#### -- Create database

#### **CREATE DATABASE IF NOT EXISTS CrimeManagement;**

**USE CrimeManagement;** 

```
-- Create tables
CREATE TABLE Crime (
  CrimeID INT PRIMARY KEY,
  IncidentType VARCHAR(255),
  IncidentDate DATE,
  Location VARCHAR(255),
  Description TEXT,
  Status VARCHAR(20)
);
CREATE TABLE Victim (
  VictimID INT PRIMARY KEY,
  CrimeID INT,
  Name VARCHAR(255),
  ContactInfo VARCHAR(255),
  Injuries VARCHAR(255),
  FOREIGN KEY (CrimeID) REFERENCES Crime(CrimeID)
);
CREATE TABLE Suspect (
  SuspectID INT PRIMARY KEY,
  CrimeID INT,
  Name VARCHAR(255),
  Description TEXT,
  CriminalHistory TEXT,
  FOREIGN KEY (CrimeID) REFERENCES Crime(CrimeID)
);
```

```
-- Insert sample data
INSERT INTO Crime (CrimeID, IncidentType, IncidentDate, Location, Description, Status)
VALUES
  (1, 'Robbery', '2023-09-15', '123 Main St, Cityville', 'Armed robbery at a convenience store',
'Open'),
  (2, 'Homicide', '2023-09-20', '456 Elm St, Townsville', 'Investigation into a murder case', 'Under
Investigation'),
  (3, 'Theft', '2023-09-10', '789 Oak St, Villagetown', 'Shoplifting incident at a mall', 'Closed');
INSERT INTO Victim (VictimID, CrimeID, Name, ContactInfo, Injuries)
VALUES
  (1, 1, 'John Doe', 'johndoe@example.com', 'Minor injuries'),
  (2, 2, 'Jane Smith', 'janesmith@example.com', 'Deceased'),
  (3, 3, 'Alice Johnson', 'alicejohnson@example.com', 'None');
INSERT INTO Suspect (SuspectID, CrimeID, Name, Description, CriminalHistory)
VALUES
  (1, 1, 'Robber 1', 'Armed and masked robber', 'Previous robbery convictions'),
  (2, 2, 'Unknown', 'Investigation ongoing', NULL),
```

(3, 3, 'Suspect 1', 'Shoplifting suspect', 'Prior shoplifting arrests');

select \* from Crime;

select \* from Victim;

select \* from Suspect;

# Queries

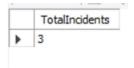
#### -- 1. Select all open incidents.

SELECT \* FROM Crime WHERE Status = 'Open';

1						
	CrimeID	IncidentType	IncidentDate	Location	Description	Status
•	1	Robbery	2023-09-15	123 Main St, Cityville	Armed robbery at a convenience store	Open
	NULL	NULL	NULL	NULL	NULL	NULL

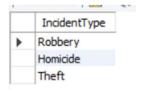
#### -- 2. Find the total number of incidents.

SELECT COUNT(\*) AS TotalIncidents FROM Crime;



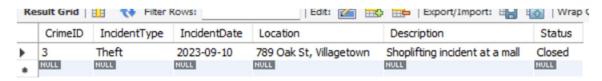
### -- 3. List all unique incident types.

SELECT DISTINCT IncidentType FROM Crime;



#### -- 4. Retrieve incidents that occurred between '2023-09-01' and '2023-09-10'.

SELECT \* FROM Crime WHERE IncidentDate BETWEEN '2023-09-01' AND '2023-09-10';



-- 5. List persons involved in incidents in descending order of age..

**SELECT \* FROM Victim** 

UNION

SELECT \* FROM Suspect

ORDER BY VictimID DESC, SuspectID DESC;

#### -- 6. Find the average age of persons involved in incidents.

-- Assuming age is not provided, and the average is based on VictimID and SuspectID.

SELECT AVG(PersonAge) AS AverageAge

FROM (

SELECT VictimID AS PersonID, VictimID AS PersonAge FROM Victim

UNION

SELECT SuspectID, SuspectID FROM Suspect

) AS Persons;

#### -- 7. List incident types and their counts, only for open cases.

SELECT IncidentType, COUNT(\*) AS IncidentCount

FROM Crime

WHERE Status = 'Open'

GROUP BY IncidentType;



#### -- 8. Find persons with names containing 'Doe'.

SELECT \* FROM Victim WHERE Name LIKE '%Doe%'

UNION

SELECT \* FROM Suspect WHERE Name LIKE '%Doe%';



#### -- 9. Retrieve the names of persons involved in open cases and closed cases.

SELECT Name, 'Victim' AS PersonType FROM Victim WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE Status = 'Open')

UNION

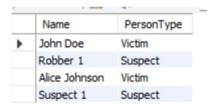
SELECT Name, 'Suspect' AS PersonType FROM Suspect WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE Status = 'Open')

UNION

SELECT Name, 'Victim' AS PersonType FROM Victim WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE Status = 'Closed')

UNION

SELECT Name, 'Suspect' AS PersonType FROM Suspect WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE Status = 'Closed');



#### -- 10. List incident types where there are persons aged 30 or 35 involved.

SELECT DISTINCT IncidentType

FROM (

SELECT IncidentType, VictimID AS PersonID FROM Victim WHERE VictimID IN (30, 35)

UNION

SELECT IncidentType, SuspectID FROM Suspect WHERE SuspectID IN (30, 35)

) AS IncidentsWithPersons;

#### -- 11. Find persons involved in incidents of the same type as 'Robbery'.

SELECT \* FROM Victim WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE IncidentType = 'Robbery')

UNION

SELECT \* FROM Suspect WHERE CrimeID IN (SELECT CrimeID FROM Crime WHERE IncidentType = 'Robbery');

	VictimID	CrimeID	Name	ContactInfo	Injuries
١	1	1	John Doe	johndoe@example.com	Minor injuries
	1	1	Robber 1	Armed and masked robber	Previous robbery convictions

# -- 12. List incident types with more than one open case.

SELECT IncidentType

FROM Crime

WHERE Status = 'Open'

GROUP BY IncidentType

HAVING COUNT(\*) > 1;

IncidentType

### -- 13. List all incidents with suspects whose names also appear as victims in other incidents.

SELECT c.\*, s.\*

FROM Crime c

JOIN Suspect s ON c.CrimeID = s.CrimeID

WHERE s.Name IN (SELECT Name FROM Victim WHERE CrimeID <> c.CrimeID);

CrimeID	IncidentType	IncidentDate	Location	Description	Status	SuspectID	CrimeID	Name	Description	CriminalHistory

## -- 14. Retrieve all incidents along with victim and suspect details.

SELECT c.\*, v.\*, s.\*

FROM Crime c

LEFT JOIN Victim v ON c.CrimeID = v.CrimeID

LEFT JOIN Suspect s ON c.CrimeID = s.CrimeID;

	CrimeID	IncidentType	IncidentDate	Location	Description	Status	VictimID	CrimeID	Name	ContactInfo	Injuries	SuspectID	CrimeID	Name
•	1	Robbery	2023-09-15	123 Main St, Cityville	Armed robbery at a convenience store	Open	1	1	John Doe	johndoe@example.com	Minor injuries	1	1	Robber 1
	2	Homicide	2023-09-20	456 Elm St, Townsville	Investigation into a murder case	Under Investigation	2	2	Jane Smith	janesmith@example.com	Deceased	2	2	Unknown
	3	Theft	2023-09-10	789 Oak St. Villagetown	Shoplifting incident at a mall	Closed	3	3	Alice Johnson	aliceiohnson@example.com	None	3	3	Suspect 1

- -- 15. Find incidents where the suspect is older than any victim.
- -- Assuming age is not provided, and the age condition is based on VictimID and SuspectID.

SELECT c.\*

FROM Crime c

JOIN Victim v ON c.CrimeID = v.CrimeID

JOIN Suspect s ON c.CrimeID = s.CrimeID

WHERE s.SuspectID > v.VictimID;



#### -- 16. Find suspects involved in multiple incidents.

SELECT SuspectID, COUNT(DISTINCT CrimeID) AS IncidentCount

**FROM Suspect** 

**GROUP BY SuspectID** 

HAVING IncidentCount > 1;



#### -- 17. List incidents with no suspects involved.

SELECT c.\*

FROM Crime c

LEFT JOIN Suspect s ON c.CrimeID = s.CrimeID

WHERE s.SuspectID IS NULL;



# -- 18. List all cases where at least one incident is of type 'Homicide' and all other incidents are of type 'Robbery'.

SELECT DISTINCT c1.\*

FROM Crime c1

JOIN Crime c2 ON c1.CrimeID <> c2.CrimeID

## WHERE c1.IncidentType = 'Homicide' AND c2.IncidentType = 'Robbery';

CrimeID IncidentType IncidentDate Location Description Status  ▶ 2 Homicide 2023-09-20 456 Elm St, Townsville Investigation into a murder case Under Investigat						_	
No. 2 Homicide 2023-09-20 456 Flm St. Townsville Investigation into a murder case. Under Investigation		CrimeID	IncidentType	IncidentDate	Location	Description	Status
7 Total 2023-03-20 430 Lilli St, Townsville Investigation into a marter case of older investigation	•	2	Homicide	2023-09-20	456 Elm St, Townsville	Investigation into a murder case	Under Investigation

# -- 19. Retrieve a list of all incidents and the associated suspects, showing suspects for each incident, or 'No Suspect' if there are none.

SELECT c.\*, COALESCE(s.Name, 'No Suspect') AS SuspectName

FROM Crime c

LEFT JOIN Suspect s ON c.CrimeID = s.CrimeID;

	CrimeID	IncidentType	IncidentDate	Location	Description	Status	SuspectName
Þ	1	Robbery	2023-09-15	123 Main St, Cityville	Armed robbery at a convenience store	Open	Robber 1
	2	Homicide	2023-09-20	456 Elm St, Townsville	Investigation into a murder case	Under Investigation	Unknown
	3	Theft	2023-09-10	789 Oak St, Villagetown	Shoplifting incident at a mall	Closed	Suspect 1

# -- 20. List all suspects who have been involved in incidents with incident types 'Robbery' or 'Assault'.

**SELECT DISTINCT s.\*** 

FROM Suspect s

JOIN Crime c ON s.CrimeID = c.CrimeID

WHERE c.IncidentType IN ('Robbery', 'Assault');

	SuspectID	CrimeID	Name	Description	CriminalHistory
•	1	1	Robber 1	Armed and masked robber	Previous robbery convictions