Assignment on

Making ER diagram for a Car Insurance Company

SUBMITTED TO

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Making ER diagram for a Car Insurance Company

For making a perfect ER diagram we have to follow 5 key steps

Step-1: Identify the entities required

Construct an E-R diagram for a **car** insurance company whose **customers** own one or more cars each. Each car has associated with it zero to any number of recorded **accidents**. Each **insurance policy** covers one or more cars, and has one or more **premium payments** associated with it. Each payment is for a particular period of time, and has an associated due date, and the date when the payment was received.

So the Entity sets are:

- Car
- Customers
- Accidents
- Insurance_policy
- Payments

Step-2: Identify the Attributes and Primary key for each Entity

Car-(id,model,color,trim_level,year,top_spead)
Customers-(id,name,address,phone_no,purchase_date,car_id)
Accidents-(id,location,date,car_id,customer_id)
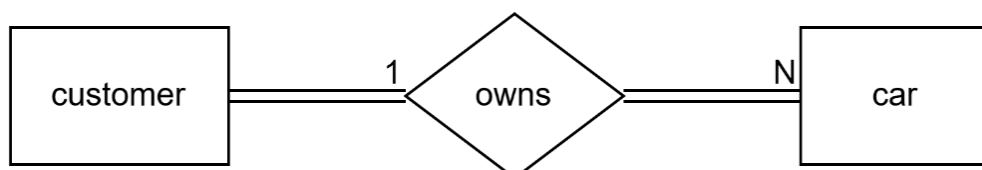Insurance_policy-(id,policy_type,start_date,end_date,car_id)
Payments-(id,amount,payment_method,due_date,payment_date)
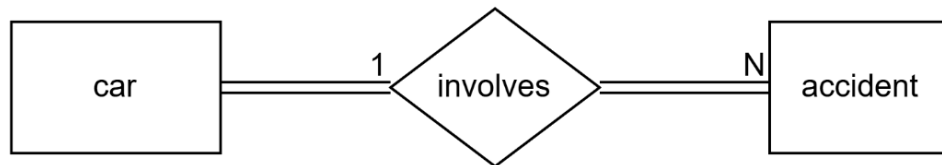
Step-3: Identify the relationship needed

- ➤ Customer-owns-car
- ➤ Car-involves-accidents
- ➤ Insurance_policy-covers-cars
- ➤ Insurance_policy-has-payments

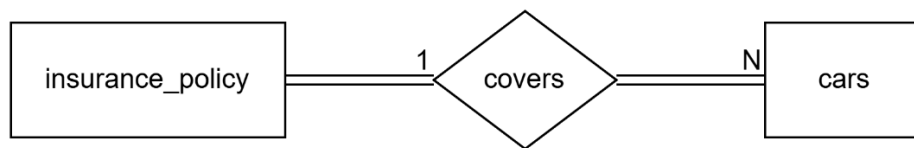## Step-4: Identify the Cardinality Ratio and Participation
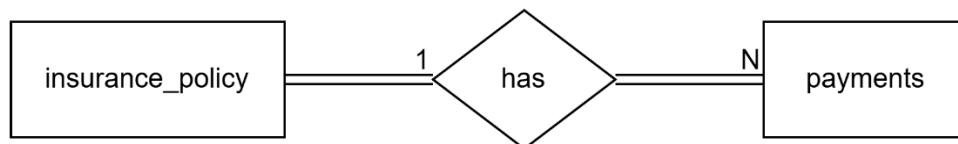
1. **Customer-owns-car**

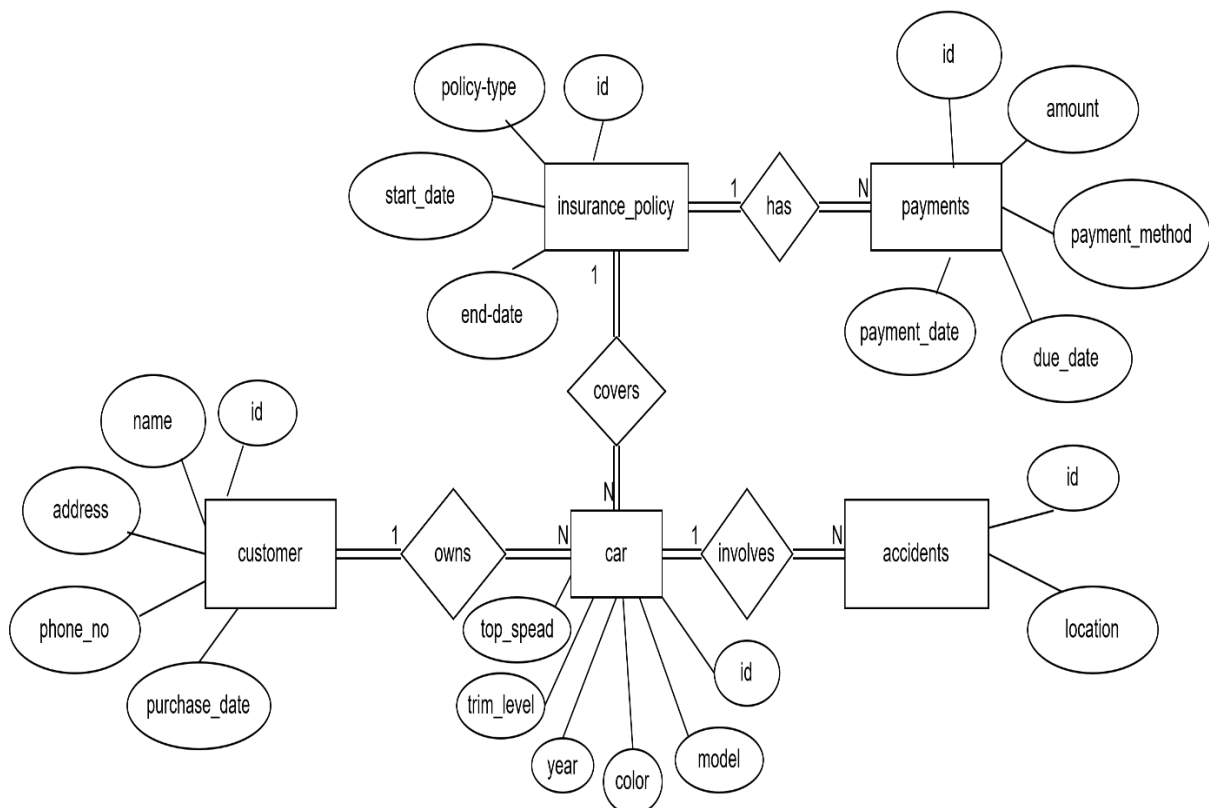## 2. Car-involves-accidents

3. Insurance_policy-covers-cars

4. Insurance_policy-has-payments

Step-5: Draw the Diagram

Step-6: Implementing the database in MySQL:

All tables with sample data:

1. **Car-(id,model,color,trim_level,year,top_spead)**

id	model	color	trim_level	year	top_level
1	Toyota Camry	black	LE	2023	XSE(sporty toptrim)
2	Honda Civic	Blue	LX	2022	Touring(primium features
3	Ford Mustang	Red	EcoBoost	2024	Shelby GT500
4	Tesla Model 3	Pearl White	Long Range	2021	Best Acceleration and Handling
5	BMW 3 Series	Black Sapphire	330i	2022	M340i(sporty & Luxurious)

2. **Customers-(id,name,address,phone_no,purchase_date,car_id)**

id	name	address	phone_no	purchase_date	car_id
1	Mahmudul Haque	Rupganj,Dhaka	016236-76434	2023-07-08	4
2	Fahmida akter	Jailgate,Barishal	01632-265434	2024-10-08	1
3	Parvin Khanam	BN Tower,Dhaka	016324-32564	2024-10-06	4
4	Sultana Sadia	College Road,Barishal	045254-5456	2024-10-23	2
5	Rehana Parvin	RK mission road,Dhaka	026323-21534	2021-10-03	5

3. **Accidents-(id,location,date,car_id,customer_id)**

id	location	date	car_id	customer_id
1	Dhaka-Chattogram Highway	2023-09-03	2	5
2	N2 Dhaka-Sylhet Highway	2022-10-27	2	3
3	N8 Dhaka-Khulna Highway	2022-10-15	4	1
4	Kanchpur Bridge	2020-08-27	1	4
5	Airport Road (Barishal)	2023-12-21	3	2

4. Insurance_policy-(id,policy_type,start_date,end_date,car_id)

id	policy_type	start_date	end_date	car_id
1	Liability Coverage	2017-01-03	2024-04-23	3
2	Collision Coverage	2015-10-05	2021-10-14	2
3	Comprehensive Coverage	2017-10-13	2022-10-15	3
4	Personal Injury Protection	2022-10-29	2024-10-26	5
5	Gap insurance	2021-10-13	2023-10-21	1
6	Medical Payments Coverage	2004-10-07	2024-10-18	4

5. Payments-(id,amount,payment_method,due_date,payment_date)

id	amount	payment_method	due_date	payment_date
1	Credit Card	$500	2023-03-12	2023-04-01
2	$250	Debit Card	2021-08-04	2022-10-22
3	$1,200	Bank Transfer	2024-06-12	2024-10-25
4	$100	Online Payment Portal	2019-10-19	2024-10-20
5	$600	Mobile Payment App	2020-05-09	2022-10-03
6	$750	Check	2021-10-14	2024-10-26
7	$300	Cash	2022-10-29	2023-12-16

Thank You