CAR MANUFACTURER HUB



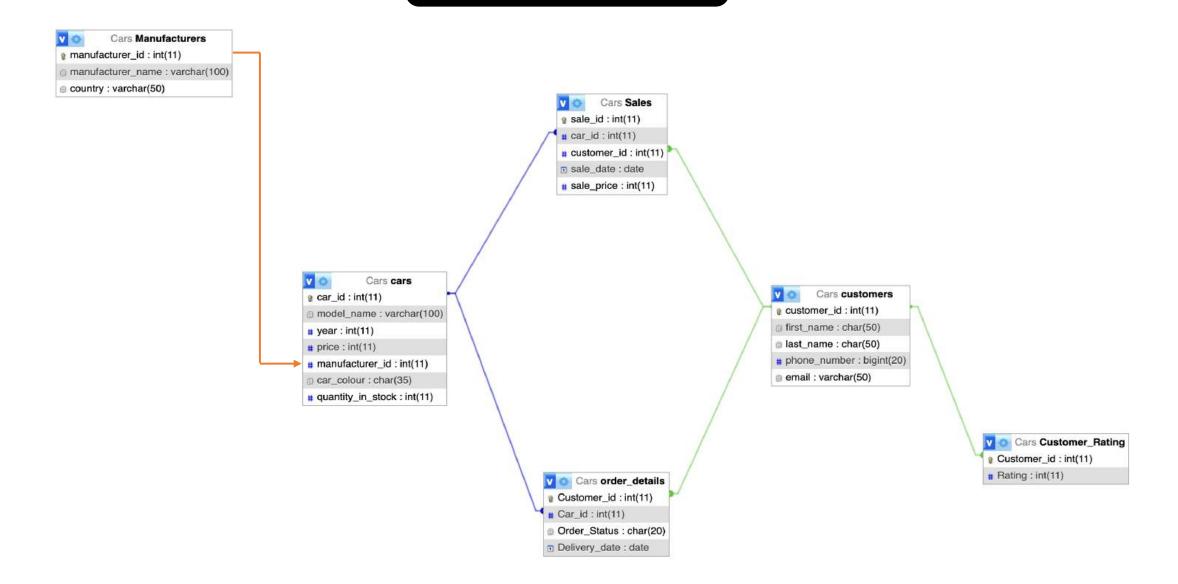
INTRODUCTION

This dataset is designed to help a car dealership manage its operations efficiently. It includes six key tables:

- **1. Manufacturers**: Stores information about car manufacturers, such as the name and country of each manufacturer.
- **2. Cars**: Contains details about the cars in stock, like the model, price, year, and which manufacturer made them.
- 3. Customers: Keeps records of customer information, such as their names, email, and address.
- 4. Sales: Tracks the sales made, showing which cars were sold, who bought them, the sale date, and the price.
- **5. Order_details :** It refers to the current state or stage of an order in the purchasing or fulfillment process. It helps track the progress of an order from the time it is placed until it is delivered.
- **6.Customer_Rating:** It refers to the feedback score given by customers, typically on a scale from 1 to 5.

This dataset helps the dealership organize and keep track of their cars, customers, and sales.

ER DIAGRAM



Tables in Database

- > To display tables and schema we use the following commands.
- > Syntax:- Show Tables;

>Syntax:-desc Cars;

```
[MariaDB [cars]> desc cars;
  Field
                                   Null | Key | Default | Extra
                    Type
  car_id
                    int(11)
                                   NO
                                           PRI |
                                                 NULL
  model_name
                    varchar(100)
                                    YES
                                                 NULL
                    int(11)
                                    YES
                                                 NULL
  year
                    int(11)
  price
                                    YES
                                                 NULL
  manufacturer_id | int(11)
5 rows in set (0.003 sec)
```

Data in the Tables

> To display all Records in a table

Syntax:- Select * from manufacturers;

```
[MariaDB [cars]> select * from manufacturers;
  manufacturer_id
                     manufacturer_name
                                          country
                                          Italy
                     Ferrari
                     BMW
                                          Germany
                     Lamborghini
                                          Italy
                     Jaguar
                                          England
                     Porsche
                                          Germany
                     Tesla
                                          America
                     Benz
                                          Germany
                     Tata
                                          India
                     Ford
                                          America
                     Aston Martin
                                          England
10 rows in set (0.002 sec)
```

Syntax:- Select * from cars;

ar_id	model_name	year	price	manufacturer_id
1	Ferrari GTS	2020	100000	1
2	BMW M4	2020	200000	2
3	Tata Curve	2023	50000	8
4	Jaguar I Pace	2022	300000	4
5	Ford Mustang	2020	500000	9
6	Lamborghini Aventador	2022	700000	3
7	Tata Nexon	2021	70000	8
8	Aston Martin Vantage	2023	900000	10
9	Tesla Model 3	2019	300000	6
10	Porsche Taycan	2018	800000	5
11	Benz E Class	2018	200000	7
12	Tata Altroz	2023	300000	8
13	Ferrari Stradale	2024	800000	1
14	Jaguar XF	2024	500000	4
15	Ford Endeavour	2024	400000	5

Syntax:-select * from customers;

ustomer_id	first_name	last_name	phone_number	email :
1	Bhaskar	Madireddy	9949221270	bhaskarmadireddy1911@gmail.com
2	Harish	Agurla	8849221270	harishagurla143@gmail.com
3	Mani Teja	Godugu	8849221260	maniteja@gmail.com
4	Shiva Teja	Draksha	8849227660	shivateja@gmail.com
5	Vikas	Bommakanti	8849227662	vikas@gmail.com
6	Tessa	Langford	8949227662	Tessa@gmail.com
7	Katherine	Langford	9949227662	Katherine@gmail.com
8	Hardin	Castord	9949227660	Hardin@gmail.com
9	Mahesh	Vittala	9949117660	Mahesh@gmail.com
10	Karthik	Kankati	9949117669	Karthik@gmail.com
11	Keerthana	Polasa	9949657669	Keerthanapolasa@gmail.com
12	Bharat	Akkini	9987654324	Bharat@gmail.com
13	Jyothika	Beeraka	9949677669	jyothikabeeraka@gmail.com
14	Subashini	subbu	7749677669	subbu@gmail.com
15	nancy	nano	7849677669	nancy@gmail.com
16	Arun	pedha	7849677559	arun@gmail.com
17	Pradeep	rayapelli	9849677559	pradeep@gmail.com
18	Rohit	buri	6849677559	rohit@gmail.com
19	Rihance	reo	6859677559	rihance@gmail.com
20	Sneha	snow	6859677550	sneha@gmail.com

Syntax:-select * from sales;

ale_id	car_id	customer_id	sale_date	sale_price
1	1	1	2020-10-12	120000
2	j 5 j	2	2020-09-20	600000
3	5	3	2020-09-26	600000
4	2	4	2020-08-11	220000
5	j 3 j	5	2023-08-15	70000
6	14	6	2024-04-17	600000
7	15	7	2024-05-12	450000
8	9	8	2019-04-13	350000
9	j 5 j	9	2020-02-05	600000
10	j 10 j	10	2018-02-08	850000
11	13	11	2024-01-10	870000
12	j 8 j	12	2023-01-10	950000
13	j 1 j	13	2020-01-10	120000
14	12	14	2023-01-13	330000
15	4	15	2023-01-13	400000 i
16	j 6 j	16	2022-01-19	750000
17	j 7 j	17	2022-04-08	75000
18	j 11 j	18	2019-04-01	25000
19	j 2 j	12	2004-04-02	250000
20	j 5 j	20	2004-04-02	650000

Syntax :- Select * from order_details;

Customer_id	Car_id	Order_Status	Delivery_date
 1	1	Delivered	 2023-11-19
2	5	Shipped	2024-07-09
3	5	Delivered	2023-11-19
4	2	Shipped	2024-07-09
5	3	Delivered	2023-11-19
6	14	Shipped	2024-07-09
7	15	Shipped	2024-07-09
8	9	Pending	NULL
9	5	Delivered	2023-11-19
10	10	Shipped	2024-07-09
11 j	13	Out for Delivery	2024-05-05
12	8	Delivered	2023-11-19
13	1	Out for Delivery	2024-05-05
14	12	Shipped	2024-07-09
15	4	Delivered	2023-11-19
16	6	Pending	NULL
17	7	Out for Delivery	2024-05-05
18	11	Pending	NULL
19	2	Out for Delivery	2024-05-05
20	5	Pending	NULL

Syntax:- Select * from customer_rating;

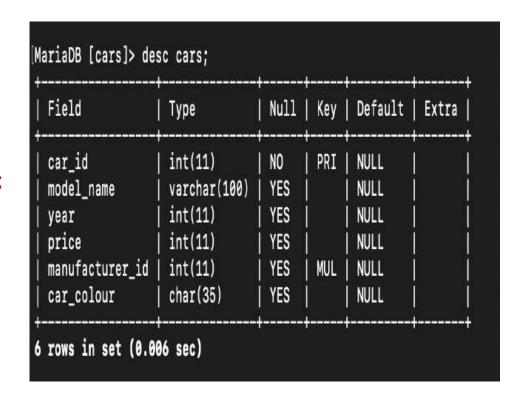
```
[MariaDB [cars]> select * from customer_rating;
  Customer_id | Rating
                      3
                      5
                      5
                      3
            10
                      5
           11
            12
            13
                      5
            15
            16
           17
            18
           19
                      5
            20
                      5
20 rows in set (0.000 sec)
```

Altering the Table

- > Add Column:-
- Syntax:- Alter table cars add colour char(20);

- Rename Column:-
- Syntax:- Alter table cars change colour car_colour char(20);

- ➤ Modify Column:-
- Syntax :-Alter table cars modify car_colour char(35)



- ➤ Inserting Record:-
- > Syntax:- insert into customers values (21,"Chris","Hemsworth",9949221567,"chris@gmail.com")

- ➤ Update Record:-
- > Syntax:- update customers set last_name="Hemsworths" where customer_id=21;

customer_id	first_name	last_name	phone_number	email
1	Bhaskar	Madireddy	9949221270	bhaskarmadireddy1911@gmail.com
2	Harish	Agurla	8849221270	harishagurla143@gmail.com
3	Mani Teja	Godugu	8849221260	maniteja@gmail.com
4	Shiva Teja	Draksha	8849227660	shivateja@gmail.com
5	Vikas	Bommakanti	8849227662	vikas@gmail.com
6	Tessa	Langford	8949227662	Tessa@gmail.com
7	Katherine	Langford	9949227662	Katherine@gmail.com
8	Hardin	Castord	9949227660	Hardin@gmail.com
9	Mahesh	Vittala	9949117660	Mahesh@gmail.com
10	Karthik	Kankati	9949117669	Karthik@gmail.com
11	Keerthana	Polasa	9949657669	Keerthanapolasa@gmail.com
12	Bharat	Akkini	9987654324	Bharat@gmail.com
13] Jyothika	Beeraka	9949677669	jyothikabeeraka@gmail.com
14	Subashini	subbu	7749677669	subbu@gmail.com
15	nancy	nano	7849677669	nancy@gmail.com
16	Arun	pedha	7849677559	arun@gmail.com
17	Pradeep	rayapelli	9849677559	pradeep@gmail.com
18	Rohit	buri	6849677559	rohit@gmail.com
19	Rihance	reo	6859677559	rihance@gmail.com
20	Sneha	snow	6859677550	sneha@gmail.com
21	Chris	Hemsworths	9949221567	chris@gmail.com

- Find cars between price 200000 and 700000.
- > Syntax:-select * from cars where price <=700000 and price >=200000;

car_id	model_name	year	price	manufacturer_id	car_colour
2	BMW M4	2020	 200000		NULL
4	Jaguar I Pace	2022	300000	4	NULL
5	Ford Mustang	2020	500000	9	NULL
6	Lamborghini Aventador	2022	700000	3	NULL
9	Tesla Model 3	2019	300000	6	NULL
11	Benz E Class	2018	200000	7	NULL
12	Tata Altroz	2023	300000	8	NULL
14	Jaguar XF	2024	500000	4	NULL
15	Ford Endeavour	2024	400000	5	NULL

- > Find first 5 customers.
- Syntax:- Select * from customers where customer_id in (1,2,3,4,5);

customer_id	first_name	last_name	phone_number	email
1	Bhaskar	Madireddy	9949221270	bhaskarmadireddy1911@gmail.com
2	Harish	Agurla	8849221270	harishagurla143@gmail.com
3	Mani Teja	Godugu	8849221260	maniteja@gmail.com
4	Shiva Teja	Draksha	8849227660	shivateja@gmail.com
5	Vikas	Bommakanti	8849227662	vikas@gmail.com

- Find first name, last name, phone number from customers id between 6 To 10.
- Syntax:- Select first_name,last_name,phone_number from customers where customer_id between 6 and 10;

```
[MariaDB [cars]> select first_name,last_name,phone_number from customers where customer_id between 6 and 10;
  first_name | last_name | phone_number
               Langford
                             8949227662
  Tessa
  Katherine
                             9949227662
               Langford
  Hardin
               Castord
                             9949227660
  Mahesh
               Vittala
                             9949117660
  Karthik
               Kankati
                              9949117669
5 rows in set (0.003 sec)
```

- > Find the cars that starts with "F" letter.
- Syntax:-Select * from cars where model_name like "F%";

```
[MariaDB [cars]> select * from cars where model_name like "f%";
                                              manufacturer_id |
  car_id | model_name
                             | year | price
                                                                car_colour
           Ferrari GTS
                              2020
                                      100000
                                                                 Red
           Ford Mustang
                              2020
                                      500000
                                                                 Red
           Ferrari Stradale
                              2024
                                      800000
                                                                 Blue
           Ford Endeavour
      15
                              2024
                                     400000
                                                                Blue
4 rows in set (0.001 sec)
```

- > Find the Top 5 Customers.
- > Syntax:- Select * from cars order by price desc limit 5;

car_id	model_name	year	price	manufacturer_id	car_colour
8	Aston Martin Vantage	2023	900000	10	Black
13	Ferrari Stradale	2024	800000	j 1	Blue
10	Porsche Taycan	2018	800000	j 5	Black
6	Lamborghini Aventador	2022	700000	j 3	Black
5	Ford Mustang	2020	500000	j 9	Red

- > Find the count of country wise manufacturer ids.
- > Syntax:-Select country,count(manufacturer_id) as Total_manufacturers group by country;

```
      [MariaDB [cars]> select country, count(manufacturer_id) as Total_manufacturers from manufacturers group by country;

      +-----+
      | country | Total_manufacturers |

      +-----+
      | America | 2 |

      | England | 2 |
      | Germany | 3 |

      | India | 1 |
      | Italy | 2 |

      +-----+
      | 5 rows in set (0.002 sec)
```

- > Find total sales according to year wise.
- > Using sum and group by functions to find total sales per year.
- Syntax:- SELECT YEAR(sale_date) AS sale_year, SUM(sale_price) AS total_sales FROM sales GROUP BY sale_year ORDER BY sale_year;

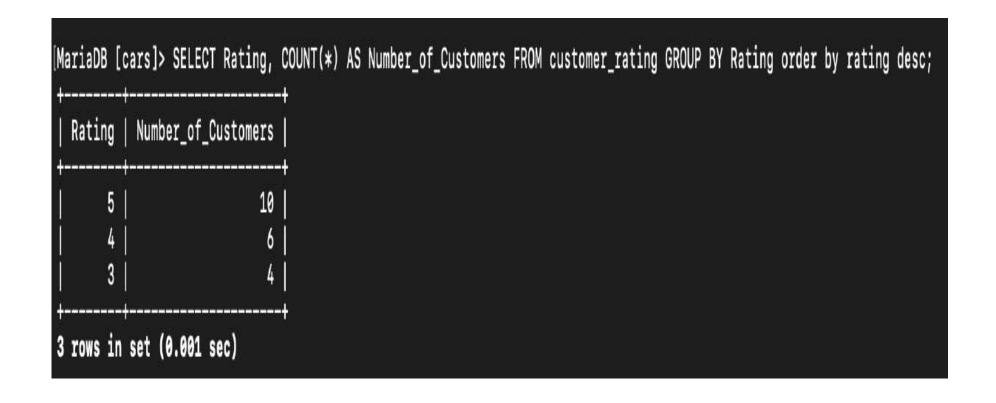


- > Find how many cars are manufactured by each manufacturer.
- Using Count and group by functions to find count of cars by manufacturer id.
- Syntax:-SELECT manufacturer_id, COUNT(*) AS car_count FROM cars GROUP BY manufacturer_id;

- Find the Expensive car from all cars.
- Using max function to find most expensive car in table.
- Syntax:-select model_name,max(price) as Expensive_price from cars;

```
[MariaDB [cars]> select model_name,max(price) as Expensive_price from cars;
+-----+
| model_name | Expensive_price |
+-----+
| Ferrari GTS | 900000 |
+-----+
1 row in set (0.004 sec)
```

- > Find the ratings given by total count of customers.
- > Using count and group by functions to find how many customers gave each rating.
- > Syntax :- SELECT Rating, COUNT(*) AS number_of_customers FROM customer_rating GROUP BY Rating;



> Find the models of cars, carid, manufacturer name and how many are in stock.

> Syntax:- select t1.car_id,t1.model_name,t1.quantity_in_stock,t2.manufacturer_name from cars as t1 left join manufacturers as t2 on t1.manufacturer_id=t2.manufacturer_id;

ar_id	model_name	quantity_in_stock	manufacturer_name
1	Ferrari GTS	5	Ferrari
2	BMW M4	10	BMW
3	Tata Curve	j 5	Tata
4	Jaguar I Pace	10	Jaguar
5	Ford Mustang	5	Ford
6	Lamborghini Aventador	5	Lamborghini
7	Tata Nexon	10	Tata
8	Aston Martin Vantage	1	Aston Martin
9	Tesla Model 3	10	Tesla
10	Porsche Taycan] 3	Porsche
11	Benz E Class] 3	Benz
12	Tata Altroz] 3	Tata
13	Ferrari Stradale] 3	Ferrari
14	Jaguar XF] 3	Jaguar
15	Ford Endeavour	5	Porsche

> Find customer_id, fistname, lastname, phonenumber, email along with sales.

Syntax :- SELECT t1.customer_id, t1.first_name, t1.phone_number, t1.email, t2.sale_id, t2.car_id, t2.sale_date, t2.sale_price FROM sales as t2 RIGHT JOIN customers as t1 ON t1.customer_id = t2.customer_id;

stomer_id	first_name	phone_number	email	sale_id	car_id	sale_date	sale_price	
1	Bhaskar	9949221270	bhaskarmadireddy1911@gmail.com	1	1	2020-10-12	120000	
2	Harish	8849221270	harishagurla143@gmail.com	2	5	2020-09-20	600000	
3	Mani Teja	8849221260	maniteja@gmail.com	3	5	2020-09-26	600000	
4	Shiva Teja	8849227660	shivateja@gmail.com	4	2	2020-08-11	220000	
5	Vikas	8849227662	vikas@gmail.com	5	3	2023-08-15	70000	
6	Tessa	8949227662	Tessa@gmail.com	6	14	2024-04-17	600000	
7	Katherine	9949227662	Katherine@gmail.com	7	15	2024-05-12	450000	
8	Hardin	9949227660	Hardin@gmail.com	8	9	2019-04-13	350000	
9	Mahesh	9949117660	Mahesh@gmail.com	9		2020-02-05	600000	
10	Karthik	9949117669	Karthik@gmail.com	10	10	2018-02-08	850000	
11			Keerthanapolasa@gmail.com	11	10000	2024-01-10		
12	Bharat		Bharat@gmail.com	12	8	2023-01-10	(3.00)	
13	Jyothika		jyothikabeeraka@gmail.com	13		2020-01-10		
	Subashini		subbu@gmail.com	14	12	2023-01-13		
15			nancy@gmail.com	15		2023-01-13	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
16	A 1 TO 1 T		arun@gmail.com	16	**	2022-01-19		
17			pradeep@gmail.com	17		2022-04-08	100 100 100 100	
	Rohit		rohit@gmail.com	18	D 0.000	2019-04-01	120000000000000000000000000000000000000	
	Rihance		rihance@gmail.com	19		2004-04-02		
	Sneha	,	sneha@gmail.com	20		2004-04-02		

- > List all cars manufactured in 'Germany' along with their model names ,prices and manufacturer id.
- Syntax :- SELECT c.model_name, c.price,m.manufacturer_id FROM cars c INNER JOIN manufacturers m ON c.manufacturer_id = m.manufacturer_id WHERE m.country = 'Germany';



- > Find the above average price cars details.
- Syntax:-select car_id,model_name,price from cars where price >(select avg(price) from cars);

```
[MariaDB [cars]> select car_id,model_name,price from cars where price >(select avg(price) from cars);
  car_id | model_name
                                   price
       5 | Ford Mustang
                                   500000
           Lamborghini Aventador |
                                  700000
           Aston Martin Vantage
                                   900000
          Porsche Taycan
                                   800000
          Ferrari Stradale
                                   800000
      14 | Jaguar XF
                                   500000
6 rows in set (0.010 sec)
```

- > Find the customers whose order status="Delivered".
- Syntax: SELECT first_name, last_name, email FROM customers WHERE customer_id IN (SELECT Customer_id FROM order_details GROUP BY Customer_id HAVING COUNT(DISTINCT Order_Status) = 1 AND MIN(Order_Status) = 'Delivered');

first_name	last_name	email
 Bhaskar	Madireddy	bhaskarmadireddy1911@gmail.com
Mani Teja	Godugu	maniteja@gmail.com
Vikas	Bommakanti	vikas@gmail.com
Mahesh	Vittala	Mahesh@gmail.com
Bharat	Akkini	Bharat@gmail.com
nancy	nano	nancy@gmail.com

- Find the modelname of cars whose price is above 200000 and 300000.
- Syntax: select model_name, price from cars where price > all(select price from cars where price in(200000,300000));

```
[MariaDB [cars]> select model_name, price from cars where price> all(select price from cars where price in(200000,300000));
  model_name
                          price
  Ford Mustang
                          500000
  Lamborghini Aventador
                         700000
  Aston Martin Vantage
                          900000
  Porsche Taycan
                          800000
  Ferrari Stradale
                          800000
  Jaquar XF
                          500000
  Ford Endeavour
                          400000
7 rows in set (0.006 sec)
```

- 1. identify the Top 5 customers who have spent the most money on car purchases.
- Syntax:-SELECT t1. first_name, t1.last_name, SUM(t2. sale_price) AS total_spent FROM sales t2 JOIN customers t1 ON t2. customer_id = t1. customer_id GROUP BY t1. customer_id ORDER BY total_spent DESC limit 5;

first_name	last_name	total_spent
Bharat	Akkini	950000
Keerthana	Polasa	870000
Karthik	Kankati	850000
Arun	pedha	750000
Sneha	snow	650000

- 2. Details of all customers who made a purchase in the year 2020.
- Syntax:- SELECT t1.first_name, t1.last_name, t2.sale_date FROM sales t2 JOIN customers t1 ON t2. customer_id = t1. customer_id WHERE YEAR(t2. sale_date) = 2020;

```
sale_date
first_name
              last_name
              Madireddy
Bhaskar
                           2020-10-12
Harish
              Agurla
                           2020-09-20
Mani Teja
              Godugu
                          2020-09-26
Shiva Teja
              Draksha
                           2020-08-11
Mahesh
              Vittala
                           2020-02-05
Jyothika
              Beeraka
                           2020-01-10
```

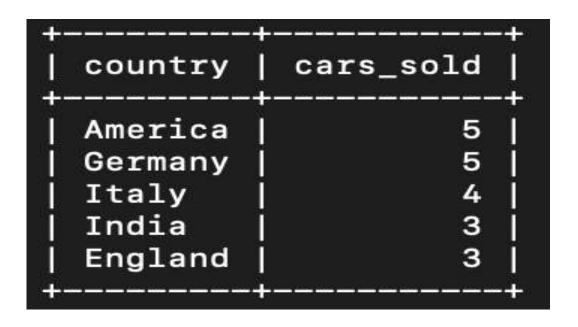
3. Find out the Total revenue generated by each car manufacturer.

Syntax:-SELECT m. manufacturer_name, m.country, SUM(s.sale_price) AS total_sales FROM sales s JOIN cars c ON s. car_id = c. car_id JOIN manufacturers m ON c. manufacturer_id = m. manufacturer_id GROUP BY m.manufacturer_id;

manufacturer_name	country	total_sales
 Ferrari	Italy	1110000
BMW	Germany	470000
Lamborghini	Italy	750000
Jaguar	England	100000
Porsche	Germany	1300000
Tesla	America	350000
Benz	Germany	25000
Tata	India	475000
Ford	America	2450000
Aston Martin	England	950000

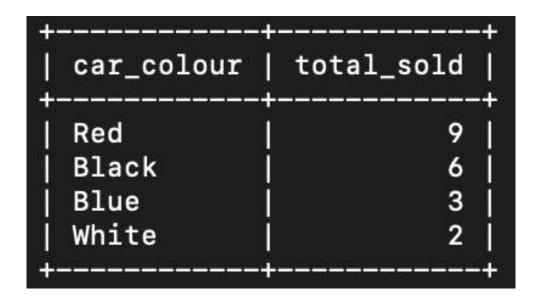
4. Find out how many cars have been sold from each manufacturer by country.

Syntax:-SELECT m. country, COUNT(s. sale_id) AS cars_sold FROM sales s JOIN cars c ON s. car_id = c. car_id JOIN manufacturers m ON c. manufacturers_id = m. manufacturer_id GROUP BY m. country ORDER BY cars_sold DESC;



5. Find out how many cars of each color have been sold and group them by color.

Syntax: SELECT c.car_colour, COUNT(s.sale_id) AS total_sold FROM sales s JOIN cars c ON s.car_id = c.car_id GROUP BY c.car_colour ORDER BY total_sold DESC;



6. Get all customers who have made an order along with their order status.

> Syntax :-SELECT t1.first_name, t1.last_name, t2.Car_id, t2.Order_Status FROM customers t1 INNER JOIN order_details t2 ON t1.customer_id = t2.Customer_id;

first_name	last_name	Car_id	Order_Status
Bhaskar	Madireddy	1	Delivered
Harish	Agurla	5	Shipped
Mani Teja	Godugu	5	Delivered
Shiva Teja	Draksha	2	Shipped
Vikas	Bommakanti	3	Delivered
Tessa	Langford	14	Shipped
Katherine	Langford	15	Shipped
Hardin	Castord	9	Pending
Mahesh	Vittala	5	Delivered
Karthik	Kankati	10	Shipped
Keerthana	Polasa	13	Out for Delivery
Bharat	Akkini	8	Delivered
Jyothika	Beeraka	1	Out for Delivery
Subashini	subbu	12	Shipped
nancy	nano	4	Delivered
Arun	pedha	6	Pending
Pradeep	rayapelli	7	Out for Delivery
Rohit	buri	11	Pending
Rihance	reo	2	Out for Delivery
Sneha	snow	5	Pending

thankyou