

# Solving the SQL Murder Mystery

Instead of solving the murder on the website, the database file was downloaded, converted to a sql file through SQLite Database Browser.

The exported SQL syntax was edited slightly to work on the MS-SQL server. The syntax files are attached in the files.

Let us begin!

*There's been a Murder in SQL City! 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.*

```
4
5 SELECT * FROM CRIME_SCENE_REPORT
6 WHERE DATE=20180115
7 AND CITY LIKE 'SQL CITY'
8 AND TYPE LIKE 'MURDER'
9
```

date	type	description	city
20180115	murder	Security footage shows that there were 2 witness...	SQL City

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".

Let us now look into the two witnesses:

```
12
13 SELECT * FROM PERSON
14 WHERE ADDRESS_STREET_NAME LIKE 'NORTHWESTERN DR'
15 ORDER BY ADDRESS_NUMBER ASC
16
```

	id	name	license_id	address_number	address_street_name	ssn
30	34155	Allyson Lazenson	814209	2840	Northwestern Dr	991150469
31	59307	Cyril Yongue	753524	2903	Northwestern Dr	866057839
32	98593	Jonah Toner	578982	2947	Northwestern Dr	745853548
33	44004	Alison Eska	327797	2951	Northwestern Dr	306417867
34	68690	Yer Modest	852404	3046	Northwestern Dr	419238039
35	51114	Christena Saffell	814284	3055	Northwestern Dr	247657547
36	23044	Val Portlock	924989	3143	Northwestern Dr	100593316
37	28360	Rashad Cascone	924517	3212	Northwestern Dr	838907424
38	53076	Boris Bijou	664914	3327	Northwestern Dr	401191868
39	36378	Freddie Ellzey	267882	3449	Northwestern Dr	474117596
40	87456	Leonora Wolfsberger	215868	3483	Northwestern Dr	565203106
41	93509	Emmitt Aceuedo	916706	3491	Northwestern Dr	979073160
42	19420	Cody Schiel	890431	3524	Northwestern Dr	947110049
43	96595	Coretta Cubie	303645	3631	Northwestern Dr	378403829
44	73368	Torie Thalmann	773862	3697	Northwestern Dr	341559436
45	53890	Sophie Tiberio	957671	3755	Northwestern Dr	442830147
46	17729	Lasonya Wildey	439686	3824	Northwestern Dr	917817122
47	14887	Morty Schapiro	118009	4919	Northwestern Dr	111564949

```
19 SELECT * FROM PERSON
20 WHERE ADDRESS_STREET_NAME LIKE 'FRANKLIN AVE'
21 AND NAME LIKE '%ANNABEL%'
```

	id	name	license_id	address_number	address_street_name	ssn
1	16371	Annabel Miller	490173	103	Franklin Ave	318771143

Since these are the two witnesses, let us now investigate if they gave an interview:

```
27 SELECT * FROM INTERVIEW
28 WHERE PERSON_ID=14887
29 OR PERSON_ID=16371
```

--Morty's interview:  
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".

--Annabel's interview:  
I saw the murder happen, and I recognized the killer from my gym when I was working out last week on January the 9th.

Here, we have several clues regarding the killer's gym membership, car license number and the killer's gym check-in on January 9th.

```
42 SELECT * FROM get_fit_now_member
43 WHERE ID LIKE '48Z%'
44 AND MEMBERSHIP_STATUS LIKE 'GOLD'
```

Results Messages					
	id	person_id	name	membership_start_date	membership_status
1	48Z55	67318	Jeremy Bowers	20160101	gold

Let us cross check Jeremy’s car details as well:

```
50 SELECT * FROM PERSON
51 WHERE ID=67318
52
53 SELECT * FROM DRIVERS_LICENSE
54 WHERE ID=423327
55
56 --Crosschecking the witness' description of car plate number
57 SELECT * FROM DRIVERS_LICENSE
58 WHERE PLATE_NUMBER LIKE '%H42W%'
59
```

Results Messages									
	id	name	license_id	address_number	address_street_name	ssn			
1	67318	Jeremy Bowers	423327	530	Washington Pl, Apt 3A	871539279			

	id	age	height	eye_color	hair_color	gender	plate_number	car_make	car_model
1	423327	30	70	brown	brown	male	0H42W2	Chevrolet	Spark LS

	id	age	height	eye_color	hair_color	gender	plate_number	car_make	car_model
1	183779	21	65	blue	blonde	female	H42W0X	Toyota	Prius
2	423327	30	70	brown	brown	male	0H42W2	Chevrolet	Spark LS
3	664760	21	71	black	black	male	4H42WR	Nissan	Altima

After investigating all of Morty’s claims, our prime suspect is a man named Jeremy Bowers.

Let us now crosscheck Annabel’s claims that she saw him at the gym on Jan 9<sup>th</sup> as well:

```
64 |
65 | SELECT * FROM get_fit_now_check_in
66 | WHERE CHECK_IN_DATE=20180109
```

	membership_id	check_in_date	check_in_time	check_out_time
1	X0643	20180109	957	1164
2	UK1F2	20180109	344	518
3	XTE42	20180109	486	1124
4	1AE2H	20180109	461	944
5	6LSTG	20180109	399	515
6	7MWHJ	20180109	273	885
7	GE5Q8	20180109	367	959
8	48Z55	20180109	1530	1700
9	90081	20180109	1600	1700

(highlighting Jeremy’s checkin)

As a final confirmation, let us check where the witnesses themselves were on the day of the murder:

```
72 | SELECT * FROM facebook_event_checkin
73 | WHERE PERSON_ID=16371 -- Annabel (witness)
74 | OR PERSON_ID= 14887 -- Morty (witness)
75 | OR PERSON_ID= 67318 -- Jeremy (suspect)
```

	person_id	event_id	event_name	date
1	14887	4719	The Funky Grooves Tour	20180115
2	16371	4719	The Funky Grooves Tour	20180115
3	67318	4719	The Funky Grooves Tour	20180115
4	67318	1143	SQL Symphony Concert	20171206

On January 15<sup>th</sup>, 2018, the two witnesses and the suspect were all at the Funky Grooves Tour.

All the evidence points towards Mr. Bowers as our killer. He seems to be a fan of musical events as he attended a Symphony Concert a month earlier as well.

Let us confirm if it is our killer!

```
80 | INSERT INTO solution VALUES (1, 'Jeremy Bowers');
81 | SELECT value FROM solution;
82 |
```

	value
1	Congrats, you found the murderer! But wait, there's more....

--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.  
Use this same INSERT statement with your new suspect to check your answer.

**PLOT TWIST?!** The real mastermind was someone else? Let us find the culprit starting from Jeremy’s interview statement:

```
SELECT * FROM INTERVIEW
WHERE PERSON_ID=67318
```

Results Messages		
	person_id	transcript
1	67318	I was hired by a woman with a lot of money. I do...

--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.

Let us now investigate Jeremy’s testimony: -

```
SELECT * FROM DRIVERS_LICENSE
WHERE GENDER LIKE 'FEMALE'
AND HAIR_COLOR LIKE 'RED'
AND CAR_MAKE LIKE 'TESLA'
AND CAR_MODEL LIKE 'MODEL S'
```

Results Messages									
	id	age	height	eye_color	hair_color	gender	plate_number	car_make	car_model
1	202298	68	66	green	red	female	500123	Tesla	Model S
2	291182	65	66	blue	red	female	08CM64	Tesla	Model S
3	918773	48	65	black	red	female	917UU3	Tesla	Model S

We have narrowed our search to three people. Let us investigate all of them now:

```
SELECT * FROM PERSON
WHERE LICENSE_ID=202298
OR LICENSE_ID=291182
OR LICENSE_ID=918773
```

Results Messages						
	id	name	license_id	address_number	address_street_name	ssn
1	78881	Red Korb	918773	107	Camerata Dr	961388910
2	90700	Regina George	291182	332	Maple Ave	337169072
3	99716	Miranda Priestly	202298	1883	Golden Ave	987756388

Jeremy claimed the woman was wealthy. Let us look into their incomes through their social security numbers now:

```
SELECT * FROM INCOME
WHERE SSN=961388910
OR SSN=337169072
OR SSN=987756388
```

	ssn	annual_income
1	961388910	278000
2	987756388	310000

According to our investigations, out of the two incomes that came back in our search result, Miranda Priestly’s income is the highest at 310,000 per annum. The other result (Red Korb) also has significant wealth at 278,000 per annum.

Just to be on the safe side, we will pin point our suspect after investigating Jeremy’s last claim:

```
SELECT * FROM facebook_event_checkin
WHERE EVENT_NAME LIKE 'SQL SYMPHONY CONCERT'
AND DATE LIKE '201712%'
AND (PERSON_ID = 78881 --redkorb
OR PERSON_ID=99716) --miranda
```

	person_id	event_id	event_name	date
1	99716	1143	SQL Symphony Concert	20171206
2	99716	1143	SQL Symphony Concert	20171212
3	99716	1143	SQL Symphony Concert	20171229

All the evidence points towards Miranda Priestly as our real mastermind!

It is interesting to note from our earlier investigation that both Jeremy and Miranda attended the SQL Symphony Concert on 6<sup>th</sup> December 2017. Perhaps this is where he was hired.

Let us confirm our evidence:

```
INSERT INTO solution VALUES (1, 'Miranda Priestly');
SELECT value FROM solution;
```

	value
1	Congrats, you found the brains behind the murder! ...

--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!

Our mastermind was Miranda Priestly! Turns out, the devil does wear Prada and enjoys SQL Symphony concerts!