create database sqlChallenge1

use sqlChallenge1

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 Crime values(4, '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');

**--Solve the below queries:**

--1. Select all open incidents.

select \* from Crime where Status = 'Open';

--2. Find the total number of incidents.

select count(Crime.CrimeId) as NumberOfIncident 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.

--since we dont have any age column, age column is added in Victim and Suspect tables along with sample values

select \* from Victim

select \* from Suspect

alter table Victim add Age int

alter table Suspect add Age int

update Victim set Age = 35 where VictimID = 1

update Victim set age = 33 where VictimID = 2

update Victim set Age = 40 where VictimId = 3

update Suspect set Age = 33 where SuspectID = 1

update Suspect set Age = 35 where SuspectID = 2

update Suspect set Age = 39 where SuspectID = 3

select Victim.Name from Victim union Select Suspect.Name from Suspect order by Name desc

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

select avg(Victim.Age) as AvgAge from Victim

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

select IncidentType, count(IncidentType) as IncidentCount from Crime

where Status = 'Open' group by IncidentType

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

select Victim.Name from Victim where Name like '%Doe%'

union select Suspect.Name from Suspect 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 Victim.CrimeID = Crime.CrimeID

where Crime.Status = 'Open' or Crime.Status = 'Closed'

union

select Suspect.Name from Suspect

join Crime on Suspect.CrimeID = Crime.CrimeID

where Crime.Status = 'Open' or Crime.Status = 'Closed'

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

select Crime.IncidentType, Victim.Age as VictimAge, Suspect.Age as SuspectAge from Crime

join Victim on Crime.CrimeID = Victim.CrimeID

join Suspect on Crime.CrimeID = Suspect.SuspectID

where Victim.Age = 30 or Victim.Age = 35 or Suspect.Age = 30 or Suspect.Age = 35

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

select Victim.Name from Victim join Crime on Crime.CrimeID = Victim.CrimeID where Crime.IncidentType like 'Robbery'

union

select Suspect.Name from Suspect join Crime on Crime.CrimeID = Suspect.CrimeID where Crime.IncidentType like 'Robbery'

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

select Crime.IncidentType, count(Crime.Status) as CrimeCount from Crime

where Status = 'Open'

group by Crime.IncidentType

having count(Crime.Status)>1

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

select Suspect.Name from Suspect

where Suspect.Name in (Select Victim.Name from Victim)

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

select Crime.\*,Victim.\*,Suspect.\* 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.

select Crime.IncidentType, Suspect.Age as SuspectAge, Victim.Age as VictimAge from Crime

join Suspect on Crime.CrimeID = Suspect.CrimeID

join Victim on Victim.CrimeID = Crime.CrimeID

where Suspect.Age > Victim.Age

--16. Find suspects involved in multiple incidents:

select Suspect.Name, count(Crime.IncidentType) as IncidentCount from Suspect

join Crime on Crime.CrimeID = Suspect.CrimeID

group by Suspect.Name

having count(Crime.IncidentType) > 1

--17. List incidents with no suspects involved.

select Crime.IncidentType from Crime

join Suspect on Crime.CrimeID = Suspect.SuspectID

where Suspect.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 Crime.IncidentType from Crime

where Crime.IncidentType like 'Homicide' or Crime.IncidentType = 'Robbery'

group by Crime.IncidentType

having count(distinct.Crime.IncidentType) = 2

--19. Retrieve a list of all incidents and the associated suspects, showing suspects for each incident, or

--'No Suspect' if there are none.

select \* from (select Crime.\*,Victim.VictimID,Victim.Name as VictimName,Suspect.SuspectID, Suspect.Name as SuspectName from Crime

left join Victim on Victim.CrimeID = Crime.CrimeID

left join Suspect on Suspect.CrimeID = Crime.CrimeID) as Details

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

select Suspect.Name,Crime.IncidentType from Suspect

join Crime on Suspect.CrimeID = Crime.CrimeID

where Crime.IncidentType like 'Robbery' or Crime.IncidentType like 'Assault'