```
create database Crime Management;
use Crime Management;
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 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');

VictimID Cı	rimeID	Name	ContactInfo	Injuries
	2	Jane Smith	johndoe@example.com janesmith@example.com alicejohnson@example.com	Deceased

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');

mys	mysql> select * from Suspect;							
Sı	uspectID	CrimeID	Name	Description	CriminalHistory			
	1 2 3	2	Unknown	Investigation ongoing	Previous robbery convictions NULL Prior shoplifting arrests			
3 r	3 rows in set (0.00 sec)							

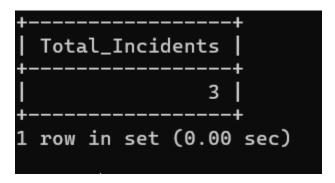
-- 1. Select all open incidents

select * from Crime where Status='Open';

mysql> select * from Crime where Status='Open';						
CrimeID Incide	ntType IncidentDate	Location	Description	Status		
1 Robber	y 2023-09-15	123 Main St, Cityville	Armed robbery at a convenience store	0pen		
1 row in set (0.00	sec)	*				

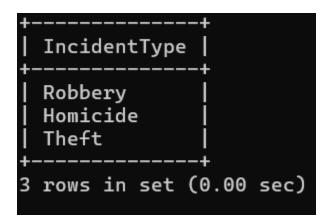
-- 2. Find the total number of incidents

select count(*) as Total_Incidents 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';

+	IncidentType	IncidentDate	Location	Description	+ Status
3	Theft	2023-09-10	789 Oak St, Villagetown	Shoplifting incident at a mall	Closed
1 row in se	t (0.00 sec)				+

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

```
alter table Victim add age int;
desc Victim;
update Victim set age='30' where VictimID='1';
update Victim set age='40' where VictimID='2';
update Victim set age='38' where VictimID='3';
select * from Victim;
```

select * from Victim order by age desc;

VictimID	CrimeID	 Name		+ Injuries	++ age
2 3 1	3		janesmith@example.com alicejohnson@example.com johndoe@example.com	Deceased None Minor injuries	40 38 30
rows in se	et (0.00 se	ec)			+

-- 6. Find the average age of persons involved in incidents. select avg(age) as averag_age from Victim;

```
+-----+
| averag_age |
+-----+
| 36.0000 |
+----+
1 row in set (0.00 sec)
```

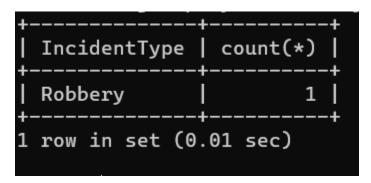
-- 7. List incident types and their counts, only for open cases.

select IncidentType,count(*)

from Crime

where status='Open'

group by IncidentType;



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

select * from Victim

where name like '%Doe';

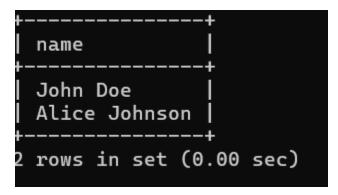
-- 9. Retrieve the names of persons involved in open cases and closed cases

select Victim.name

from Victim join Crime

on Crime.CrimeID=Victim.CrimeID

where Crime.status in ('open','closed');



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

select IncidentType

from Victim join Crime

on Victim.CrimeID=Crime.CrimeID

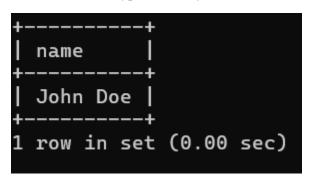
where age in(30,35);

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

select name

from Crime join Victim on Victim.CrimeID = Crime.CrimeID

where IncidentType='Robbery';



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

select IncidentType

from Crime

where Status='open'

group by IncidentType

having count(*) > 1;

Empty set (0.00 sec)

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

select * from Crime

join (select CrimeID

from Suspect where exists (select 1

from Victim where Victim.CrimeID=Suspect.CrimeID

and Victim.name=Suspect.name)

)as Subquery on Crime.CrimeID = Subquery.CrimeID;

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

SELECT crime.*,

Victim.Name AS VictimName,Victim.VictimID, Victim.ContactInfo, Victim.Injuries,
Suspect.Name AS SuspectName,Suspect.SuspectID, Suspect.Description, Suspect.CriminalHistory
from Crime
join Victim on Victim.CrimeID=Crime.CrimeID
join Suspect on Suspect.CrimeID=Crime.CrimeID

-- 15. Find incidents where the suspect is older than any victim.

alter table Suspect add age int;

desc Suspect;

update Suspect set age='37' where SuspectID='1';

update Suspect set age='46' where SuspectID='2';

update Suspect set age='35' where SuspectID='3';

select * from Suspect

+ SuspectID	CrimeID	Name	Description	CriminalHistory	+ age
1 2 3		Unknown	Armed and masked robber Investigation ongoing Shoplifting suspect	Previous robbery convictions NULL Prior shoplifting arrests	37 46 35
3 3 rows in se	t (0.00 sed	2)			

select * from Crime

join Victim on Crime.CrimeID=Victim.CrimeID

join Suspect on Crime.CrimeID=Suspect.CrimeID

where Suspect.age > Victim.age;

```
| CrimeID | IncidentType | IncidentDate | Location | Description | Status | VictimID | CrimeID | Name | Location | Injuries | age | SuspectID | CrimeID | Name | Description | CriminalHistory | age | SuspectID | CrimeID | Name | Description | CriminalHistory | Age | SuspectID | CrimeID | Name | Description | CriminalHistory | Age | SuspectID | CrimeID | Name | Description | CriminalHistory | Age | SuspectID | CrimeID | Name | Description | CriminalHistory | Age | SuspectID | SuspectID | CrimeID | Name | Description | Description | SuspectID | Age | SuspectID | Susp
```

-- 16. Find suspects involved in multiple incidents.

select Name, count(distinct CrimeID) AS IncidentCount

from Suspect

group by Name

having count(distinct CrimeID) > 1;

Empty set (0.00 sec)

-- 17. List incidents with no suspects involved

select * from crime

left join Suspect on Crime.CrimeID = Suspect.CrimeID

WHERE Suspect.SuspectID IS NULL;

Empty set (0.00 sec)

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

```
select Crime.*
from Crime
```

where exists (

select 1

from Crime

where CrimeID = Crime.CrimeID and IncidentType = 'Homicide'

)

```
and not exists (
select 1
from Crime
where CrimeID = Crime.CrimeID and IncidentType != 'Robbery'
);
```

Empty set (0.01 sec)

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

SELECT Crime.*, COALESCE(Suspect.Name, 'No Suspect') AS SuspectName

FROM Crime

LEFT JOIN Suspect ON Crime.CrimeID = Suspect.CrimeID;

CrimeID IncidentType	IncidentDate	Location	Description
+			Armed robbery at a convenience st Investigation into a murder case
3 Theft	2023-09-10 	789 Oak St, Villagetown	Shoplifting incident at a mall

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

SELECT DISTINCT Name

FROM Suspect

WHERE CrimeID IN (

SELECT CrimeID

FROM Crime

WHERE IncidentType IN ('Robbery', 'Assault')

);