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)

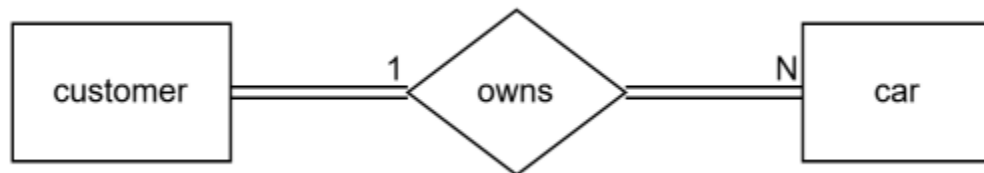Payments-(id,amount,payment_method,due_date,payment_date)

Step-3: Identify the relationship needed

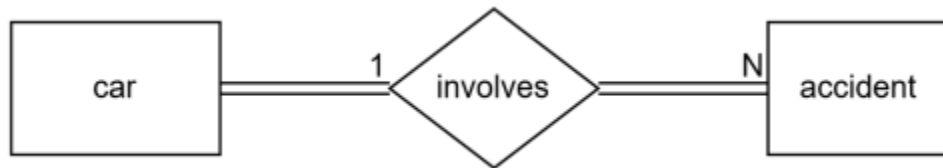➢ Customer-owns-car

➢ Car-involves-accidents

➢ Insurance_policy-covers-cars

➢ Insurance_policy-has-payments

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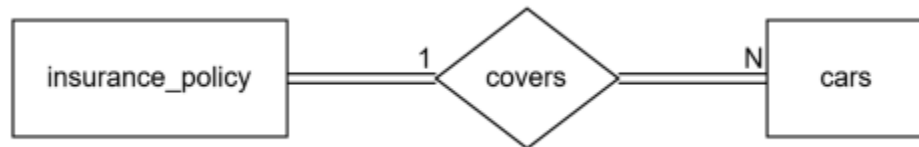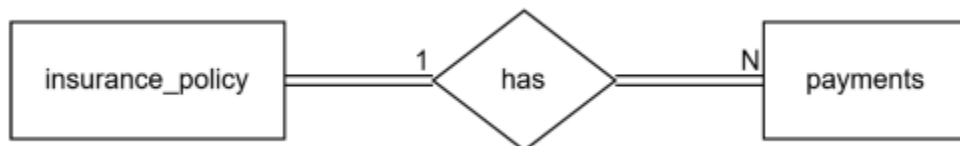
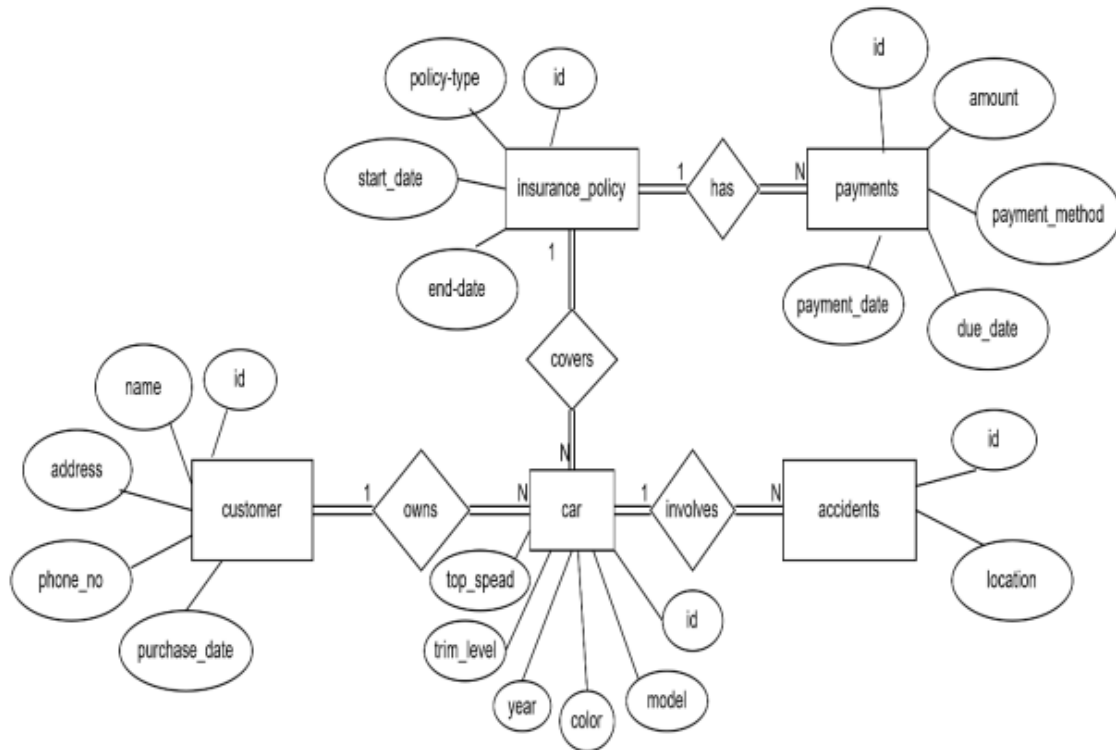   1. Customer-owns-car

    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