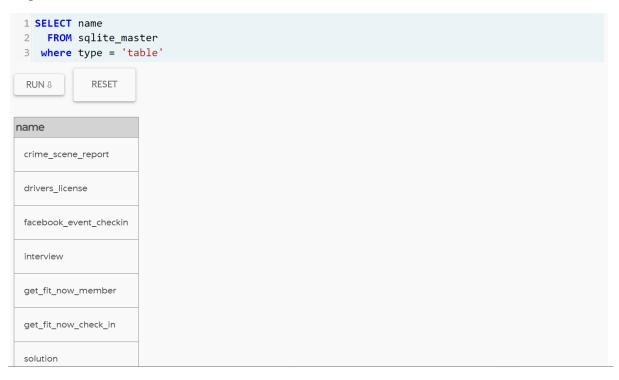# SQL Murder Mystery

A crime has taken place and the detective needs your help. The detective gave you the crime scene report, but you somehow lost it. You vaguely remember that the crime was a **murder** that occurred sometime on **Jan.15, 2018** and that it took place in **SQL City**. Start by retrieving the corresponding crime scene report from the police department's database.

Step 1:

```
1 SELECT name
2   FROM sqlite_master
3  where type = 'table'
```

RUN ⇓   RESET

name
crime_scene_report
drivers_license
facebook_event_checkin
interview
get_fit_now_member
get_fit_now_check_in
solution

Step 2:

```
1 SELECT sql
2   FROM sqlite_master
3  where name = 'crime_scene_report'
```

RUN ⇓   RESET

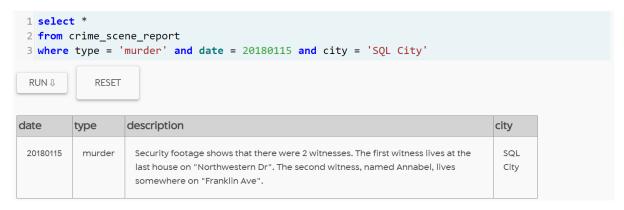| sql |
| --- |
| CREATE TABLE crime_scene_report (date integer, type text, description text, city text) |

Step 3: based on the information that we have, the date, city and type of crime we can get the description of the crime.

```
1 select *
2 from crime_scene_report
3 where type = 'murder' and date = 20180115 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

Step 4: now we know that the crime had two witness, lets look for them on person table.

```
1 select *
2 from person
3 where address_street_name = 'Northwestern Dr'
4 order by address_number desc
5 limit 1
```

RUN ⇩   RESET

id	name	license_id	address_number	address_street_name	ssn
14887	Morty Schapiro	118009	4919	Northwestern Dr	111564949

```
1
2 select *
3 from person
4 where address_street_name = 'Franklin Ave' and name like 'Annabel%'
5
6
```

RUN ⇩   RESET

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

Step 5: now that we found the witnesses lets see what they said about the crime on interview table.

```
1
2 select *
3 from interview
4 where person_id = 14887
5
6
```

RUN ⇩   RESET

person_id	transcript
14887	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".

```
1
2 select *
3 from interview
4 where person_id = 14887
5
6
```

RUN ⇩   RESET

person_id	transcript
14887	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".

Step 6: So the murderer a member of get fit now gym with bag number starting '48Z' and car with 'H42W' plate number.

Now lets look at gym table to find out the murderer using bag id.

```
1
2 select *
3 from get_fit_now_member
4 where id like '48Z%'
5
6
```

RUN ⇩   RESET

id	person_id	name	membership_start_date	membership_status
48Z38	49550	Tomas Baisley	20170203	silver
48Z7A	28819	Joe Germuska	20160305	gold
48Z55	67318	Jeremy Bowers	20160101	gold

Since the murderer is gold member so we found two.

To find the murderer we can use the plate number.

```
1
2 select *
3 from person
4 where id = 28819
5
6
```

RUN ⇩   RESET

id	name	license_id	address_number	address_street_name	ssn
28819	Joe Germuska	173289	111	Fisk Rd	138909730

So here I got the license id of the first person.

Step 7: now that we have ids of these two suspended people, we can get the killer by joining person and driver license table.

```
1
2 select *
3 from person as p
4 join drivers_license as d
5 on p.license_id = d.id
6 where p.id = '28819' or p.id = '67318'
7
8
```

RUN ⇩   RESET

id	name	license_id	address_number	address_street_name	ssn	id	age	heigl
67318	Jeremy Bowers	423327	530	Washington Pl, Apt 3A	871539279	423327	30	70

Step 8:

Check your solution

Did you find the killer?

```
1 INSERT INTO solution VALUES (1, 'Jeremy Bowers');
2
3        SELECT value FROM solution;
```

RUN ⇩   RESET

value
Congrats, you found the murderer! But wait, there's more... If you think you're up for a challenge, try querying the interview transcript of the murderer to find the real villain behind this crime. If you feel especially confident in your SQL skills, try to complete this final step with no more than 2 queries. Use this same INSERT statement with your new suspect to check your answer.

Step 9: to find the real villain, lets have a look at the statement of the murderer.

```
1
2 select *
3 from interview
4 where person_id = '67318'
5
6
```

RUN ⇩   RESET

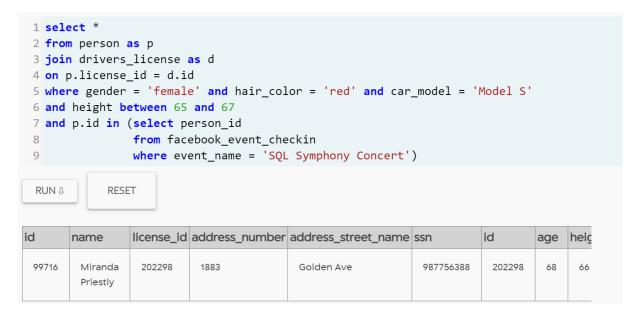| person_id	transcript
67318	I was hired by a woman with a lot of money. I don't know her name but I know she's around 5'5" (65") or 5'7" (67"). She has red hair and she drives a Tesla Model S. I know that she attended the SQL Symphony Concert 3 times in December 2017.

Step 10: from this statement we found the following information about the real villain:

- Gender= female,
- height= 65 or 67,
- hair color = red,
- car model Tesla model s
- event = SQL Symphony Concert 3 times in December 2017

```
2 select *
3 from person as p
4 join drivers_license as d
5 on p.license_id = d.id
6 where gender = 'female' and hair_color = 'red' and car_model = 'Model S'
7 and height between 65 and 67
8
9
10
```

RUN ⇩   RESET

id	name	license_id	address_number	address_street_name	ssn	id	age	heig
78881	Red Korb	918773	107	Camerata Dr	961388910	918773	48	65
90700	Regina George	291182	332	Maple Ave	337169072	291182	65	66
99716	Miranda Priestly	202298	1883	Golden Ave	987756388	202298	68	66

Now to check which person attended SQL Symphony Concert 3 times in December 2017

```
1 select *
2 from person as p
3 join drivers_license as d
4 on p.license_id = d.id
5 where gender = 'female' and hair_color = 'red' and car_model = 'Model S'
6 and height between 65 and 67
7 and p.id in (select person_id
8           from facebook_event_checkin
9           where event_name = 'SQL Symphony Concert')
```

RUN ⇓   RESET

id	name	license_id	address_number	address_street_name	ssn	id	age	heig
99716	Miranda Priestly	202298	1883	Golden Ave	987756388	202298	68	66

Check your solution

Did you find the killer?

```
1 INSERT INTO solution VALUES (1, 'Miranda Priestly');
2
3       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!