	73.97	5	696
Jaguar XF 2.0 Diesel Portfolio	2017	3200000	45000	Diesel	Dealer	Automatic	First Owner	1999	177	5	657.22
Maruti Swift AMT ZXI	2018	600000	69779	Petrol	Dealer	Automatic	First Owner	1197	81.8	5	638
Maruti Baleno Alpha 1.3	2018	740000	38817	Diesel	Dealer	Manual	First Owner	1248	74	5	794.3099999999997
Lexus ES 300h	2019	5150000	20000	Petrol	Dealer	Automatic	First Owner	2487	214.56	5	760.58
Honda Amaze V CVT Petrol BSIV	2019	779000	7032	Petrol	Trustmark Dealer	Automatic	First Owner	1199	88.76	5	589
Maruti Swift AMT VVT VXI	2019	650000	5621	Petrol	Trustmark Dealer	Automatic	First Owner	1197	81.8	5	638
Volvo XC40 D4 Inscription BSIV	2019	3800000	20000	Diesel	Individual	Automatic	First Owner	1969	190	5	540
BMW X4 M Sport X xDrive20d	2019	5500000	8500	Diesel	Dealer	Automatic	First Owner	1995	190	5	503.39999999999964
BMW X4 M Sport X xDrive20d	2019	5400000	7500	Diesel	Dealer	Automatic	First Owner	1995	190	5	503.39999999999964

Insight number 2 –

-- PRINT ALL DETAILS FROM CARS24 DATA SET FOR CARS WITH THE MAXIMUM KM_DRIVEN, ORDER BY KM_DRIVEN IN ASCENDING ORDER

```
SELECT *

FROM cars24

where km_driven = ( select max(km_driven) from cars24)

order by km_driven asc;
```



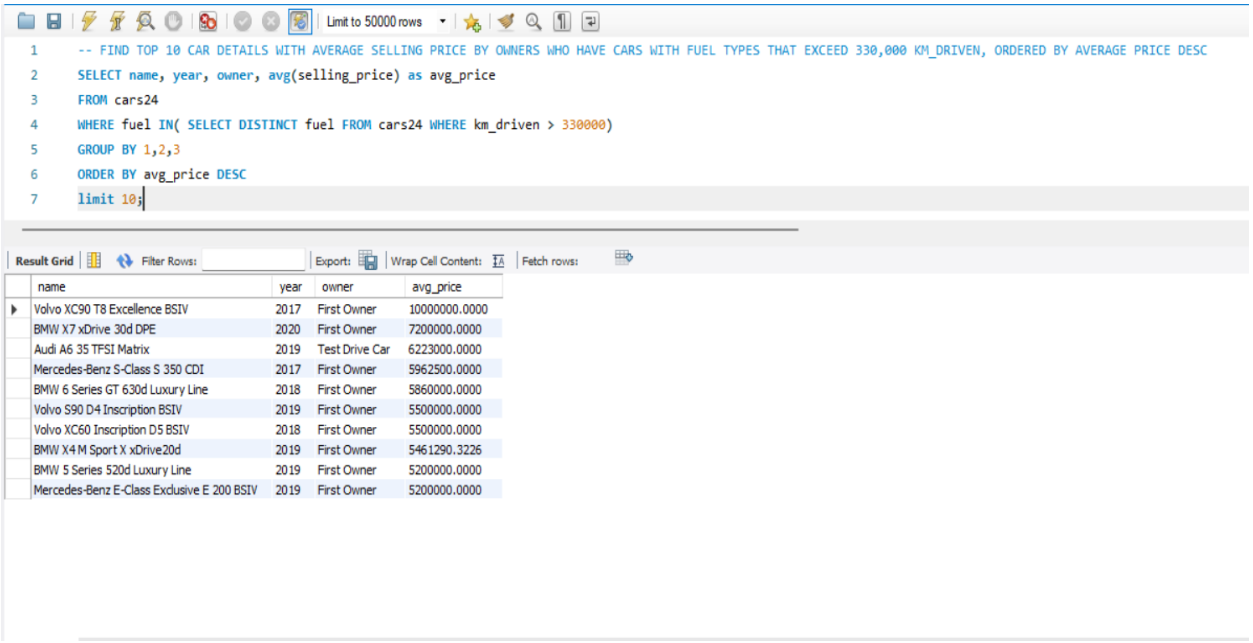
```
-- PRINT ALL DETAILS FROM CARS24 DATA SET FOR CARS WITH THE MAXIMUM KM_DRIVEN, ORDER BY KM_DRIVEN IN ASCENDING ORDER
SELECT *
FROM cars24
where km_driven = ( select max(km_driven) from cars24)
order by km_driven asc;
```

name	year	selling_price	km_driven	fuel	seller_type	transmission	owner	mileage	engine [CC]	max_power	seats
Hyundai i20 Asta 1.2	2007	550000	2360457	Petrol	Individual	Manual	Second Owner	18.6	1197	81.83	5

Insight number 3 –

-- FIND TOP 10 CAR DETAILS WITH AVERAGE SELLING PRICE BY OWNERS WHO HAVE CARS WITH FUEL TYPES THAT EXCEED 330,000 KM_DRIVEN, ORDERED BY AVERAGE PRICE DESC

```
SELECT name, year, owner, avg(selling_price) as avg_price

FROM cars24

WHERE fuel IN( SELECT DISTINCT fuel FROM cars24 WHERE km_driven > 330000)

GROUP BY 1,2,3

ORDER BY avg_price DESC

limit 10;
```



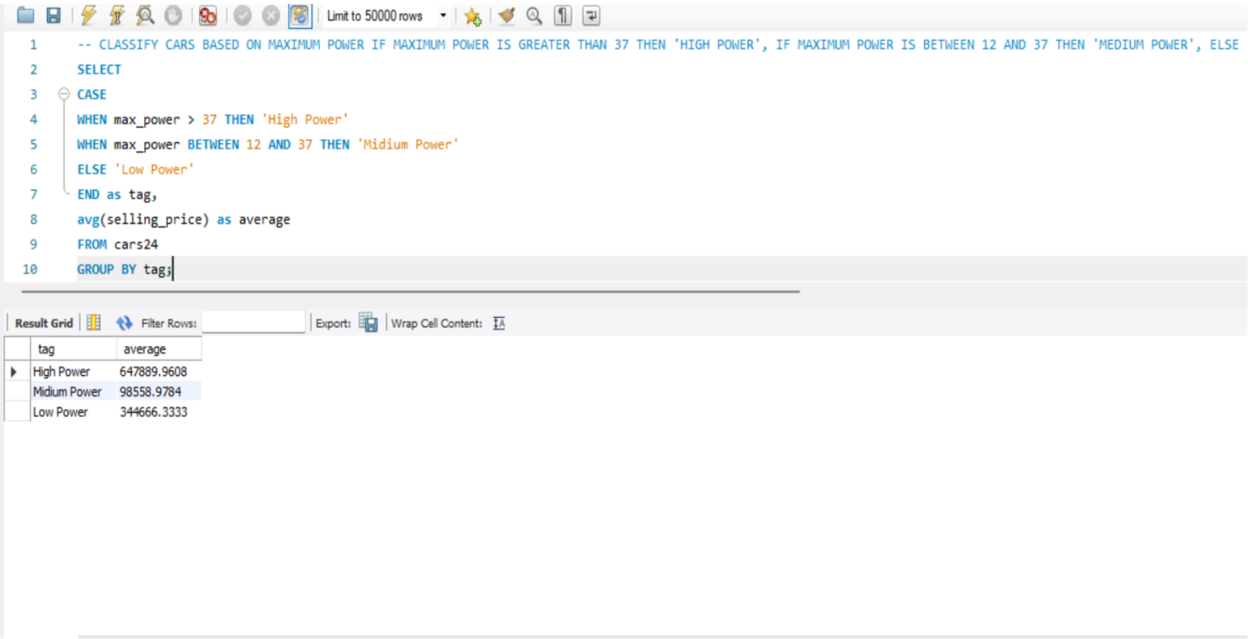
```
-- FIND TOP 10 CAR DETAILS WITH AVERAGE SELLING PRICE BY OWNERS WHO HAVE CARS WITH FUEL TYPES THAT EXCEED 330,000 KM_DRIVEN, ORDERED BY AVERAGE PRICE DESC
SELECT name, year, owner, avg(selling_price) as avg_price
FROM cars24
WHERE fuel IN( SELECT DISTINCT fuel FROM cars24 WHERE km_driven > 330000)
GROUP BY 1,2,3
ORDER BY avg_price DESC
limit 10;
```

name	year	owner	avg_price
Volvo XC90 T8 Excellence BSIV	2017	First Owner	10000000.0000
BMW X7 xDrive 30d DPE	2020	First Owner	7200000.0000
Audi A6 35 TFSI Matrix	2019	Test Drive Car	6223000.0000
Mercedes-Benz S-Class S 350 CDI	2017	First Owner	5962500.0000
BMW 6 Series GT 630d Luxury Line	2018	First Owner	5860000.0000
Volvo S90 D4 Inscription BSIV	2019	First Owner	5500000.0000
Volvo XC60 Inscription D5 BSIV	2018	First Owner	5500000.0000
BMW X4 M Sport X xDrive20d	2019	First Owner	5461290.3226
BMW 5 Series 520d Luxury Line	2019	First Owner	5200000.0000
Mercedes-Benz E-Class Exclusive E 200 BSIV	2019	First Owner	5200000.0000

Insight number 4 –

-- CLASSIFY CARS BASED ON MAXIMUM POWER IF MAXIMUM POWER IS GREATER THAN 37 THEN 'HIGH POWER', IF MAXIMUM POWER IS BETWEEN 12 AND 37 THEN 'MEDIUM POWER', ELSE 'LOW POWER', AND CALCULATE AVERAGE SELLING PRICE FOR EACH CLASS

```
SELECT

CASE

WHEN max_power > 37 THEN 'High Power'

WHEN max_power BETWEEN 12 AND 37 THEN 'Midium Power'

ELSE 'Low Power'

END as tag,

avg(selling_price) as average

FROM cars24

GROUP BY tag;
```



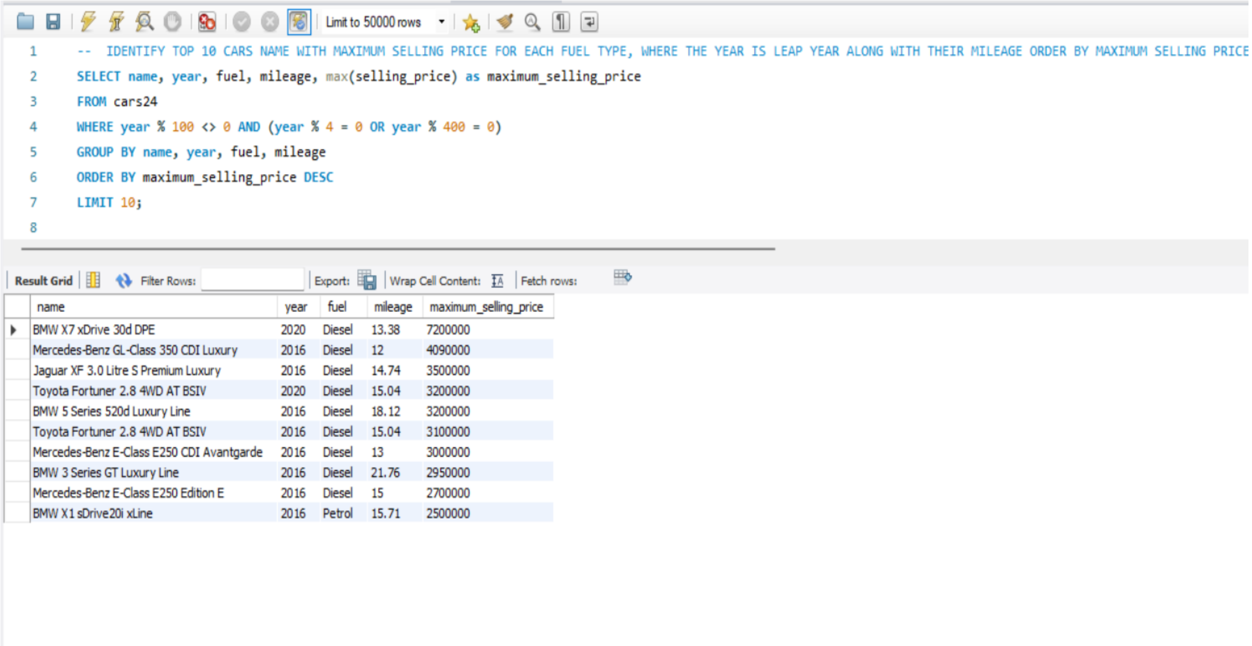
```
-- CLASSIFY CARS BASED ON MAXIMUM POWER IF MAXIMUM POWER IS GREATER THAN 37 THEN 'HIGH POWER', IF MAXIMUM POWER IS BETWEEN 12 AND 37 THEN 'MEDIUM POWER', ELSE
SELECT
CASE
WHEN max_power > 37 THEN 'High Power'
WHEN max_power BETWEEN 12 AND 37 THEN 'Midium Power'
ELSE 'Low Power'
END as tag,
avg(selling_price) as average
FROM cars24
GROUP BY tag;
```

tag	average
High Power	647889.9608
Midium Power	98558.9784
Low Power	344666.3333

Insight number 5 –

-- IDENTIFY TOP 10 CARS NAME WITH MAXIMUM SELLING PRICE FOR EACH FUEL TYPE, WHERE THE YEAR IS LEAP YEAR ALONG WITH THEIR MILEAGE ORDER BY MAXIMUM SELLING PRICE HIGHEST TO LOWEST

```
SELECT name, year, fuel, mileage, max(selling_price) as maximum_selling_price

FROM cars24

WHERE year % 100 <> 0 AND (year % 4 = 0 OR year % 400 = 0)

GROUP BY name, year, fuel, mileage

ORDER BY maximum_selling_price DESC

LIMIT 10;
```



```
--  IDENTIFY TOP 10 CARS NAME WITH MAXIMUM SELLING PRICE FOR EACH FUEL TYPE, WHERE THE YEAR IS LEAP YEAR ALONG WITH THEIR MILEAGE ORDER BY MAXIMUM SELLING PRICE
SELECT name, year, fuel, mileage, max(selling_price) as maximum_selling_price
FROM cars24
WHERE year % 100 <> 0 AND (year % 4 = 0 OR year % 400 = 0)
GROUP BY name, year, fuel, mileage
ORDER BY maximum_selling_price DESC
LIMIT 10;
```

name	year	fuel	mileage	maximum_selling_price
BMW X7 xDrive 30d DPE	2020	Diesel	13.38	7200000
Mercedes-Benz GL-Class 350 CDI Luxury	2016	Diesel	12	4090000
Jaguar XF 3.0 Litre S Premium Luxury	2016	Diesel	14.74	3500000
Toyota Fortuner 2.8 4WD AT BSIV	2020	Diesel	15.04	3200000
BMW 5 Series 520d Luxury Line	2016	Diesel	18.12	3200000
Toyota Fortuner 2.8 4WD AT BSIV	2016	Diesel	15.04	3100000
Mercedes-Benz E-Class E250 CDI Avantgarde	2016	Diesel	13	3000000
BMW 3 Series GT Luxury Line	2016	Diesel	21.76	2950000
Mercedes-Benz E-Class E250 Edition E	2016	Diesel	15	2700000
BMW X1 sDrive20i xLine	2016	Petrol	15.71	2500000

Insight number 6 –

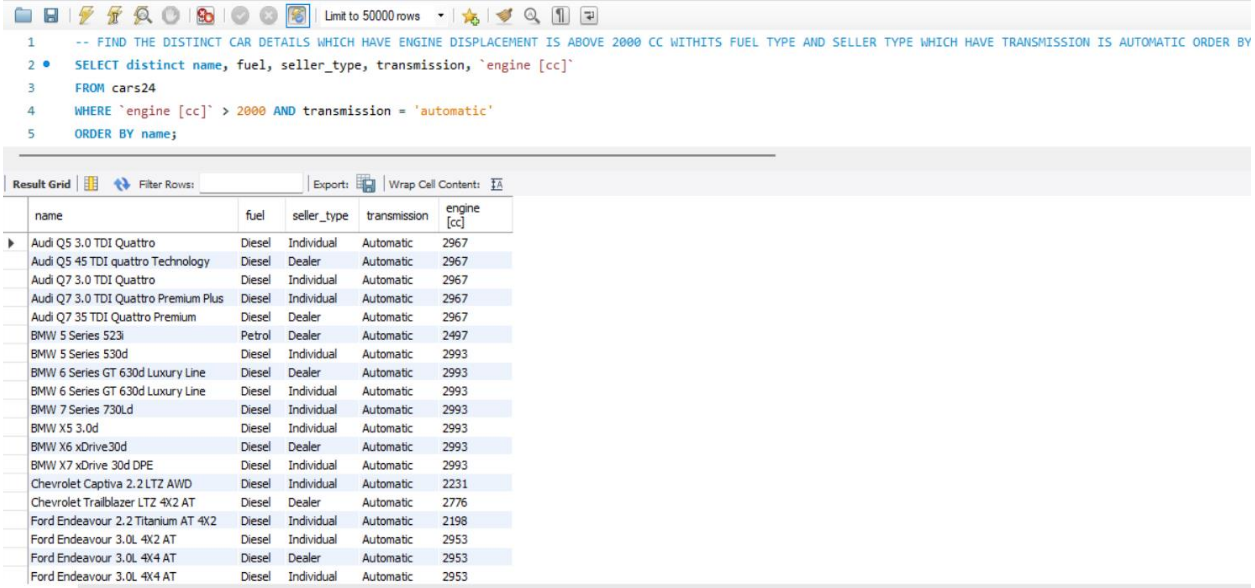
-- FIND THE DISTINCT CAR DETAILS WHICH HAVE ENGINE DISPLACEMENT IS ABOVE 2000 CC WITHITS FUEL TYPE AND SELLER TYPE WHICH HAVE TRANSMISSION IS AUTOMATIC ORDER BY NAME

SELECT distinct name, fuel, seller_type, transmission, `engine [cc]`

FROM cars24

WHERE `engine [cc]` > 2000 AND transmission = 'automatic'

ORDER BY name;



```
-- FIND THE DISTINCT CAR DETAILS WHICH HAVE ENGINE DISPLACEMENT IS ABOVE 2000 CC WITHITS FUEL TYPE AND SELLER TYPE WHICH HAVE TRANSMISSION IS AUTOMATIC ORDER BY
SELECT distinct name, fuel, seller_type, transmission, `engine [cc]`
FROM cars24
WHERE `engine [cc]` > 2000 AND transmission = 'automatic'
ORDER BY name;
```

name	fuel	seller_type	transmission	engine [cc]
Audi Q5 3.0 TDI Quattro	Diesel	Individual	Automatic	2967
Audi Q5 45 TDI quattro Technology	Diesel	Dealer	Automatic	2967
Audi Q7 3.0 TDI Quattro	Diesel	Individual	Automatic	2967
Audi Q7 3.0 TDI Quattro Premium Plus	Diesel	Individual	Automatic	2967
Audi Q7 35 TDI Quattro Premium	Diesel	Dealer	Automatic	2967
BMW 5 Series 523i	Petrol	Dealer	Automatic	2497
BMW 5 Series 530d	Diesel	Individual	Automatic	2993
BMW 6 Series GT 630d Luxury Line	Diesel	Dealer	Automatic	2993
BMW 6 Series GT 630d Luxury Line	Diesel	Individual	Automatic	2993
BMW 7 Series 730Ld	Diesel	Individual	Automatic	2993
BMW X5 3.0d	Diesel	Individual	Automatic	2993
BMW X6 xDrive30d	Diesel	Dealer	Automatic	2993
BMW X7 xDrive 30d DPE	Diesel	Individual	Automatic	2993
Chevrolet Captiva 2.2 LTZ AWD	Diesel	Individual	Automatic	2231
Chevrolet Trailblazer LTZ 4X2 AT	Diesel	Dealer	Automatic	2776
Ford Endeavour 2.2 Titanium AT 4X2	Diesel	Individual	Automatic	2198
Ford Endeavour 3.0L 4X2 AT	Diesel	Individual	Automatic	2953
Ford Endeavour 3.0L 4X4 AT	Diesel	Dealer	Automatic	2953
Ford Endeavour 3.0L 4X4 AT	Diesel	Individual	Automatic	2953

Insight number 7 –

-- FIND HOW MANY CARS SOLD PER YEAR AND IDENTIFY WHICH CAR SOLD MORE THAN 50 % NAME OF THAT CARS ORDER BY YEAR

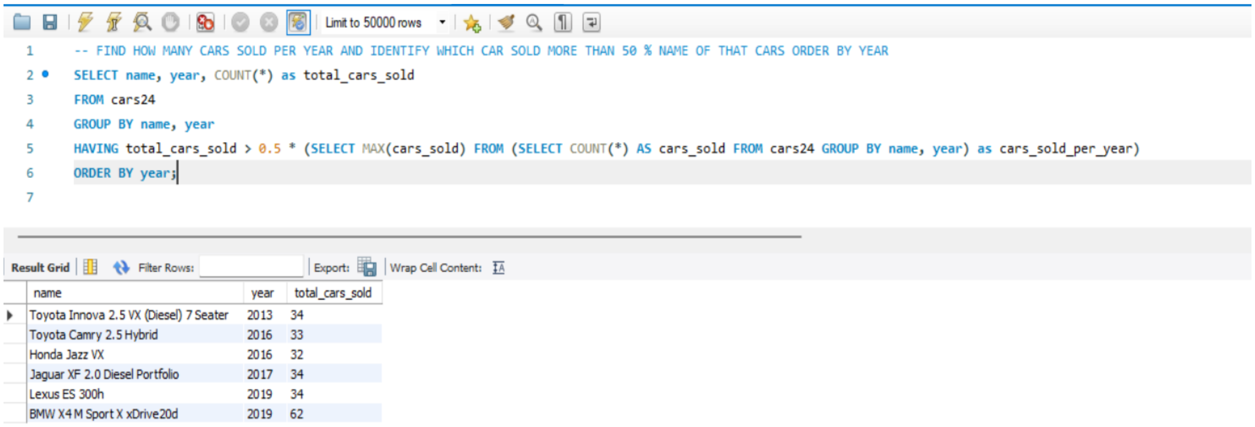
SELECT name, year, COUNT(*) as total_cars_sold

FROM cars24

GROUP BY name, year

HAVING total_cars_sold > 0.5 * (SELECT MAX(cars_sold) FROM (SELECT COUNT(*) AS cars_sold FROM cars24 GROUP BY name, year) as cars_sold_per_year)

ORDER BY year;



```
-- FIND HOW MANY CARS SOLD PER YEAR AND IDENTIFY WHICH CAR SOLD MORE THAN 50 % NAME OF THAT CARS ORDER BY YEAR
SELECT name, year, COUNT(*) as total_cars_sold
FROM cars24
GROUP BY name, year
HAVING total_cars_sold > 0.5 * (SELECT MAX(cars_sold) FROM (SELECT COUNT(*) AS cars_sold FROM cars24 GROUP BY name, year) as cars_sold_per_year)
ORDER BY year;
```

name	year	total_cars_sold
Toyota Innova 2.5 VX (Diesel) 7 Seater	2013	34
Toyota Camry 2.5 Hybrid	2016	33
Honda Jazz VX	2016	32
Jaguar XF 2.0 Diesel Portfolio	2017	34
Lexus ES 300h	2019	34
BMW X4 M Sport X xDrive20d	2019	62

Insight number 8 –

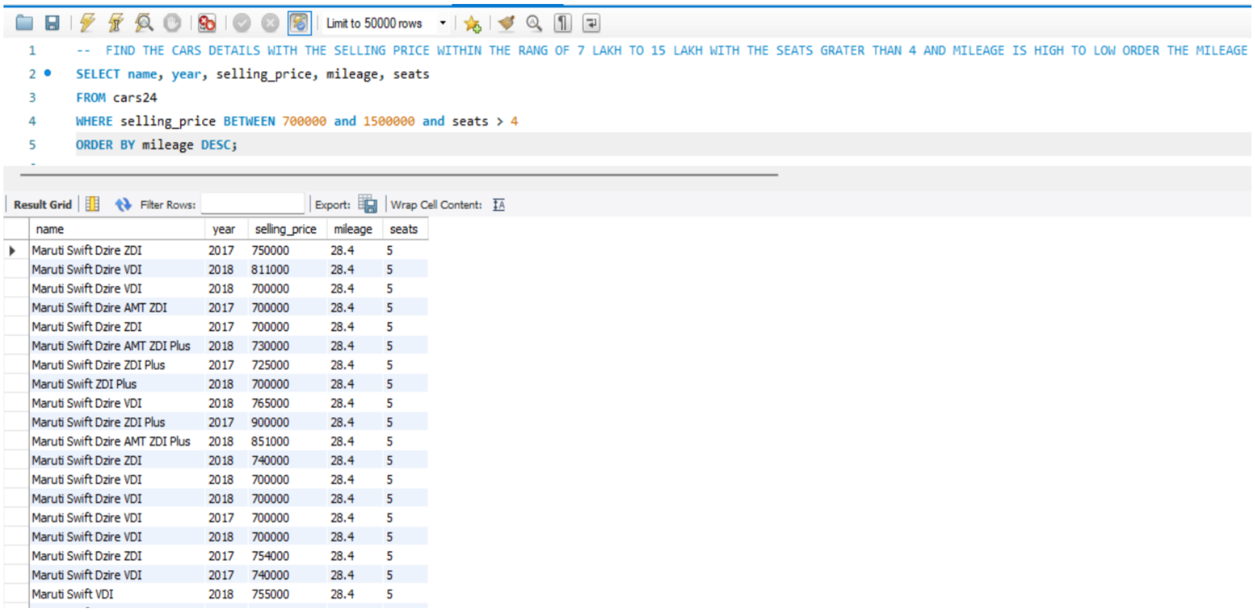
-- FIND THE CARS DETAILS WITH THE SELLING PRICE WITHIN THE RANG OF 7 LAKH TO 15 LAKH WITH THE SEATS GRATER THAN 4 AND MILEAGE IS HIGH TO LOW ORDER THE MILEAGE HIGH TO LOW

SELECT name, year, selling_price, mileage, seats

FROM cars24

WHERE selling_price BETWEEN 700000 and 1500000 and seats > 4

ORDER BY mileage DESC;



```
-- FIND THE CARS DETAILS WITH THE SELLING PRICE WITHIN THE RANG OF 7 LAKH TO 15 LAKH WITH THE SEATS GRATER THAN 4 AND MILEAGE IS HIGH TO LOW ORDER THE MILEAGE
SELECT name, year, selling_price, mileage, seats
FROM cars24
WHERE selling_price BETWEEN 700000 and 1500000 and seats > 4
ORDER BY mileage DESC;
```

name	year	selling_price	mileage	seats
Maruti Swift Dzire ZDI	2017	750000	28.4	5
Maruti Swift Dzire VDI	2018	811000	28.4	5
Maruti Swift Dzire VDI	2018	700000	28.4	5
Maruti Swift Dzire AMT ZDI	2017	700000	28.4	5
Maruti Swift Dzire ZDI	2017	700000	28.4	5
Maruti Swift Dzire AMT ZDI Plus	2018	730000	28.4	5
Maruti Swift Dzire ZDI Plus	2017	725000	28.4	5
Maruti Swift ZDI Plus	2018	700000	28.4	5
Maruti Swift Dzire VDI	2018	765000	28.4	5
Maruti Swift Dzire ZDI Plus	2017	900000	28.4	5
Maruti Swift Dzire AMT ZDI Plus	2018	851000	28.4	5
Maruti Swift Dzire ZDI	2018	740000	28.4	5
Maruti Swift Dzire VDI	2018	700000	28.4	5
Maruti Swift Dzire VDI	2018	700000	28.4	5
Maruti Swift Dzire VDI	2017	700000	28.4	5
Maruti Swift Dzire VDI	2018	700000	28.4	5
Maruti Swift Dzire ZDI	2017	754000	28.4	5
Maruti Swift Dzire VDI	2017	740000	28.4	5
Maruti Swift VDI	2018	755000	28.4	5

Insight number 9 –

-- PRINT THE NAME, YEAR, OWNER, AND AVERAGE OF KILOMETER DRIVEN FOR CARS WITH NAME NOT STARTING AND ENDING WITH VOWELS ORDER THE RESULT BY ALPHABETICALIY

SELECT name, year, owner, avg(km_driven) as avg_driven

FROM cars24

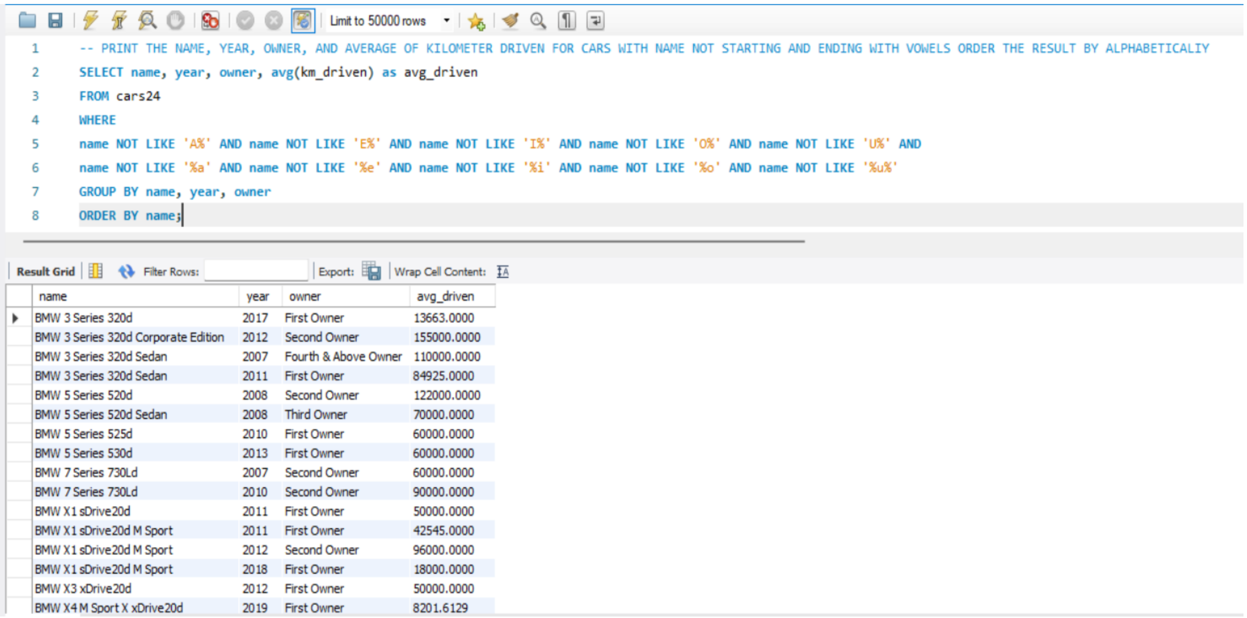
WHERE

name NOT LIKE 'A%' AND name NOT LIKE 'E%' AND name NOT LIKE 'I%' AND name NOT LIKE 'O%' AND name NOT LIKE 'U%' AND

name NOT LIKE '%a' AND name NOT LIKE '%e' AND name NOT LIKE '%i' AND name NOT LIKE '%o' AND name NOT LIKE '%u%'

GROUP BY name, year, owner

ORDER BY name;

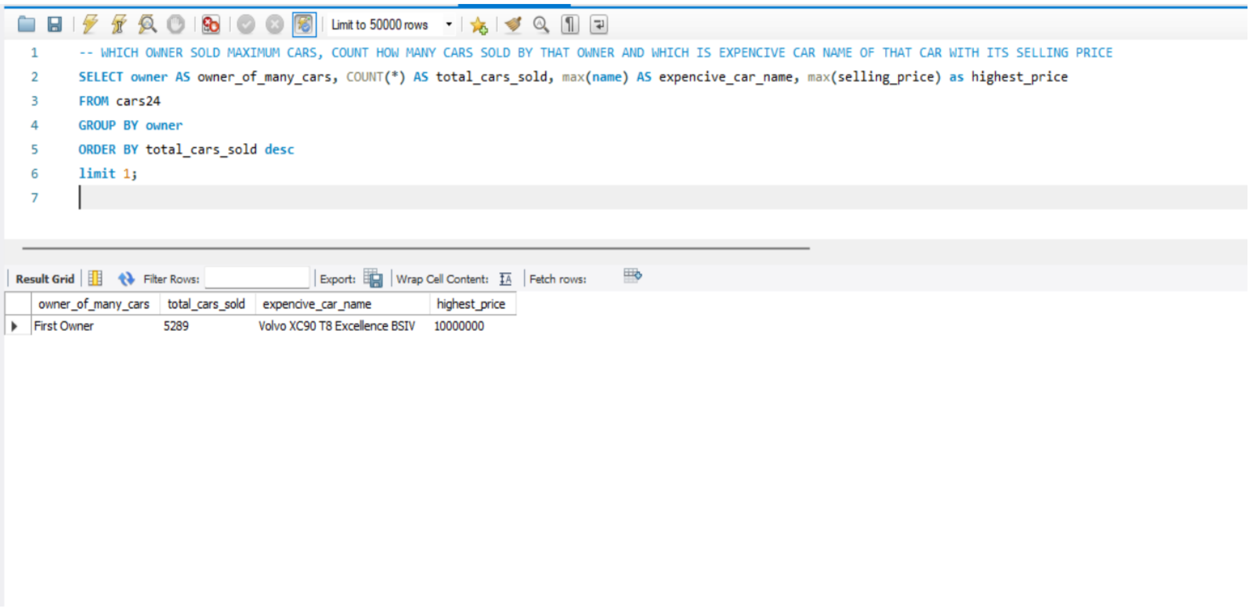


```
-- PRINT THE NAME, YEAR, OWNER, AND AVERAGE OF KILOMETER DRIVEN FOR CARS WITH NAME NOT STARTING AND ENDING WITH VOWELS ORDER THE RESULT BY ALPHABETICALIY
SELECT name, year, owner, avg(km_driven) as avg_driven
FROM cars24
WHERE
name NOT LIKE 'A%' AND name NOT LIKE 'E%' AND name NOT LIKE 'I%' AND name NOT LIKE 'O%' AND name NOT LIKE 'U%' AND
name NOT LIKE '%a' AND name NOT LIKE '%e' AND name NOT LIKE '%i' AND name NOT LIKE '%o' AND name NOT LIKE '%u%'
GROUP BY name, year, owner
ORDER BY name;
```

name	year	owner	avg_driven
BMW 3 Series 320d	2017	First Owner	13663.0000
BMW 3 Series 320d Corporate Edition	2012	Second Owner	155000.0000
BMW 3 Series 320d Sedan	2007	Fourth & Above Owner	110000.0000
BMW 3 Series 320d Sedan	2011	First Owner	84925.0000
BMW 5 Series 520d	2008	Second Owner	122000.0000
BMW 5 Series 520d Sedan	2008	Third Owner	70000.0000
BMW 5 Series 525d	2010	First Owner	60000.0000
BMW 5 Series 530d	2013	First Owner	60000.0000
BMW 7 Series 730Ld	2007	Second Owner	60000.0000
BMW 7 Series 730Ld	2010	Second Owner	90000.0000
BMW X1 sDrive20d	2011	First Owner	50000.0000
BMW X1 sDrive20d M Sport	2011	First Owner	42545.0000
BMW X1 sDrive20d M Sport	2012	Second Owner	96000.0000
BMW X1 sDrive20d M Sport	2018	First Owner	18000.0000
BMW X3 xDrive20d	2012	First Owner	50000.0000
BMW X4 M Sport X xDrive20d	2019	First Owner	8201.6129

Insight number 10 –

```
-- WHICH OWNER SOLD MAXIMUM CARS, COUNT HOW MANY CARS SOLD BY THAT OWNER AND WHICH IS EXPENCIVE CAR NAME OF THAT CAR WITH ITS SELLING PRICE

SELECT owner AS owner_of_many_cars, COUNT(*) AS total_cars_sold, max(name) AS expencive_car_name, max(selling_price) as highest_price

FROM cars24

GROUP BY owner

ORDER BY total_cars_sold desc

limit 1;
```



```
-- WHICH OWNER SOLD MAXIMUM CARS, COUNT HOW MANY CARS SOLD BY THAT OWNER AND WHICH IS EXPENCIVE CAR NAME OF THAT CAR WITH ITS SELLING PRICE
SELECT owner AS owner_of_many_cars, COUNT(*) AS total_cars_sold, max(name) AS expencive_car_name, max(selling_price) as highest_price
FROM cars24
GROUP BY owner
ORDER BY total_cars_sold desc
limit 1;
```

owner_of_many_cars	total_cars_sold	expencive_car_name	highest_price
First Owner	5289	Volvo XC90 T8 Excellence BSIV	10000000