

## Question - 5 → Reference Table

1<sup>st</sup> table :→ Person (driver-id, name, address)

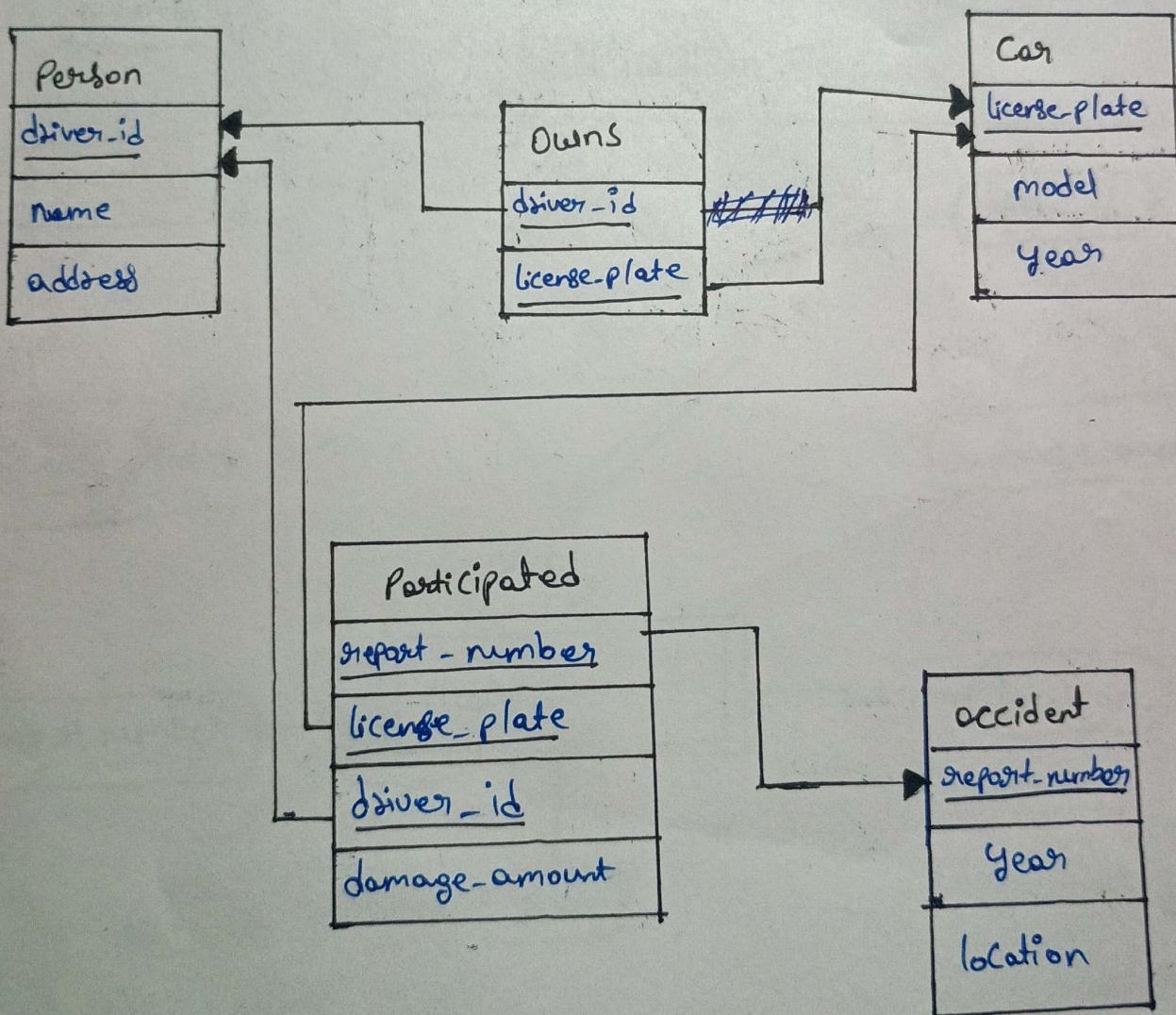
2<sup>nd</sup> table :→ Car (license-plate, model, year)

3<sup>rd</sup> table :→ accident (report-number, year, location)

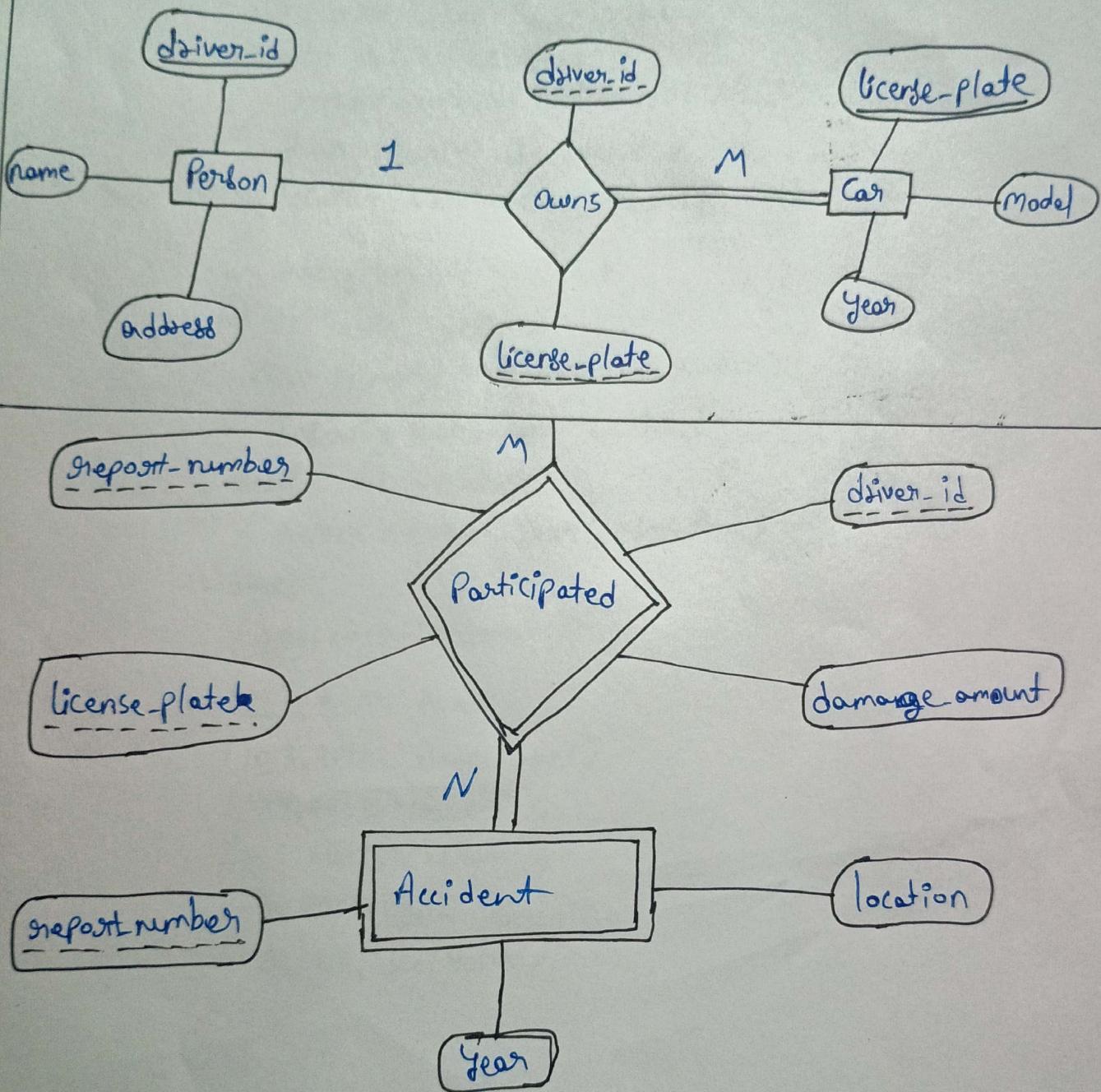
4<sup>th</sup> table :→ owns (driver-id, license-plate)

5<sup>th</sup> table :→ participated (report-number, license-plate, driver-id, damage-amount)

## Q. 5 → RELATIONAL DIAGRAM



## ER - DIAGRAM



## Answer-5 → DB-Table Structure

Table 1<sup>st</sup> → Accident Details Structure

Code:->-- Create database 'mca-assign5'  
Create Database 'mca-assign5'  
-- Create table 'accident'  
Create table 'accident'(  
report\_number int() NOT NULL,  
Year year(4) Default NULL,  
location Varchar(30) Default NULL  
);

-- Adding key to 'accident'

Alter Table 'accident'  
ADD Primary Key ('report\_number');

-- Inserting Data into 'accident'

Insert Into 'accident'  
(`report-number`, `Year`, `location`)

Values

(101, 2010, 'Gujarat'),  
(102, 2010, 'Pune'),  
(103, 2012, 'Bangalore'),  
(104, 2014, 'Mumbai'),  
(105, 2017, 'Chennai'),  
(106, 2017, 'Delhi'),  
(107, 2017, 'Kolkata');

## Table 2nd -> Car Details Structure

Code -- Create table 'Car'

```
Create table 'Car' (
    license_plate Varchar (50) NOT NULL,
    model Varchar (30) Default NULL,
    year Year (4) Default NULL)
```

-- Adding key to 'Car'

Alter Table 'Car'

```
ADD Primary Key ('license-plate');
```

-- Inserting Data into 'Car'

Insert Into 'Car'

```
('license-plate', 'model', 'year')
```

Values

```
('DL07', 'Thar', 2018),
('GJ45', 'Verna', 2014),
('MH23', 'Omni', 2010),
('MH57', 'Creta', 2010),
('RJ27', 'Audi', 2016),
('WB35', 'Wagnor', 2017);
```

## Table 3rd :- Person Details Structure

Code :- -- Create table 'Person'

```
Create table 'Person' (
    driver_id int (11) NOT NULL,
    name varchar (30) Default null,
    address varchar (30) Default null
);
```

-- Add key to 'Person'

```
Alter table 'Person'
```

```
ADD Primary Key ('driver_id');
```

-- ~~Inserting~~ Inserting data into 'Person'

```
Insert Into 'Person'
```

```
( 'driver_id', 'name', 'address' )
```

Values

```
( 12345, 'Rahul', 'Chetak Circle' ),
```

```
( 14521, 'Manoj', 'M.G. Road' ),
```

```
( 14745, 'Rohit', 'Fatehpura Circle' ),
```

```
( 15345, 'Morit', 'Shastri Circle' ),
```

```
( 16945, 'Hardik', 'Mali Colony' ),
```

```
( 18345, 'Sumit', 'Delhi Gate' );
```

## Table 4th :- Owns Details Structure

Code :- -- Create table 'owns'

Create table 'owns'

driver\_id int(11) NOT NULL,

license\_plate varchar(50) NOT NULL

);

-- Adding Primary Key to 'owns'

Alter Table 'owns'

ADD Primary Key('driver\_id', 'license\_plate');

Test

-- Inserting data into 'owns'

Insert Into 'owns'

('driver\_id', 'license\_plate')

Values

(12345, 'DL07');

(12345, 'MH23');

(12345, 'WB35');

(14521, 'RJ27');

(14745, 'MH57');

(16945, 'GJ45');

(16945, 'WB35');

## Table 5th: Participated Details Structure

Code:

-- Create table 'participated'

create table 'participated'

report-number int(11) NOT NULL,

license-plate varchar(50) NOT NULL,

driver-id int (11) Default NULL,

damage-amount int(11) Default NULL

);

-- Adding key to 'participated'

Alter table 'participated'

ADD Primary Key ('report-number', 'license-plate',  
'driver-id');

-- Inserting Data into 'participated'

Insert Into 'participated'

('report-number', 'license-plate', 'driver-id', 'damage-amount')

Values

(101, 'WB35', 16945, 20000),

(102, 'DL07', 15345, 10000),

(103, 'MH57', 14745, 62000),

(104, 'DL07', 12345, 15000),

(105, 'MH23', 12345, 16000),

(106, 'GJ45', 16945, 25000),

(107, 'GJ45', 14521, 45000);

## Key Constraints For 'mca-assigns' DB

--- Constraints for table 'owns'

Alter Table 'owns'

ADD Constraint 'owns\_ibfk\_1' Foreign key ('driver-id')

References 'person' ('driver-id'),

ADD Constraint 'owns\_ibfk\_2' Foreign key ('license-plate')

References 'car' ('license-plate') ON Delete Cascade;

-- Constraints for table 'participated'

Alter table 'participated'

ADD Constraint 'participated\_ibfk\_1'

Foreign key ('report-number')

References 'accident' ('report-number'),

ADD Constraint 'participated\_ibfk\_2'

Foreign key ('license-plate')

References 'car' ('license-plate') ON Delete Cascade,

ADD Constraint 'participated\_ibfk\_3'

Foreign key ('driver-id')

References 'person' ('driver-id');

## Data Structure in Tables in DB After Creation

report-number	Year	Location
101	2010	Gujarat
102	2010	Pune
103	2012	Bangalore
104	2014	Mumbai
105	2017	Chennai
106	2017	Delhi
107	2019	Kolkata

Table 5.1 :- Accident

license-plate	model	year
D207	Thar	2018
GJ45	Verna	2014
MH23	Dmni	2010
MH57	Creta	2016
RJ27	Audi	2016
WB35	Wagnor	2017

Table 5.2 :- Cars

driver-id	name	address
12345	Rahel	Chetake Circle
14521	Manoj	M.G.R. Road
14743	Robit	Fatehpur Circle
15345	Mohit	Shastri Circle
16945	Mardik	Mali Colony
18345	Sumit	Delhi Gate

Table 5.3 :- Person

drive-id	license-plate
12345	DL07
12345	MH23
12345	WB35
14521	RJ27
14745	MH57
16945	GJ45
16945	WB35

Table 5.4:- Owns

Report-number	License-plate	driver-id	damage-amount
101	WB35	16945	20000
102	DL07	15345	10000
103	MH23	12345	16000
104	MH57	14745	62000
105	DL07	12345	15000
106	GJ45	16945	250000
107	GJ45	14521	45000

Table 5.5:- Participated

Q. 5.2 :- Deletes all year-2010 cars belonging to the person whose ID is 123458

Sol:-  
Query:-

Deletes car

From car

Join owns ON car.license-plate = owns.

Where 'Year' = 2010

license-plate

AND owns.driver-id = 12345 ;

Output:-

✓ 1 Row deleted. (Query took 0.0038 Seconds.)

license-plate	model	year
DL07	Thar	2018
GJ45	Verna	2014
<u>MH23</u>	<u>Omnis</u>	<u>2010</u>
MH57	Creta	2010
RJ27	Audi	2016
WB35	Wagnar	2017

→ Car table

Before Deletion

→ Record Deleted

license-plate	model	year
DL07	Thar	2018
GJ45	Verna	2014
MH57	Creta	2010
RJ27	Audi	2016
WB35	Wagnar	2017

→ Car table

After deletion

Q.5.1:- Find the total number of people who owned cars that were involved in accidents in 2017?

Sol:-

Query :-

```
Select count(driver-id) AS 'total number of people'  
From (( Participated  
Left Join owns  
Using (driver-id))  
Left Join accident  
Using (report-number))  
Where 'Year' = 2017;
```

Output:-

total Number of People
3