

Crime Management Coding Challenge SQL

Creating database

Query

create database crime;

show databases;

```
create database crime;
```

```
show databases;
```

Output

✓	10	11:48:24	create database crime	1 row(s) affected
✓	12	11:49:01	show databases	8 row(s) returned

	Database
▶	crime
	information_schema
	mysql
	order_details
	performance_schema

Creating Tables

Crime Table

create table Crime (

CrimeID int primary key,

IncidentType varchar(255),

IncidentDate date,

Location varchar(255),

Description text,

Status varchar(20)

);

desc crime;

Query

```
create table Crime (  
    CrimeID int primary key,  
    IncidentType varchar(255),  
    IncidentDate date,  
    Location varchar(255),  
    Description text,  
    Status varchar(20)  
);
```

desc crime;

Output

✓	13	11:53:17	create table Crime (CrimeID int primary key, In...	0 row(s) affected
✓	14	11:53:35	desc crime	6 row(s) returned

	Field	Type	Null	Key	Default	Extra
▶	CrimeID	int	NO	PRI	NULL	
	IncidentType	varchar(255)	YES		NULL	
	IncidentDate	date	YES		NULL	
	Location	varchar(255)	YES		NULL	
	Description	text	YES		NULL	
	Status	varchar(20)	YES		NULL	

Victim Table

Query

```
create table Victim (  
    VictimID int primary key,  
    CrimeID int,  
    Name varchar(255),  
    ContactInfo varchar(255),  
    Injuries varchar(255),  
    Age int,
```

foreign key (CrimeID) references Crime(CrimeID)

);

desc Victim;

```
• create table Victim (  
    VictimID int primary key,  
    CrimeID int,  
    Name varchar(255),  
    ContactInfo varchar(255),  
    Injuries varchar(255),  
    Age int,  
    foreign key (CrimeID) references Crime(CrimeID)  
);  
• desc Victim;
```

Output

✓	16	11:58:52	create table Victim (VictimID int primary key, Cr...	0 row(s) affected
✓	17	11:59:09	desc Victim	6 row(s) returned

	Field	Type	Null	Key	Default	Extra
▶	VictimID	int	NO	PRI	NULL	
	CrimeID	int	YES	MUL	NULL	
	Name	varchar(255)	YES		NULL	
	ContactInfo	varchar(255)	YES		NULL	
	Injuries	varchar(255)	YES		NULL	
	Age	int	YES		NULL	

Suspect Table

Query

```
create table Suspect (  
    SuspectID int primary key,  
    CrimeID int,  
    Name varchar(255),  
    Description text,  
    CriminalHistory text,  
    Age int,
```

foreign key (CrimeID) references Crime(CrimeID)
);

desc Suspect;

```
create table Suspect (  
    SuspectID int primary key,  
    CrimeID int,  
    Name varchar(255),  
    Description text,  
    CriminalHistory text,  
    Age int,  
    foreign key (CrimeID) references Crime(CrimeID)  
);
```

```
desc Suspect;
```

Output

✓	22	12:05:45	create table Suspect (SuspectID int primary key, CrimeID int, Name varchar(255), Description text, ...	0 row(s) affected
✓	23	12:05:49	desc Suspect	6 row(s) returned

	Field	Type	Null	Key	Default	Extra
▶	SuspectID	int	NO	PRI	NULL	
	CrimeID	int	YES	MUL	NULL	
	Name	varchar(255)	YES		NULL	
	Description	text	YES		NULL	
	CriminalHistory	text	YES		NULL	
	Age	int	YES		NULL	

Inserting the values into the tables

Crime table

Query

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'),

(4, 'Robbery', '2023-09-02', '22 Lakeview Ave, Rivertown', 'Street mugging case', 'Open'),

(5, 'Assault', '2023-09-05', '33 Hill St, Cityville', 'Bar fight incident', 'Closed'),

(6, 'Homicide', '2023-09-07', '12 Beach Rd, Seaville', 'Double homicide case', 'Open'),

(7, 'Burglary', '2023-09-03', '88 Ocean Dr, Coastville', 'Home burglary', 'Closed'),

(8, 'Assault', '2023-09-04', '77 Forest Rd, Greenfield', 'Park assault', 'Open'),

(9, 'Robbery', '2023-09-08', '101 River St, Newcity', 'Bank robbery', 'Open'),

(10, 'Vandalism', '2023-09-22', '99 Street Ln, Oldtown', 'School wall graffiti', 'Closed');

INSERT INTO Crime (CrimeID, IncidentType, IncidentDate, Location, Description, Status)

VALUES (11, 'Burglary', '2023-09-09', '200 Willow St, Windtown', 'Break-in reported, no suspect identified', 'Open');

select * from Crime;

```

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'),
(4, 'Robbery', '2023-09-02', '22 Lakeview Ave, Rivertown', 'Street mugging case', 'Open'),
(5, 'Assault', '2023-09-05', '33 Hill St, Cityville', 'Bar fight incident', 'Closed'),
(6, 'Homicide', '2023-09-07', '12 Beach Rd, Seaville', 'Double homicide case', 'Open'),
(7, 'Burglary', '2023-09-03', '88 Ocean Dr, Coastville', 'Home burglary', 'Closed'),
(8, 'Assault', '2023-09-04', '77 Forest Rd, Greenfield', 'Park assault', 'Open'),
(9, 'Robbery', '2023-09-08', '101 River St, Newcity', 'Bank robbery', 'Open'),
(10, 'Vandalism', '2023-09-22', '99 Street Ln, Oldtown', 'School wall graffiti', 'Closed');
select * from Crime;

```

```

INSERT INTO Crime (CrimeID, IncidentType, IncidentDate, Location, Description, Status)
VALUES (11, 'Burglary', '2023-09-09', '200 Willow St, Windtown', 'Break-in reported, no suspect identified', 'Open');

```

Output

✓	19	12:04:12	insert into Crime (CrimeID, IncidentType, IncidentDate, Location, Description, Status) values (1, 'Robbery', '2023-...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0
✓	20	12:04:21	select * from Crime LIMIT 0, 1000	10 row(s) returned
✓	26	12:12:08	INSERT INTO Crime (CrimeID, IncidentType, IncidentDate, Location, Description, Status) VALUES (11, 'Burglary...	1 row(s) affected
✓	27	12:12:12	select * from Crime LIMIT 0, 1000	11 row(s) returned

	CrimeID	IncidentType	IncidentDate	Location	Description	Status
▶	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
	4	Robbery	2023-09-02	22 Lakeview Ave, Rivertown	Street mugging case	Open
	5	Assault	2023-09-05	33 Hill St, Cityville	Bar fight incident	Closed
	6	Homicide	2023-09-07	12 Beach Rd, Seaville	Double homicide case	Open
	7	Burglary	2023-09-03	88 Ocean Dr, Coastville	Home burglary	Closed
	8	Assault	2023-09-04	77 Forest Rd, Greenfield	Park assault	Open
	9	Robbery	2023-09-08	101 River St, Newcity	Bank robbery	Open
	10	Vandalism	2023-09-22	99 Street Ln, Oldtown	School wall graffiti	Closed
	11	Burglary	2023-09-09	200 Willow St, Windtown	Break-in reported, no suspect identified	Open
▲	NULL	NULL	NULL	NULL	NULL	NULL

Victim table

Query

```

insert into Victim (VictimID, CrimeID, Name, ContactInfo, Injuries, Age)
values

```

```

(1, 1, 'John Doe', 'johndoe@example.com', 'Minor injuries', 32),

```

```

(2, 2, 'Jane Smith', 'janesmith@example.com', 'Deceased', 45),

```

```

(3, 3, 'Alice Johnson', 'alicej@example.com', 'None', 28),

```

```

(4, 4, 'Emily Doe', 'emilydoe@example.com', 'Bruised arm', 30),

```

```

(5, 5, 'Carlos Vega', 'carlosv@example.com', 'Fractured rib', 35),

```

(6, 6, 'Sarah Connor', 'sconnor@example.com', 'Critical condition', 27),
 (7, 7, 'Michael Ray', 'mray@example.com', 'Broken window injury', 40),
 (8, 8, 'Laura Doe', 'lauradoe@example.com', 'Cut on hand', 33),
 (9, 9, 'James Lee', 'jlee@example.com', 'Gunshot wound', 36),
 (10, 10, 'Tony Stark', 'tstark@example.com', 'Paint fumes', 50),
 (11, 11, 'Diana Prince', 'diana@example.com', 'No physical injuries', 38);
 select * from Victim;

```
insert into Victim (VictimID, CrimeID, Name, ContactInfo, Injuries, Age) values
(1, 1, 'John Doe', 'johndoe@example.com', 'Minor injuries', 32),
(2, 2, 'Jane Smith', 'janesmith@example.com', 'Deceased', 45),
(3, 3, 'Alice Johnson', 'alicej@example.com', 'None', 28),
(4, 4, 'Emily Doe', 'emilydoe@example.com', 'Bruised arm', 30),
(5, 5, 'Carlos Vega', 'carlosv@example.com', 'Fractured rib', 35),
(6, 6, 'Sarah Connor', 'sconnor@example.com', 'Critical condition', 27),
(7, 7, 'Michael Ray', 'mray@example.com', 'Broken window injury', 40),
(8, 8, 'Laura Doe', 'lauradoe@example.com', 'Cut on hand', 33),
(9, 9, 'James Lee', 'jlee@example.com', 'Gunshot wound', 36),
(10, 10, 'Tony Stark', 'tstark@example.com', 'Paint fumes', 50),
(11, 11, 'Diana Prince', 'diana@example.com', 'No physical injuries', 38);
select * from Victim;
```

Output

✓ 32 12:18:10 insert into Victim (VictimID, CrimeID, Name, ContactI... 11 row(s) affected Records: 11 Duplicates: 0 Wam... 0.
 ✓ 33 12:18:23 select * from Victim LIMIT 0, 1000 11 row(s) returned 0.

	VictimID	CrimeID	Name	ContactInfo	Injuries	Age
▶	1	1	John Doe	johndoe@example.com	Minor injuries	32
	2	2	Jane Smith	janesmith@example.com	Deceased	45
	3	3	Alice Johnson	alicej@example.com	None	28
	4	4	Emily Doe	emilydoe@example.com	Bruised arm	30
	5	5	Carlos Vega	carlosv@example.com	Fractured rib	35
	6	6	Sarah Connor	sconnor@example.com	Critical condition	27
	7	7	Michael Ray	mray@example.com	Broken window injury	40
	8	8	Laura Doe	lauradoe@example.com	Cut on hand	33
	9	9	James Lee	jlee@example.com	Gunshot wound	36
	10	10	Tony Stark	tstark@example.com	Paint fumes	50
	11	11	Diana Prince	diana@example.com	No physical injuries	38

Suspect table

Query

INSERT INTO Suspect (SuspectID, CrimeID, Name, Description, CriminalHistory, Age) VALUES

**(1, 1, 'Robber 1', 'Armed and masked robber', 'Previous robbery convictions', 35),
(2, 2, 'Unknown', 'Investigation ongoing', NULL, NULL),
(3, 3, 'Suspect 1', 'Shoplifting suspect', 'Prior shoplifting arrests', 25),
(4, 4, 'John Doe', 'Repeat offender', 'Assault and robbery', 40),
(5, 5, 'Emily Ray', 'Involved in altercation', 'First-time offender', 30),
(6, 6, 'Suspect X', 'Witness identified', 'Murder suspect', 42),
(7, 7, 'Unknown', 'Suspect fled scene', NULL, NULL),
(8, 8, 'John Wayne', 'Seen running', 'Assault in 2019', 31),
(9, 9, 'Robber 1', 'Same as case #1', 'Repeat robbery suspect', 35),
(10, 10, 'Tony Stark', 'Graffiti suspect', 'Minor vandalism', 50),
(11, 5, 'John Doe', 'Also seen near crime scene', 'Repeat offender', 40);**

SELECT * FROM suspect;

```
INSERT INTO Suspect (SuspectID, CrimeID, Name, Description, CriminalHistory, Age) VALUES
(1, 1, 'Robber 1', 'Armed and masked robber', 'Previous robbery convictions', 35),
(2, 2, 'Unknown', 'Investigation ongoing', NULL, NULL),
(3, 3, 'Suspect 1', 'Shoplifting suspect', 'Prior shoplifting arrests', 25),
(4, 4, 'John Doe', 'Repeat offender', 'Assault and robbery', 40),
(5, 5, 'Emily Ray', 'Involved in altercation', 'First-time offender', 30),
(6, 6, 'Suspect X', 'Witness identified', 'Murder suspect', 42),
(7, 7, 'Unknown', 'Suspect fled scene', NULL, NULL),
(8, 8, 'John Wayne', 'Seen running', 'Assault in 2019', 31),
(9, 9, 'Robber 1', 'Same as case #1', 'Repeat robbery suspect', 35),
(10, 10, 'Tony Stark', 'Graffiti suspect', 'Minor vandalism', 50),
(11, 5, 'John Doe', 'Also seen near crime scene', 'Repeat offender', 40);
SELECT * FROM suspect;
```

Output

✓	34	12:20:44	INSERT INTO Suspect (SuspectID, CrimeID, Name...	11 row(s) affected Records: 11 Duplicates: 0 Wam...
✓	35	12:21:10	SELECT * FROM suspect LIMIT 0, 1000	11 row(s) returned

	SuspectID	CrimeID	Name	Description	CriminalHistory	Age
▶	1	1	Robber 1	Armed and masked robber	Previous robbery convictions	35
	2	2	Unknown	Investigation ongoing	NULL	NULL
	3	3	Suspect 1	Shoplifting suspect	Prior shoplifting arrests	25
	4	4	John Doe	Repeat offender	Assault and robbery	40
	5	5	Emily Ray	Involved in altercation	First-time offender	30
	6	6	Suspect X	Witness identified	Murder suspect	42
	7	7	Unknown	Suspect fled scene	NULL	NULL
	8	8	John Wayne	Seen running	Assault in 2019	31
	9	9	Robber 1	Same as case #1	Repeat robbery suspect	35
	10	10	Tony Stark	Graffiti suspect	Minor vandalism	50
	11	5	John Doe	Also seen near crime scene	Repeat offender	40
	NULL	NULL	NULL	NULL	NULL	NULL

Queries

1. Select all open incidents.

Query

select * from crime

where status = 'Open';

*/*1. Select all open incidents*/*

select * from crime

where status = 'Open';

Output

37

12:25:14

select * from crime where status = 'Open' LIMIT 0, 1000

6 row(s) returned

CrimeID	IncidentType	IncidentDate	Location	Description	Status
1	Robbery	2023-09-15	123 Main St, Cityville	Armed robbery at a convenience store	Open
4	Robbery	2023-09-02	22 Lakeview Ave, Rivertown	Street mugging case	Open
6	Homicide	2023-09-07	12 Beach Rd, Seaville	Double homicide case	Open
8	Assault	2023-09-04	77 Forest Rd, Greenfield	Park assault	Open
9	Robbery	2023-09-08	101 River St, Newcity	Bank robbery	Open
11	Burglary	2023-09-09	200 Willow St, Windtown	Break-in reported, no suspect identified	Open

2. Find the total number of incidents.

Query

select count(*) as total_number_incidents from crime;

select count(*) as total_number_incidents from crime;

Output

39 12:31:16 select count(*) as total_number_incidents from crime LIMIT 0, 1000

1 row(s) returned

	total_number_incidents
▶	11

3. List all unique incident types.

Query

select distinct incidenttype from crime;

```
select distinct incidenttype from crime;
```

Output

40 12:34:03 select distinct incidenttype from crime LIMIT 0, 1000

6 row(s) returned

	incidenttype
▶	Robbery
	Homicide
	Theft
	Assault
	Burglary
	Vandalism

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

Query

select * from crime

where IncidentDate between '2023-09-01' and '2023-09-10';

```
select * from crime
where IncidentDate between '2023-09-01' and '2023-09-10';
```

Output

41 12:38:05 select * from crime where IncidentDate between '2023-09-01' and '2023-09-10' LIMIT 0, 1000

8 row(s) returned

	CrimeID	IncidentType	IncidentDate	Location	Description	Status
▶	3	Theft	2023-09-10	789 Oak St, Villagetown	Shoplifting incident at a mall	Closed
	4	Robbery	2023-09-02	22 Lakeview Ave, Rivertown	Street mugging case	Open
	5	Assault	2023-09-05	33 Hill St, Cityville	Bar fight incident	Closed
	6	Homicide	2023-09-07	12 Beach Rd, Seaville	Double homicide case	Open
	7	Burglary	2023-09-03	88 Ocean Dr, Coastville	Home burglary	Closed
	8	Assault	2023-09-04	77 Forest Rd, Greenfield	Park assault	Open
	9	Robbery	2023-09-08	101 River St, Newcity	Bank robbery	Open
	11	Burglary	2023-09-09	200 Willow St, Windtown	Break-in reported, no suspect identified	Open
▲	NULL	NULL	NULL	NULL	NULL	NULL

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

Query

select name, age from victim

union

select name, age from suspect where age is not null

order by age desc;

```
select name, age from victim
union
select name, age from suspect where age is not null
order by age desc;
```

Output

✓ 44 12:46:18 select name, age from victim union select name, age from suspect where age is not null order by age desc 17 row(s) returned

	name	age
▶	Tony Stark	50
	Jane Smith	45
	Suspect X	42
	Michael Ray	40
	John Doe	40
	Diana Prince	38
	James Lee	36
	Carlos Vega	35
	Robber 1	35
	Laura Doe	33
	John Doe	32
	John Wayne	31
	Emily Doe	30
	Emily Ray	30
	Alice Johnson	28
	Sarah Connor	27
	Suspect 1	25

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

Query

```
select avg(age) as average_age
from (
    select age from victim
    union all
    select age from suspect where age is not null
) as all_persons;
```

```
select avg(age) as average_age
from (
    select age from victim
    union all
    select age from suspect where age is not null
) as all_persons;
```

Output

✓ 45 12:51:53 select avg(age) as average_age from (select age from victim union all select age from suspect where ag... 1 row(s) returned

	average_age
▶	36.1000

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

Query

```
select incidenttype, count(*) from crime
where status = 'Open'
group by incidenttype;
```

```
select incidenttype, count(*) from crime
where status = 'Open'
group by incidenttype;
```

Output

49	12:57:37	select incidenttype, count(*) from crime where status = 'Open' group by incidenttype LIMIT 0, 1000	4 row(s) returned
	incidenttype	count(*)	
▶	Robbery	3	
	Homicide	1	
	Assault	1	
	Burglary	1	

8. Find persons with names containing 'Doe'.

Query

select name from victim

where name like '%Doe%'

union

select name from suspect

where name like '%Doe%';

```
select name from victim
where name like '%Doe%'
union
select name from suspect
where name like '%Doe%';
|
```

Output

53	13:02:33	select name from victim where name like '%Doe%' union select name from suspect where name like '%Doe%'	3 row(s) returned
	name		
▶	John Doe		
	Emily Doe		
	Laura Doe		

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

Query

```
select v.name, c.status
from victim v
join crime c on v.crimeid = c.crimeid
where c.status in ('Open', 'Closed')
union
select s.name, c.status
from suspect s
join crime c on s.crimeid = c.crimeid
where c.status in ('Open', 'Closed');
```

```
select v.name, c.status
from victim v
join crime c on v.crimeid = c.crimeid
where c.status in ('Open', 'Closed')
union
select s.name, c.status
from suspect s
join crime c on s.crimeid = c.crimeid
where c.status in ('Open', 'Closed');
```

Output

54 13:14:53 select v.name, c.status from victim v join crime c on v.crimeid = c.crimeid where c.status in ('Open', 'Closed') unio... 17 row(s) returned

	name	status
▶	John Doe	Open
	Alice Johnson	Closed
	Emily Doe	Open
	Carlos Vega	Closed
	Sarah Connor	Open
	Michael Ray	Closed
	Laura Doe	Open
	James Lee	Open
	Tony Stark	Closed
	Diana Prince	Open
	Robber 1	Open

Suspect 1	Closed
Emily Ray	Closed
John Doe	Closed
Suspect X	Open
Unknown	Closed
John Wayne	Open

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

Query

```
select c.incidenttype from crime c
join victim v on v.crimeid = c.crimeid
where v.age = 30 or v.age = 35
union
select c.incidenttype from crime c
join suspect s on s.crimeid = c.crimeid
where s.age = 30 or s.age = 35;
```

```
select c.incidenttype from crime c
join victim v on v.crimeid = c.crimeid
where v.age = 30 or v.age = 35
union
select c.incidenttype from crime c
join suspect s on s.crimeid = c.crimeid
where s.age = 30 or s.age = 35
```

Output

57 13:21:42 select c.incidenttype from crime c join victim v on v.crimeid = c.crimeid where v.age = 30 or v.age = 35 union sel... 2 row(s) returned

incidenttype
Robbery
Assault

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

Query


```

select name from victim
where crimeid in (
    select crimeid from crime
    where incidenttype = 'Robbery'
)
union
select name from suspect
where crimeid in (
    select crimeid from crime
    where incidenttype = 'Robbery'
);

```

```

select name from victim
where crimeid in (
    select crimeid from crime
    where incidenttype = 'Robbery'
)
union
select name from suspect
where crimeid in (
    select crimeid from crime
    where incidenttype = 'Robbery'
);

```

Output

59 13:29:21 select name from victim where crimeid in (select crimeid from crime where incidenttype = 'Robbery') union s... 4 row(s) returned

	name
▶	John Doe
	Emily Doe
	James Lee
	Robber 1

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

Query

Updating the row before finding the open case more than one

```
update crime set status = 'Open' where crimeid = 2;
select incidenttype, COUNT(*) as open_case_count from crime
where status = 'Open'
group by incidenttype
having COUNT(*) > 1;
```

```
update crime set status = 'Open' where crimeid = 2;
select incidenttype, COUNT(*) as open_case_count from crime
where status = 'Open'
group by incidenttype
having COUNT(*) > 1;
```

Output

65	13:34:41	update crime set status = 'Open' where crimeid = 2	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0
66	13:35:59	select incidenttype, COUNT(*) as open_case_count from crime where status = 'Open' group by incidenttype havi...	2 row(s) returned

	incidenttype	open_case_count
▶	Robbery	3
	Homicide	2

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

Query

```
select distinct c.* FROM crime c
join suspect s on c.crimeid = s.crimeid
where s.name in (
    select v.name from victim v
);
```

```

select distinct c.* FROM crime c
join suspect s on c.crimeid = s.crimeid
where s.name in (
    select v.name from victim v
);

```

Output

✓ 67 13:38:26 select distinct c.* FROM crime c join suspect s on c.crimeid = s.crimeid where s.name in (select v.name from v... 3 row(s) returned

	CrimeID	IncidentType	IncidentDate	Location	Description	Status
▶	4	Robbery	2023-09-02	22 Lakeview Ave, Rivertown	Street mugging case	Open
	5	Assault	2023-09-05	33 Hill St, Cityville	Bar fight incident	Closed
	10	Vandalism	2023-09-22	99 Street Ln, Oldtown	School wall graffiti	Closed

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

Query

```

select c.CrimeID, c.IncidentType,
       v.Name as VictimName,
       s.Name as SuspectName
from crime c
left join victim v on c.CrimeID = v.CrimeID
left join suspect s on c.CrimeID = s.CrimeID;

```

```

select c.CrimeID, c.IncidentType,
       v.Name as VictimName,
       s.Name as SuspectName
from crime c
left join victim v on c.CrimeID = v.CrimeID
left join suspect s on c.CrimeID = s.CrimeID;

```

Output

✓ 70 13:43:48 select c.CrimeID, c.IncidentType, v.Name as VictimName, s.Name as SuspectName from crime c left join victi... 12 row(s) returned

	CrimeID	IncidentType	VictimName	SuspectName
►	1	Robbery	John Doe	Robber 1
	2	Homicide	Jane Smith	Unknown
	3	Theft	Alice Johnson	Suspect 1
	4	Robbery	Emily Doe	John Doe
	5	Assault	Carlos Vega	Emily Ray
	5	Assault	Carlos Vega	John Doe
	6	Homicide	Sarah Connor	Suspect X
	7	Burglary	Michael Ray	Unknown
	8	Assault	Laura Doe	John Wayne
	9	Robbery	James Lee	Robber 1
	10	Vandalism	Tony Stark	Tony Stark
	11	Burglary	Diana Prince	NULL

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

Query

select * from crime c

where c.CrimeID in (

select s.CrimeID from suspect s

where s.Age > (select MIN(v.Age) from victim v

)

);

```
select * from crime c
where c.CrimeID in (
    select s.CrimeID from suspect s
    where s.Age > (select MIN(v.Age) from victim v
    )
);
```

Output

✓ 71 13:47:03 select * from crime c where c.CrimeID in (select s.CrimeID from suspect s where s.Age > (select MIN(v.Age)... 7 row(s) returned

	CrimeID	IncidentType	IncidentDate	Location	Description	Status
►	1	Robbery	2023-09-15	123 Main St, Cityville	Armed robbery at a convenience store	Open
	4	Robbery	2023-09-02	22 Lakeview Ave, Rivertown	Street mugging case	Open
	5	Assault	2023-09-05	33 Hill St, Cityville	Bar fight incident	Closed
	6	Homicide	2023-09-07	12 Beach Rd, Seaville	Double homicide case	Open
	8	Assault	2023-09-04	77 Forest Rd, Greenfield	Park assault	Open
	9	Robbery	2023-09-08	101 River St, Newcity	Bank robbery	Open
	10	Vandalism	2023-09-22	99 Street Ln, Oldtown	School wall graffiti	Closed
	NULL	NULL	NULL	NULL	NULL	NULL

16. Find suspects involved in multiple incidents

Query

```
select name
from suspect
group by name
having count(distinct crimeid) > 1;
```

```
select name
from suspect
group by name
having count(distinct crimeid) > 1;
```

Output

✓	72	13:48:29	select name from suspect group by name having count(distinct crimeid) > 1 LIMIT 0, 1000	3 row(s) returned
			name	
			John Doe	
			Robber 1	
			Unknown	

17. List incidents with no suspects involved.

Query

```
insert into crime (crimeid, incidenttype, incidentdate, location, description, status)
```

```
values (12, 'Vandalism', '2023-09-25', '202 Pine St, Greentown', 'Graffiti on public property', 'Open');
```

```
select * from crime
```

```
where crimeid not in (
```

```
    select crimeid from suspect
```

```
);
```

Inserting one more value before running the above question's query

```

insert into crime (crimeid, incidenttype, incidentdate, location, description, status)
values (12, 'Vandalism', '2023-09-25', '202 Pine St, Greentown', 'Graffiti on public property', 'Open');
select *
from crime
where crimeid not in (
    select crimeid from suspect
);

```

Output

75 13:51:08 select * from crime where crimeid not in (select crimeid from suspect) LIMIT 0, 1000 2 row(s) returned

	CrimeID	IncidentType	IncidentDate	Location	Description	Status
▶	11	Burglary	2023-09-09	200 Willow St, Windtown	Break-in reported, no suspect identified	Open
	12	Vandalism	2023-09-25	202 Pine St, Greentown	Graffiti on public property	Open
✱	NULL	NULL	NULL	NULL	NULL	NULL

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

Query

select

c.crimeid,

c.incidenttype,

c.incidentdate,

c.location,

c.status,

ifnull(s.name, 'No Suspect') as suspect_name

from crime c

left join suspect s on c.crimeid = s.crimeid;

```

select
  c.crimeid,
  c.incidenttype,
  c.incidentdate,
  c.location,
  c.status,
  ifnull(s.name, 'No Suspect') as suspect_name
from crime c
left join suspect s on c.crimeid = s.crimeid;

```

Output

81 13:55:34 select c.crimeid, c.incidenttype, c.incidentdate, c.location, c.status, ifnull(s.name, 'No Suspect') as suspe... 15 row(s) returned

	crimeid	incidenttype	incidentdate	location	status	suspect_name
▶ 1	1	Robbery	2023-09-15	123 Main St, Cityville	Open	Robber 1
2	2	Homicide	2023-09-20	456 Elm St, Townsville	Open	Unknown
3	3	Theft	2023-09-10	789 Oak St, Villagetown	Closed	Suspect 1
4	4	Robbery	2023-09-02	22 Lakeview Ave, Rivertown	Open	John Doe
5	5	Assault	2023-09-05	33 Hill St, Cityville	Closed	Emily Ray
5	5	Assault	2023-09-05	33 Hill St, Cityville	Closed	John Doe
6	6	Homicide	2023-09-07	12 Beach Rd, Seaville	Open	Suspect X
7	7	Burglary	2023-09-03	88 Ocean Dr, Coastville	Closed	Unknown
8	8	Assault	2023-09-04	77 Forest Rd, Greenfield	Open	John Wayne
9	9	Robbery	2023-09-08	101 River St, Newcity	Open	Robber 1
10	10	Vandalism	2023-09-22	99 Street Ln, Oldtown	Closed	Tony Stark
11	11	Burglary	2023-09-09	200 Willow St, Windtown	Open	No Suspect
12	12	Vandalism	2023-09-25	202 Pine St, Greentown	Open	No Suspect
14	14	Robbery	2023-09-30	501 Pine St, Springfield	Open	No Suspect

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

Query

```

select distinct s.name
from suspect s
join crime c on s.crimeid = c.crimeid
where c.incidenttype in ('Robbery', 'Assault');

SELECT CrimeID
FROM crime
GROUP BY CrimeID

```


HAVING

SUM(CrimeType = 'Homicide') >= 1

AND SUM(CrimeType NOT IN ('Homicide', 'Robbery')) = 0;

```
select distinct s.name
from suspect s
join crime c on s.crimeid = c.crimeid
where c.incidenttype in ('Robbery', 'Assault');
```

Output

✓ 82 13:56:44 select distinct s.name from suspect s join crime c on s.crimeid = c.crimeid where c.incidenttype in ('Robbery', 'Ass... 4 row(s) returned

	name
▶	Robber 1
	John Doe
	Emily Ray
	John Wayne