```sql
select *
from crime_scene_report
where date = 20180115 and type = 'murder' and city = 'SQL City'
```

RUN ⇩ RESET

date	type	description	city
20180115	murder	Security footage shows that there were 2 witnesses. The first witness lives at the last house on "Northwestern Dr". The second witness, named Annabel, lives somewhere on "Franklin Ave".	SQL City

```sql
--create a cte to hold the crime scene report info:

with csr as (
  select *
  from crime_scene_report
  where date = 20180115 and type = 'murder' and city = 'SQL City'
)

select * from csr

--Find out more about witness #1: "lives at the last house on 'Northwestern Dr'"

select *
from person
where lower(address_street_name) = 'northwestern dr'
order by address_number desc
```

RUN ⇩ RESET

id	name	license_id	address_number	address_street_name	ssn
14887	Morty Schapiro	118009	4919	Northwestern Dr	111564949
17729	Lasonya Wildey	439686	3824	Northwestern Dr	917817122

```sql
--Find out more about witness #2: "named Annabel, lives somewhere on 'Franklin Ave'".

select *
from person
where lower(name) like '%annabel%'
and lower(address_street_name) = 'franklin ave'
```

RUN ⇩ RESET

id	name	license_id	address_number	address_street_name	ssn
16371	Annabel Miller	490173	103	Franklin Ave	318771143

```sql
-- Add a CTE to hold the info for the two witnesses

with witnesses as (
  select *
  from person
  where
    lower(address_street_name) = 'northwestern dr'
    or (lower(name) like '%annabel%'
        and lower(address_street_name) = 'franklin ave'
    )
)

select *
from witnesses

order by address_street_name,
address_number desc

limit 2;
```

RUN ⇩ RESET

id	name	license_id	address_number	address_street_name	ssn
16371	Annabel Miller	490173	103	Franklin Ave	318771143
14887	Morty Schapiro	118009	4919	Northwestern Dr	111564949

```
--Observed that the interview table has a person_id column
--that can be joined with the witness CTE using the IDs of the two witnesses:

select w.id,
w.name,
i.transcript
from witnesses w
left join interview i
on i.person_id=w.id
where w.id in ('16371',
               '14887')
```

RUN ⇩ RESET

id	name	transcript
14887	Morty Schapiro	I heard a gunshot and then saw a man run out. He had a "Get Fit Now Gym" bag. The membership number on the bag started with "48Z". Only gold members have those bags. The man got into a car with a plate that included "H42W".
16371	Annabel Miller	I saw the murder happen, and I recognized the killer from my gym when I was working out last week on January the 9th.

```sql
-- Using the info from Morty's statement we get that:
-- GENDER: male
-- MEMBERSHIP STATUS: gold
-- MEMBERSHIP ID: 48Z......
-- PLATE NUMBER: H42W

-- We can join the person table with drivers_license table on person_id
-- to get the suspect's plate number, gender and name;

-- Store the results of this in a CTE potential_suspects.

with potential_suspects as (
  select p.id as person_id,
  p.name,
  d.age,
  d.gender,
  d.plate_number,
  p.license_id,
  p.address_number
  from person p
  left join drivers_license d
  on p.license_id=d.id
  where d.plate_number like '%H42W%'
)

select * from potential_suspects

```

RUN ⇩ RESET

person_id	name	age	gender	plate_number	license_id	address_number
51739	Tushar Chandra	21	male	4H42WR	664760	312
67318	Jeremy Bowers	30	male	0H42W2	423327	530
78193	Maxine Whitely	21	female	H42W0X	183779	110

```sql
-- Left joined the get_fit_now_member table on person_id and
-- was able to exclude two of the suspects..

-- PS:. Membership _ID matches the one given by Morty
-- in his statement also Membership_Status.

--Good job in spilling the tea, Morty!
-- #scorpioVibes #theNancyDrewofSQL #mortyBringsTheReceipts

with potential_suspects as (
  select p.id as person_id,
  p.name,
  d.age,
  d.gender,
  d.plate_number,
  p.license_id,
  p.address_number
  from person p
  left join drivers_license d
  on p.license_id=d.id
  where d.plate_number like '%H42W%'
)

select s.person_id,
s.name,
s.gender,
s.plate_number,
m.id as GFN_member_id,
m.membership_status
from potential_suspects s
left join get_fit_now_member m on s.person_id=m.person_id

order by m.id desc

```

RUN ⇩ RESET

person_id	name	gender	plate_number	GFN_member_id	membership_status
67318	Jeremy Bowers	male	0H42W2	48Z55	gold
51739	Tushar Chandra	male	4H42WR	null	null
78193	Maxine Whitely	female	H42W0X	null	null

```sql
 -- Left joined the get_fit_now_check_in table to validate Annabel's statement
 -- and yes, it is a match!
 -- At this moment, Jeremy Bowers is your primary suspect!

with potential_suspects as (
  select p.id as person_id,
  p.name,
  d.age,
  d.gender,
  d.plate_number,
  p.license_id,
  p.address_number
  from person p
  left join drivers_license d
  on p.license_id=d.id
  where d.plate_number like '%H42W%'
)

select s.person_id,
s.name,
s.gender,
s.plate_number,
m.id as GFN_member_id,
m.membership_status,
c.check_in_date,
c.check_in_time,
c.check_out_time
from potential_suspects s
left join get_fit_now_member m on s.person_id=m.person_id
left join get_fit_now_check_in c on m.id=c.membership_id

order by m.id desc
```

RUN ⇩ RESET

person_id	name	gender	plate_number	GFN_member_id	membership_status	check_in_date	check_i
67318	Jeremy Bowers	male	0H42W2	48Z55	gold	20180109	1530

```sql
-- Primary suspect identified, we invited him to the police station for some questioning.
-- Below is his statement:

select p.id as person_id,
p.name,
d.plate_number,
m.id as GFN_member_id,
m.membership_status,
c.check_in_date,
--c.check_in_time,
--c.check_out_time
i.transcript
from person p
left join drivers_license d on p.id=d.id
left join get_fit_now_member m on p.id=m.person_id
left join get_fit_now_check_in c on m.id=c.membership_id
left join interview i on p.id=i.person_id
where p.id = 67318

```

RUN ⇩ RESET

person_id	name	plate_number	GFN_member_id	membership_status	check_in_date	transcript
67318	Jeremy Bowers	null	48Z55	gold	20180109	I was hired by a woman with a lot of money. I don't know her name but I know she's around 5'5" (65") or 5'7" (67"). She has red hair and she drives a Tesla Model S. I know that she attended the SQL Symphony Concert 3 times in December 2017.

```sql
-- Using the info collected during the suspect's statement we were able to narrow down
-- the potential masterminds behind the heinous crime:

-- Spolier Alert: it seems that we have two celebrities among them! Shook!

with potential_masterminds as (
  select p.id as person_id,
  p.name,
  d.age,
  d.gender,
  d.height,
  d.hair_color,
  d.car_make,
  d.car_model
  from person p
  left join drivers_license d on p.license_id=d.id
  where d.gender = 'female'
  and d.car_make = 'Tesla'
  and d.car_model = 'Model S'
  and d.hair_color = 'red'
  and d.height between 65 and 67
)

select * from potential_masterminds

```

RUN ⇩ RESET

person_id	name	age	gender	height	hair_color	car_make	car_model
78881	Red Korb	48	female	65	red	Tesla	Model S
90700	Regina George	65	female	66	red	Tesla	Model S
99716	Miranda Priestly	68	female	66	red	Tesla	Model S

```sql
-- Upon joining the facebook_event_checkin table, we were able to verify one suspect did
-- three SQL Symphony Conceerts in 2017, exactly how Jeremy Bowers stated in his statement:

with potential_masterminds as (
  select p.id as person_id,
  p.name,
  d.age,
  d.gender,
  d.height,
  d.hair_color,
  d.car_make,
  d.car_model,
  f.event_name,
  f.date
  from person p
  left join drivers_license d on p.license_id=d.id
  left join facebook_event_checkin f on p.id=f.person_id
  where d.gender = 'female'
  and d.car_make = 'Tesla'
  and d.car_model = 'Model S'
  and d.hair_color = 'red'
  and d.height between 65 and 67
)

select * from potential_masterminds

order by date desc
```

RUN ⇩ RESET

person_id	name	age	gender	height	hair_color	car_make	car_model	event_name	date
99716	Miranda Priestly	68	female	66	red	Tesla	Model S	SQL Symphony Concert	20171229
99716	Miranda Priestly	68	female	66	red	Tesla	Model S	SQL Symphony Concert	20171212
99716	Miranda Priestly	68	female	66	red	Tesla	Model S	SQL Symphony Concert	20171206

```sql
select p.id as person_id,
p.name,
i.transcript
from person p
left join interview i on p.id=i.person_id
where p.id = 99716
```

RUN ⇩ RESET

person_id	name	transcript
99716	Miranda Priestly	null

Check your solution

Did you find the killer?

```sql
INSERT INTO solution VALUES (1, 'Miranda Priestly');

        SELECT value FROM solution;
```

RUN ⇩ RESET

value
Congrats, you found the brains behind the murder! Everyone in SQL City hails you as the greatest SQL detective of all time. Time to break out the champagne!

Short reflection on this exercise:

“As an avid Agatha Christie fan, I genuinely enjoyed this exercise.

The end was a bit too rushed, and I was expecting more suspects to be involved.

I will share this exercise with my teammates at work and challenge them to complete the exercise as well!”