

# SQL Murder Mystery Solution

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## Given Information-

- The crime was a **murder**.
- Occurred sometime on **Jan.15, 2018**.
- Took place **in SQL City**.

## Exploring the Database Structure

```
SELECT name  
FROM sqlite_master  
where type = 'table';
```

name
crime_scene_report
drivers_license
facebook_event_checkin
interview
get_fit_now_member
get_fit_now_check_in
solution
income

person
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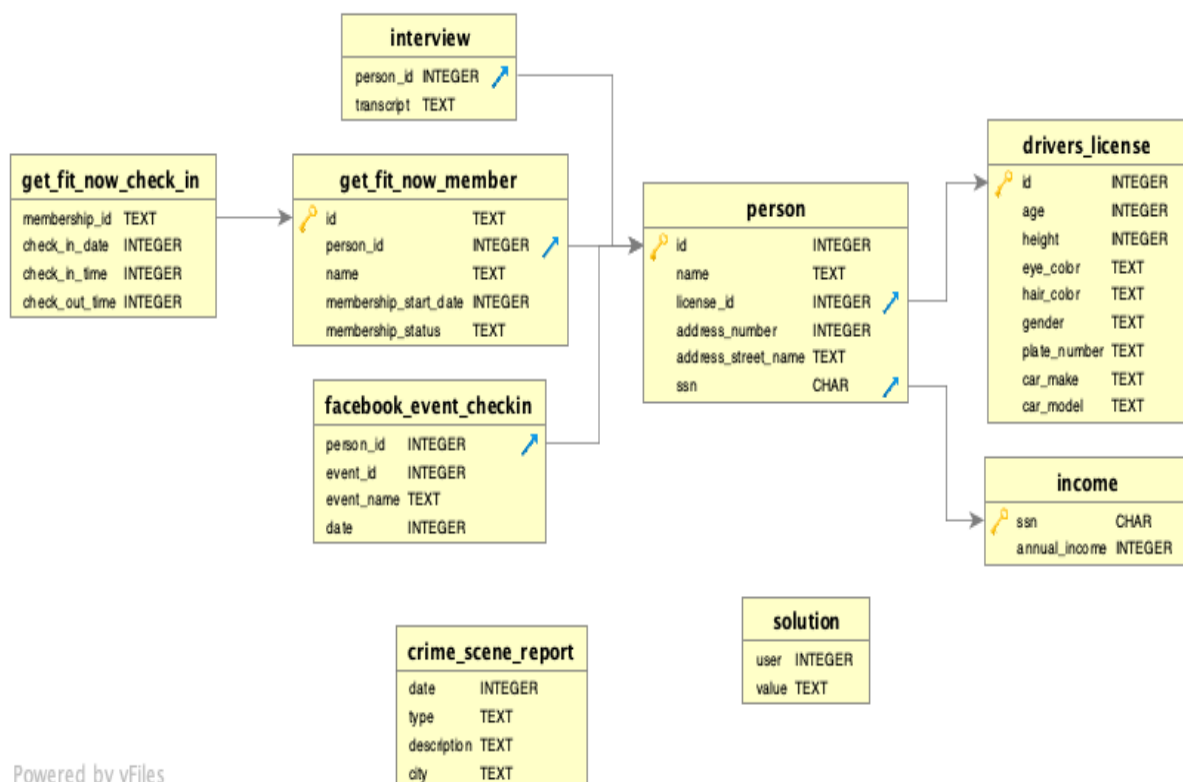
Besides knowing the table names, you need to know how each table is structured.

eg.

```
SELECT sql
FROM sqlite_master
where name = 'crime_scene_report'
```

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

Schema Diagram-



# SOLUTION

1. We start with a simple **SELECT** command to know how data is stored in **crime\_scene\_report**.

```
SELECT *  
FROM crime_scene_report;
```

2. Start exploring the **crime\_scene\_report** database with given information.

```
SELECT *  
FROM crime_scene_report  
WHERE date = 20180115  
AND type = "murder"  
AND city = "SQL City";
```

Result:

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

3. Now we have two witnesses and we will find more information about them from the person database.

First witness - lives at the **last house** on "**Northwestern Dr**".

```
SELECT *  
FROM person  
WHERE address_street_name="Northwestern Dr"  
ORDER BY address_number DESC;
```

Result-

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

Second Witness - named **Annabel**, lives somewhere on "**Franklin Ave**"

```
SELECT *  
FROM person  
WHERE name like "%Annabel%"  
AND address_street_name="Franklin Ave";
```

Result-

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

4. Now we will look at their interview using their id.

First Witness-

```
SELECT *  
FROM interview  
WHERE person_id = 14887;
```

Result-

person_id	transcript
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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".
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Second Witness-

```
SELECT *
FROM interview
WHERE person_id = 16371;
```

Result-

person_id	transcript
16371	I saw the murder happen, and I recognized the killer from my gym when I was working out last week on January the 9th.

5. Now we will go through their transcript and write down important information.

First Witness-

- **"Get Fit Now Gym"** bag
- membership number on the bag started with **"48Z"**
- gold members have those bags
- man got into a car with a plate that included **"H42W"**

Second Witness-

- saw the murder happen
- recognized the killer from my gym when I was working out last week on **January the 9th.**

6. Using the above information we will go through the get\_fit\_now\_member database.

- According to First Witness -

```
SELECT *  
FROM get_fit_now_member  
WHERE id like "48Z%"  
AND membership_status = "gold";
```

**Result-**

id	person_id	name	membership_start_date	membership_status
48Z7A	28819	Joe Germuska	20160305	gold
48Z55	67318	Jeremy Bowers	20160101	gold

Now we will look at their **license\_id** using **person\_id** so that we can find out their car plate number.

```
SELECT *  
FROM person  
WHERE id = 28819;
```

**Result-**

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

```
SELECT *  
FROM person  
WHERE id = 67318;
```

**Result-**

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

Using license\_id we will find their car's plate number from the drivers\_license database.

```
SELECT *
FROM drivers_license
WHERE id = 173289;
```

Result- No data returned

```
SELECT *
FROM drivers_license
WHERE id = 423327;
```

Result-

id	age	height	eye_color	hair_color	gender	plate_number	car_make	car_model
423327	30	70	brown	brown	male	0H42W2	Chevrolet	Spark LS

- According to Second Witness -

```
SELECT *
FROM get_fit_now_check_in
WHERE check_in_date = 20180109
AND (membership_id = "48Z7A" OR membership_id = "48Z55");
```

Result-

membership_id	check_in_date	check_in_time	check_out_time
---------------	---------------	---------------	----------------

48Z7A	20180109	1600	1730
48Z55	20180109	1530	1700

So both ,Joe Germuska and Jeremy Bowers, were working out that day when the second witness saw them.

When we checked for number plate,  
For Joe Germuska - No data returned

But for Jeremy Bowers -

id	age	height	eye_color	hair_color	gender	plate_number	car_make	car_model
423327	30	70	brown	brown	male	0H42W2	Chevrolet	Spark LS

His car has the same plate number as per First Witness Interview.  
We can conclude that **Jeremy Bowers** is our culprit.

## Check for Solution-

**INSERT INTO solution VALUES (1, 'Jeremy Bowers');**

**SELECT value FROM solution;**

Result-

value
<p>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.</p>



**But there is more-**

## **1. Interview of Culprit-**

```
SELECT *  
FROM person  
WHERE name = "Jeremy Bowers";
```

Result-

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

```
SELECT *  
FROM interview  
WHERE person_id = 67318;
```

Result-

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.

Important Information-

- around 5'5" (65") or 5'7" (67")
- has red hair
- drives a Tesla Model S
- attended the SQL Symphony Concert 3 times in December 2017

**2. We will search for the real person behind the murder through this information.**

```

SELECT *
FROM drivers_license
AND car_make = "Tesla"
AND car_model = "Model S"
AND hair_color = "red"
AND gender = "female";

```

Result-

id	age	height	eye_color	hair_color	gender	plate_number	car_make	car_model
202298	68	66	green	red	female	500123	Tesla	Model S
291182	65	66	blue	red	female	08CM64	Tesla	Model S
918773	48	65	black	red	female	917UU3	Tesla	Mod

3. Retrieving id and name from person using licence\_id.

```

SELECT *
FROM person
WHERE license_id = 202298
OR license_id = 291182
OR license_id = 918773;

```

Result-

id	name	license_id	address_number	address_street_name	ssn
78881	Red Korb	918773	107	Camerata Dr	961388910
90700	Regina George	291182	332	Maple Ave	337169072

99716	Miranda Priestly	202298	1883	Golden Ave	987756388
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```

SELECT *
FROM facebook_event_checkin
JOIN person
ON person_id = id
WHERE id= 78881
OR id= 90700
OR id= 99716;

```

Result-

**person\_id- 99716**

**Attended**

**SQL Symphony Concert**

**THREE TIMES.**

```

SELECT *
FROM person
WHERE id = 99716;

```

Result-

id	name	license_id	address_number	address_street_name	ssn
99716	Miranda Priestly	202298	1883	Golden Ave	987756388

We can conclude that **Miranda Priestly** is behind this murder.

## Check solution-

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

**SELECT value FROM solution;**

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!