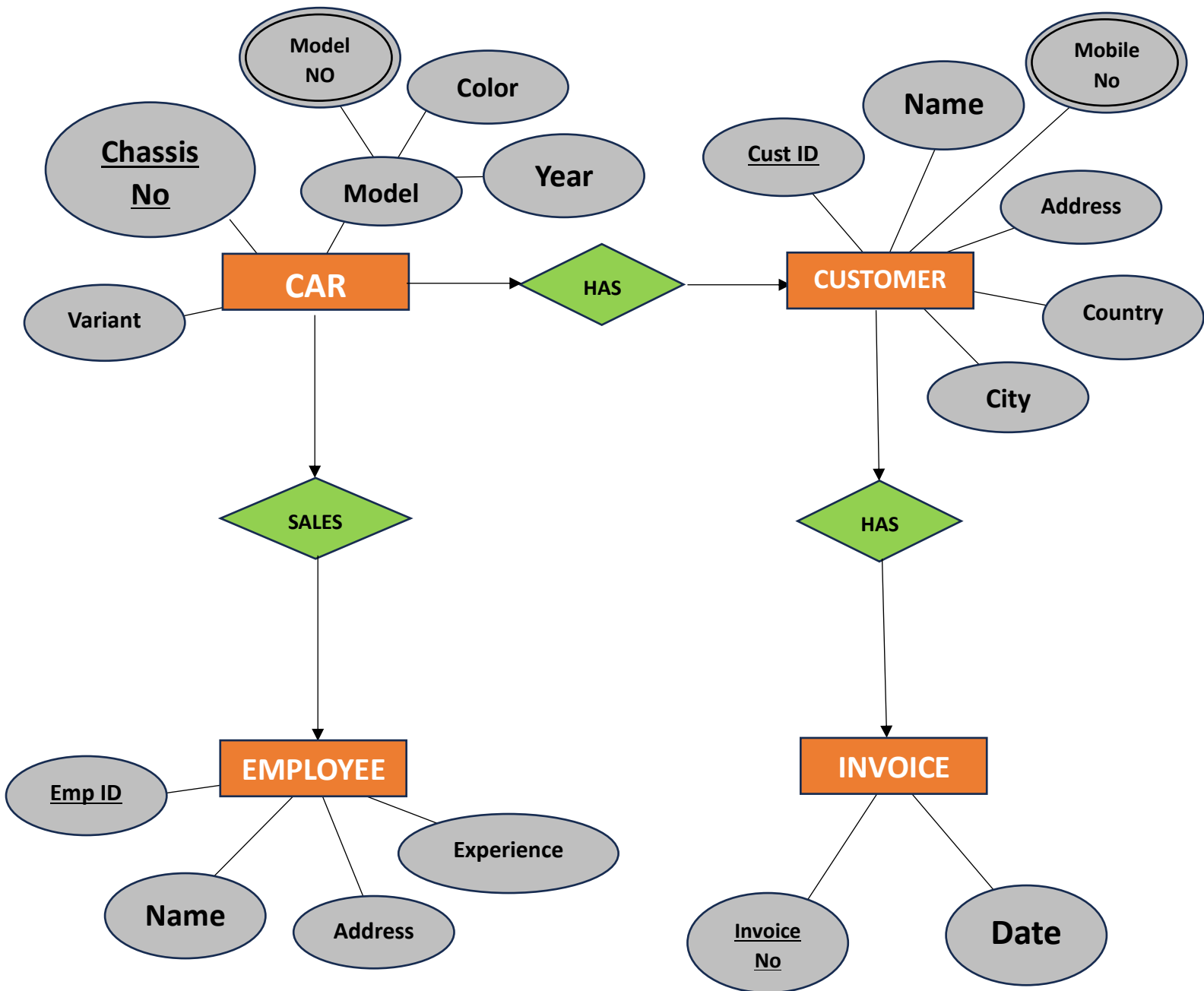


# MY SQL PROJECT

## ➤ "CAR SALES" ER DIAGRAM ◀



## ➤ Entities-

- **Car (chassis\_no, variant, model, model\_no, color, year)**
- **Customer (cust\_id, name, mobile no, address, country, city)**
- **Employee (emp\_id, name, address, experience)**
- **Invoice (invoice\_no, date)**

## ➤ Relationships –

1. Employee sales car.
2. Car has customers
3. Customers has invoice.

## ➤ Structure Of Tables-

### 1. CAR Table

Field	Type	Null	Key	Default	Extra
chassis_no	varchar(20)	NO	PRI	NULL	
model	varchar(50)	YES		NULL	
model_no	varchar(20)	YES		NULL	
color	varchar(20)	YES		NULL	
year	int	YES		NULL	
variant	varchar(30)	YES		NULL	

### 2. Customer Table

Field	Type	Null	Key	Default	Extra
cust_id	int	NO	PRI	NULL	
name	varchar(100)	YES		NULL	
mobile_no	varchar(15)	YES		NULL	
address	varchar(255)	YES		NULL	
country	varchar(50)	YES		NULL	
city	varchar(50)	YES		NULL	

### 3. Employee Table

Field	Type	Null	Key	Default	Extra
emp_id	char(4)	NO	PRI	NULL	
name	varchar(100)	YES		NULL	
address	varchar(255)	YES		NULL	
experience	varchar(10)	YES		NULL	

Q.1 Find Cars of a Blue Color

SELECT \* FROM car

WHERE color = 'Blue';

chassis_no	model	model_no	color	year	variant
CH1234567804	Toyota Corolla	LE	Blue	2019	Hybrid
CH1234567811	Volkswagen Passat	SE	Blue	2022	Diesel
CH1234567817	Tesla Model Y	Long Range	Blue	2021	Electric
CH1234567824	Kia Sportage	SX Turbo	Blue	2020	Petrol
CH1234567830	Mercedes-Benz GLE	350	Blue	2022	Petrol
CH1234567837	Hyundai Santa Fe	Limited	Blue	2021	Hybrid
CH1234567843	Audi A6	Premium Plus	Blue	2019	Diesel
CH1234567848	Ford Ranger	Lariat	Blue	2020	Petrol
CH1234567890	Toyota Camry	XLE	Blue	2020	Petrol
CH1234567898	Subaru Legacy	Premium	Blue	2020	Petrol
NULL	NULL	NULL	NULL	NULL	NULL

Q.2 Cars with Year Greater Than 2015



SELECT \* FROM car

WHERE year > 2015;

chassis_no	model	model_no	color	year	variant
CH1234567800	BMW 3 Series	330i	Black	2021	Petrol
CH1234567801	Audi A4	Premium Plus	White	2020	Diesel
CH1234567802	Mercedes-Benz C-Class	C300	Gray	2021	Petrol
CH1234567803	Tesla Model 3	Long Range	Silver	2022	Electric
CH1234567804	Toyota Corolla	LE	Blue	2019	Hybrid
CH1234567805	Honda Civic	EX	Black	2020	Petrol
CH1234567806	Ford Fusion	Titanium	Red	2021	Hybrid
CH1234567807	Chevrolet Impala	LTZ	White	2022	Petrol
CH1234567808	Nissan Sentra	SV	Gray	2019	Petrol
CH1234567809	Hyundai Elantra	N Line	Green	2020	Petrol
CH1234567810	Kia Forte	GT	Yellow	2021	Petrol
CH1234567811	Volkswagen Passat	SE	Blue	2022	Diesel
CH1234567812	Subaru Outback	Premium	Red	2020	Petrol
CH1234567813	Mazda CX-5	Grand Touring	Black	2021	Petrol
CH1234567814	BMW X5	xDrive40i	Silver	2022	Petrol
CH1234567815	Audi Q5	Premium	Gray	2019	Diesel
CH1234567816	Mercedes-Benz GLC	300	White	2020	Petrol
CH1234567817	Tesla Model Y	Long Range	Blue	2021	Electric
CH1234567818	Toyota RAV4	XLE	Black	2022	Hybrid
CH1234567819	Honda CR-V	EX-L	Red	2019	Petrol
CH1234567820	Ford Explorer	VI T	White	2020	Petrol



### Q3. Count Total Cars

```
SELECT COUNT(*) AS total_cars FROM car;
```

Result Grid			Filter Rows:
	total_cars		
	60		


### Q4. Find Distinct Car Colors

```
SELECT DISTINCT color FROM car;
```

Result Grid			 Filter Rows
	color		
▶	Black		
	White		
	Gray		
	Silver		
	Blue		
	Red		
	Green		
	Yellow		

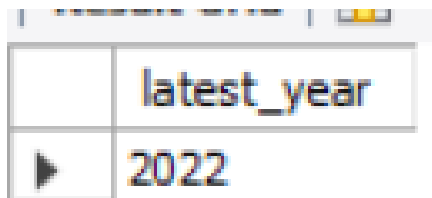
### Q5. Average Experience of Employee

```
SELECT AVG(experience) AS average_experience FROM employee;
```

Result Grid		 Filter Rows:
	average_experience	
▶	4.73333333333333	

Q.6 To find Latest Year of Cars

```
SELECT MAX(year) AS latest_year FROM car;
```



A screenshot of a database query result. The result is displayed in a table with two columns. The first column is labeled 'latest\_year' and the second column contains the value '2022'. The table has a light blue header row and a light blue data row.

	latest_year
▶	2022

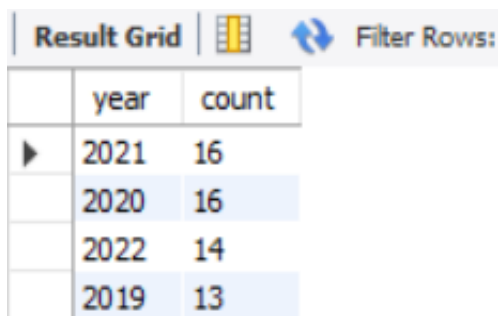
Q7. Group Cars by Year and Count

```
SELECT year, COUNT(*) AS count
```

```
FROM car
```

```
GROUP BY year
```

```
HAVING COUNT(*) > 2;
```



A screenshot of a database query result. The result is displayed in a table with three columns: 'year' and 'count'. The table has a light blue header row and four light blue data rows. The data rows show the years 2021, 2020, 2022, and 2019 with their respective counts of 16, 16, 14, and 13. The table is titled 'Result Grid' and has a 'Filter Rows:' button.

	year	count
▶	2021	16
	2020	16
	2022	14
	2019	13

Q8. Top Cars by Year

```
SELECT distinct model, year FROM car
```

```
ORDER BY year DESC;
```

Result Grid





Filter Rows:

	model	year
▶	BMW 5 Series	2022
	BMW X5	2022
	Chevrolet Impala	2022
	Ford Edge	2022
	Kia Sorento	2022
	Mazda 6	2022
	Mercedes-Benz GLE	2022
	Nissan Altima	2022
	Nissan Rogue	2022
	Subaru Forester	2022
	Tesla Model 3	2022
	Toyota RAV4	2022
	Toyota Tacoma	2022
	Volkswagen Passat	2022
	Audi Q3	2021
	BMW 3 Series	2021
	Chevrolet Colorado	2021
	Chevrolet Tahoe	2021
	Ford Fusion	2021
	Honda Accord	2021
	Honda Pilot	2021

Q9. Order Customers by City

SELECT \* FROM customer

ORDER BY city ASC;

	cust_id	name	mobile_no	address	country	city
▶	37	Reyansh Malhotra	3210987651	135, Vastrapur	India	Ahmedabad
	19	Shivam Agarwal	1098765431	357, Vastrapur	India	Ahmedabad
	5	Ananya Patel	5432109876	654, Ashoka Nagar	India	Ahmedabad
	25	Aanya Mehta	5432109874	913, C.G.Road	India	Ahmedabad
	31	Veer Kapoor	9876543213	579, Sardar Patel Nagar	India	Ahmedabad
	49	Tisha Verma	1098765438	357, Navrangpura	India	Ahmedabad
	43	Riya Patel	7654321094	791, Bodakdev	India	Ahmedabad
	14	Karan Bansal	6543210986	802, Navrangpura	India	Ahmedabad
	17	Nikhil Sharma	3210987653	135, Indiranagar	India	Bangalore
	3	Aditya Singh	7654321098	789, MG Road	India	Bangalore
	35	Yash Patel	5432109873	913, Ulsoor	India	Bangalore
	23	Priya Sharma	7654321096	791, HSR Layout	India	Bangalore
	11	Pooja Kapoor	9876543211	579, Koramangala	India	Bangalore
	47	Shivani Singh	3210987650	135, Wilson Garden	India	Bangalore
	29	Aarav Rao	1098765430	357, Malleshwaram	India	Bangalore
	41	Kabir Agarwal	9876543214	579, Whitefield	India	Bangalore
	20	Tanvi Verma	0987654320	468, Besant Nagar	India	Chennai
	44	Krish Sharma	6543210983	802, T.Nagar	India	Chennai
	32	Nia Choudhury	8765432106	680, Anna Nagar	India	Chennai
	6	Saanvi Verma	4321098765	987, Galleria Mall	India	Chennai
	26	Shreya Gupta	4321098763	024, Alwarpet	India	Chennai

# Q10. Classify Cars by Year Using CASE

```
SELECT model, year
```

```
  CASE
```

```
    WHEN year < 2018 THEN 'Old'
```

```
    WHEN year BETWEEN 2010 AND 2020 THEN 'Moderate'
```

```
    ELSE 'New'
```

```
  END AS age_group
```

```
FROM car;
```

Result Grid			
Filter Rows:			
	model	year	age_group
▶	BMW 3 Series	2021	New
	Audi A4	2020	Moderate
	Mercedes-Benz C-Class	2021	New
	Tesla Model 3	2022	New
	Toyota Corolla	2019	Moderate
	Honda Civic	2020	Moderate
	Ford Fusion	2021	New
	Chevrolet Impala	2022	New
	Nissan Sentra	2019	Moderate
	Hyundai Elantra	2020	Moderate
	Kia Forte	2021	New
	Volkswagen Passat	2022	New
	Subaru Outback	2020	Moderate
	Mazda CX-5	2021	New
	BMW X5	2022	New
	Audi Q5	2019	Moderate
	Mercedes-Benz GLC	2020	Moderate
	Tesla Model Y	2021	New
	Toyota RAV4	2022	New
	Honda CR-V	2019	Moderate
	Ford Explorer	2020	Moderate



Q11. Find Cars with Year Between 2020 and 2022

SELECT \* FROM car

WHERE year BETWEEN 2020 AND 2022;

	chassis_no	model	model_no	color	year	variant
▶	CH1234567800	BMW 3 Series	330i	Black	2021	Petrol
	CH1234567801	Audi A4	Premium Plus	White	2020	Diesel
	CH1234567802	Mercedes-Benz C-Class	C300	Gray	2021	Petrol
	CH1234567803	Tesla Model 3	Long Range	Silver	2022	Electric
	CH1234567805	Honda Civic	EX	Black	2020	Petrol
	CH1234567806	Ford Fusion	Titanium	Red	2021	Hybrid
	CH1234567807	Chevrolet Impala	LTZ	White	2022	Petrol
	CH1234567809	Hyundai Elantra	N Line	Green	2020	Petrol
	CH1234567810	Kia Forte	GT	Yellow	2021	Petrol
	CH1234567811	Volkswagen Passat	SE	Blue	2022	Diesel
	CH1234567812	Subaru Outback	Premium	Red	2020	Petrol
	CH1234567813	Mazda CX-5	Grand Touring	Black	2021	Petrol
	CH1234567814	BMW X5	xDrive40i	Silver	2022	Petrol
	CH1234567816	Mercedes-Benz GLC	300	White	2020	Petrol
	CH1234567817	Tesla Model Y	Long Range	Blue	2021	Electric
	CH1234567818	Toyota RAV4	XLE	Black	2022	Hybrid
	CH1234567820	Ford Explorer	XLT	White	2020	Petrol
	CH1234567821	Chevrolet Tahoe	LT	Gray	2021	Petrol
	CH1234567822	Nissan Rogue	SV	Green	2022	Hybrid
	CH1234567824	Kia Sportage	SX Turbo	Blue	2020	Petrol

Q12. Customers with Mobile Numbers Starting with '98'

SELECT \* FROM customer

WHERE mobile\_no LIKE '98%';

	cust_id	name	mobile_no	address	country	city
▶	1	Aarav Sharma	9876543210	123, Sector 1	India	Delhi
	11	Pooja Kapoor	9876543211	579, Koramangala	India	Bangalore
	21	Harshith Reddy	9876543212	579, Lajpat Nagar	India	Delhi
	31	Veer Kapoor	9876543213	579, Sardar Patel	579, Lajpat Nagar	Ahmedabad
	41	Kabir Agarwal	9876543214	579, Whitefield	India	Bangalore
•	NULL	NULL	NULL	NULL	NULL	NULL

Q13. Find Cars Owned by Customers from a Specific City

```
SELECT * FROM customer
```

```
WHERE cust_id in (SELECT cust_id FROM customer WHERE city = 'Mumbai');
```

	cust_id	name	mobile_no	address	country	city
►	2	Vivaan Gupta	8765432109	456, Park Lane	India	Mumbai
	10	Rohan Nair	0987654321	468, Powai	India	Mumbai
	22	Madhav Joshi	8765432107	680, Bandra	India	Mumbai
	28	Tanya Nair	2109876541	246, Colaba	India	Mumbai
	34	Diya Sharma	6543210984	802, Andheri	India	Mumbai
	40	Anika Reddy	0987654328	468, Versova	India	Mumbai
	46	Aryan Kumar	4321098761	024, Malabar Hill	India	Mumbai
★	NULL	NULL	NULL	NULL	NULL	NULL

Q14. Join Customer and Car Table

```
SELECT c.name, a.model
```

```
FROM customer as c
```

```
JOIN car as a ON c.cust_id = a.cust_id;
```

	name	model
►	Rachit Gupta	BMW 3 Series
	Tisha Verma	BMW 3 Series
	Rudra Reddy	BMW 3 Series
	Shivani Singh	BMW 3 Series
	Aryan Kumar	BMW 3 Series
	Diya Nair	BMW 3 Series
	Krish Sharma	BMW 3 Series
	Riya Patel	BMW 3 Series
	Siddhi Iyer	BMW 3 Series
	Kabir Agarwal	BMW 3 Series
	Anika Reddy	BMW 3 Series
	Kiaan Joshi	BMW 3 Series
	Avni Gupta	BMW 3 Series
	Reyansh Mal...	BMW 3 Series
	Pari Verma	BMW 3 Series
	Yash Patel	BMW 3 Series
	Diya Sharma	BMW 3 Series
	Ritik Singh	BMW 3 Series
	Nia Choudhury	BMW 3 Series
	Veer Kapoor	BMW 3 Series
	Tina T...	BMW 3 Series

Q15. Join All Three Tables

```
SELECT c.name, a.model, e.name AS employee_name
```

```
FROM customer as c
```

```
JOIN car as a ON c.cust_id = a.cust_id
```

```
JOIN employee as e ON c.cust_id = e.cust_id;
```

name	model	employee_name
Rachit Gupta	BMW 3 Series	Aarav Sharma
Rachit Gupta	BMW 3 Series	Priya Iyer
Rachit Gupta	BMW 3 Series	Ravi Kumar
Rachit Gupta	BMW 3 Series	Sneha Reddy
Rachit Gupta	BMW 3 Series	Anjali Patel
Rachit Gupta	BMW 3 Series	Karan Verma
Rachit Gupta	BMW 3 Series	Meera Joshi
Rachit Gupta	BMW 3 Series	Nikhil Rao
Rachit Gupta	BMW 3 Series	Tanvi Malhotra
Rachit Gupta	BMW 3 Series	Arjun Choudhury
Rachit Gupta	BMW 3 Series	Divya Kapoor
Rachit Gupta	BMW 3 Series	Akash Sharma
Rachit Gupta	BMW 3 Series	Neha Sinha
Rachit Gupta	BMW 3 Series	Kavya Nair
Rachit Gupta	BMW 3 Series	Rohan Bansal
Rachit Gupta	BMW 3 Series	Siddharth Verma
Rachit Gupta	BMW 3 Series	Aditi Iyer
Rachit Gupta	BMW 3 Series	Vikram Singh
Rachit Gupta	BMW 3 Series	Simran Mehta
Rachit Gupta	BMW 3 Series	Rahul Gupta
Rachit Gupta	BMW 3 Series	Shivani Desai