



SQL Murder Mystery

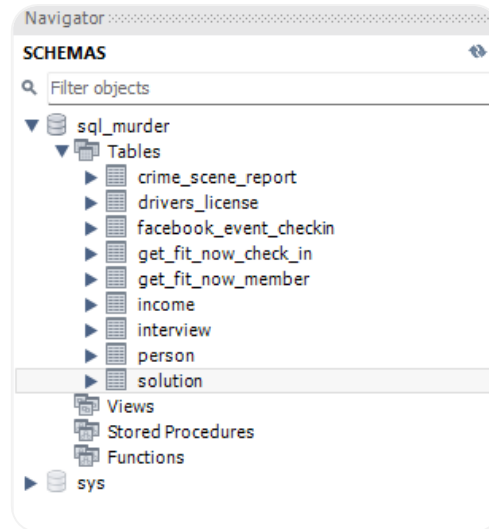
Link: <https://mystery.knightlab.com/>

Stepwise Query
On MySQL Workbench



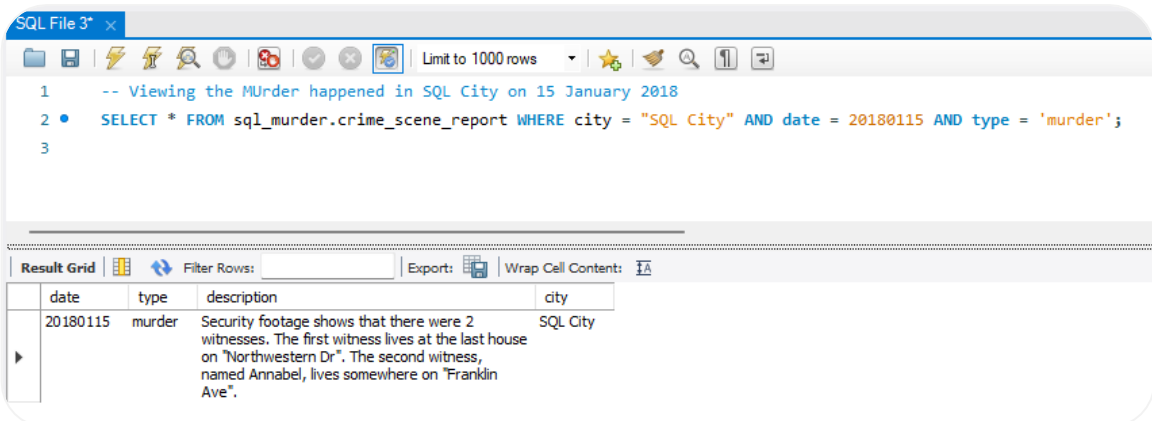
Week 5

After Importing the Database, we will verify the tables present in schema



Till now we can only remember the date and place of murder.

- Date : 15 January, 2018
- Place : SQL City

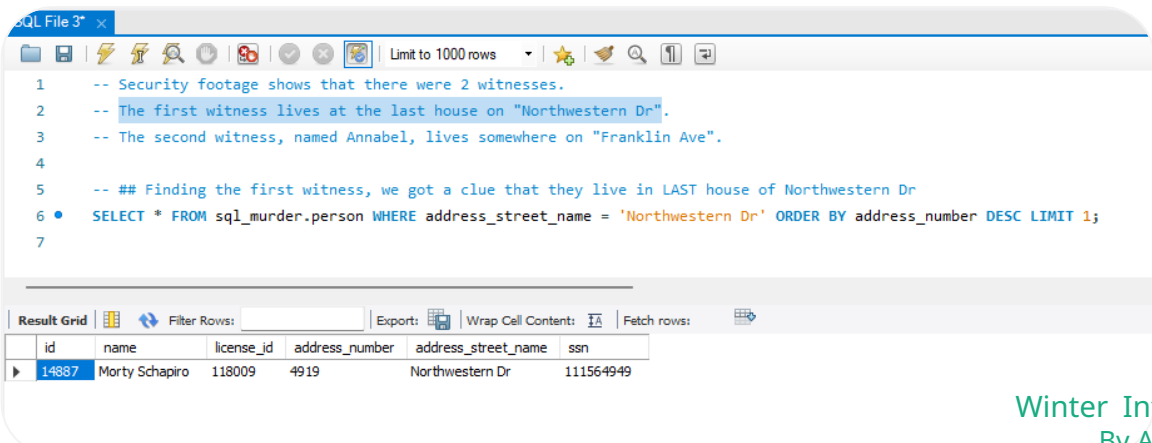


In order to find the first witness, we will search database with the matching parameters.

First witness lives on LAST house of Northwestern Dr.

To find the person we will perform the query with following steps:

- Select the person table
- Find address_street_name - Northwestern Dr
- Find the first name in Descending order



In order to find the second witness, we will search database with the matching parameters.
First witness lives on somewhere in Franklin Ave and her name is Annabel.
To find the person we will perform the query with following steps:

- Select the person table
- Find address_street_name - Franklin Ave
- Find the name like Annabel

```

1  -- Security footage shows that there were 2 witnesses.
2  -- The first witness lives at the last house on "Northwestern Dr".
3  -- The second witness, named Annabel, lives somewhere on "Franklin Ave".
4
5  -- ## Finding the second witness, we got a clue that they live in Franklin Ave and her name is Annabel
6  • SELECT * FROM sql_murder.person WHERE address_street_name = 'Franklin Ave' AND name LIKE '%Annabel%';
7

```

Result Grid

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

After retrieving their id, hear about their interview and note for clues.
We will note the transcript of witnesses of id 14887 and 16371.

```

1  -- Now listening to the interview of two persons with ID 14887,16371
2  • SELECT * FROM sql_murder.interview WHERE person_id IN (14887,16371);
3

```

Result Grid

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 "482". Only gold members have those bags. The man got into a car with a plate that included "H42W".
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.

According to first witness, the culprit has following characteristics:

- Gold Member of Get Fit Now Gym
- Bag with membership number starting with 482
- Has car number plate including H42W
- Is a male

To find the person we will perform the query with following steps:

1. Select the get_fit_now_member table
2. Find membership_status - Gold
3. Find the id like 482

SQL File 3*

```

1 -- ID 14887 Keynotes : Gold Member of GET FIT NOW GYM.
2 -- Membership Number Starting with 48Z
3 -- Has car with number plate including H42W
4 -- ID 16371 Keynotes : Gym Checkin on 9 Jan 2018
5
6 -- Validating data with the notes of witness 1 with GYM Details
7 • SELECT * FROM sql_murder.get_fit_now_member WHERE membership_status = 'gold' AND id LIKE '48Z%';
8

```

Result Grid

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

4. Select drivers_license table.
5. Find plate_number like H42W
6. The culprit should be male

SQL File 3*

```

1 -- ID 14887 Keynotes : Gold Member of GET FIT NOW GYM.
2 -- Membership Number Starting with 48Z
3 -- Has car with number plate including H42W
4 -- ID 16371 Keynotes : Gym Checkin on 9 Jan 2018
5
6 -- Validating data with the notes of witness 1 with CAR Details
7 • SELECT * FROM sql_murder.drivers_license WHERE plate_number LIKE '%H42W%' AND gender = 'male';
8

```

Result Grid

	id	age	height	eye_color	hair_color	gender	plate_number	car_make	car_model
▶	423327	30	70	brown	brown	male	0H42W2	Chevrolet	Spark LS
	664760	21	71	black	black	male	4H42WR	Nissan	Altima

- Inner joining get_fit_now_member with drivers_license table.
- Search the culprit over same parameters with witness 1's note.

SQL File 3*

```

1 -- ID 14887 Keynotes : Gold Member of GET FIT NOW GYM.
2 -- Membership Number Starting with 48Z
3 -- Has car with number plate including H42W
4 -- ID 16371 Keynotes : Gym Checkin on 9 Jan 2018
5
6 -- Validating data with the notes of witness 1 with CAR and GYM Details
7 • SELECT * FROM sql_murder.person as p INNER JOIN sql_murder.drivers_license as dl
8 on p.license_id = dl.id WHERE plate_number LIKE '%H42W%' AND gender = 'male';
9

```

Result Grid

	id	name	license_id	address_number	address_street_name	ssn	id	age	height	eye_color	hair_color	gender	plate_number	car_make	car_model
▶	51739	Tushar Chandra	664760	312	Phi St	137882671	664760	21	71	black	black	male	4H42WR	Nissan	Altima
	67318	Jeremy Bowers	423327	530	Washington Pl, Apt 3A	871539279	423327	30	70	brown	brown	male	0H42W2	Chevrolet	Spark LS

- According to second witness, the culprit has following characteristics:
- Member of Get Fit Now Gym
 - He checked in Gym on 9 Jan 2018

To find the person we will perform the query with following steps:

1. Select the get_fit_now_check_in table
2. Find date - 20180109

SQL File 3*

```

1 -- ID 14887 Keynotes : Gold Member of GET FIT NOW GYM.
2 --
3 -- Membership Number Starting with 48Z
4 -- ID 16371 Keynotes : Gym Checkin on 9 Jan 2018
5
6 -- Validating data with the notes of witness 2 with GYM CHECKIN Details
7 • SELECT * FROM sql_murder.get_fit_now_check_in WHERE check_in_date = 20180109;
8

```

Result Grid

membership_id	check_in_date	check_in_time	check_out_time
X0643	20180109	957	1164
UK1F2	20180109	344	518
XTE42	20180109	486	1124
1AE2H	20180109	461	944
6LSTG	20180109	399	515
7MWHJ	20180109	273	885
GE5Q8	20180109	367	959
48Z7A	20180109	1600	1730
48Z55	20180109	1530	1700
90081	20180109	1600	1700

Finding out the final culprit after validating the notes given by two witnesses.

Using the Inner Join, we find the actual culprit of the murder.

Murder_Mystery_Culprit SQL File 4*

```

1 -- ID 14887 Keynotes : Gold Member of GET FIT NOW GYM.
2 --
3 -- Membership Number Starting with 48Z
4 -- ID 16371 Keynotes : Gym Checkin on 9 Jan 2018
5
6 -- Validating data with the notes of 2 witnesses : Looking after the common factor of GYM, Car Details and GYM Checking
7 • SELECT p.*,gfn.* FROM sql_murder.person as p
8 INNER JOIN sql_murder.drivers_license as dl on dl.id = p.license_id
9 INNER JOIN sql_murder.get_fit_now_member as gfn on p.id = gfn.person_id
10 INNER JOIN sql_murder.get_fit_now_check_in as gfc on gfc.membership_id = gfn.id
11 WHERE plate_number LIKE '%H42W%' AND gender = 'male' AND membership_status = 'gold'
12 AND gfn.id LIKE '48Z%' AND check_in_date = 20180109;
13

```

Result Grid

id	name	license_id	address_number	address_street_name	ssn	id	person_id	name	membership_start_date	membership_status
67318	Jeremy Bowers	423327	530	Washington Pl, Apt 3A	871539279	48Z55	67318	Jeremy Bowers	20160101	gold

Checking for JEREMY BOWERS in solution

Check your solution

Did you find the killer?

- ```

1 INSERT INTO solution VALUES (1, 'Jeremy Bowers');
2 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.

To find the mastermind behind all these mess, we need to interview JEREMY BOWERS  
We will check for his transcripts in interview table

The screenshot shows a database window with two tabs: 'Murder\_Mystery\_Culprit' and 'Murder\_Mystery\_Master\_Mind'. The active tab is 'Murder\_Mystery\_Master\_Mind'. The query editor shows the following SQL query:

```
-- Interviewing the culprit of the murder
SELECT * FROM sql_murder.interview WHERE person_id = 67318;
```

The result grid shows the following data:

| 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. |

As per JEREMY BOWERS' interview, he concluded the characteristics of the mastermind.

The characteristic:

- Gender - Female
- Height - Between 65" and 67"
- Hair - Red
- Car - Tesla Model S
- Concert - SQL Symphony Concert [3 Times in December]

To find the person we will perform the query with following steps:

1. Select the table drivers\_license
2. Search for hair\_color - red
3. Search for car\_make - Tesla and car\_model - Model S
4. Ranging the age between 65" and 67"

The screenshot shows a database window with two tabs: 'Murder\_Mystery\_Culprit' and 'Murder\_Mystery\_Master\_Mind\*'. The active tab is 'Murder\_Mystery\_Master\_Mind\*'. The query editor shows the following SQL query:

```
-- Keynotes from the interview : Gender - Female
-- Height - Between 65" and 67"
-- Hair - Red
-- Car - Tesla Model S
-- Concert - SQL Symphony Concert x3 in December

-- Validating the data using details such as CAR Details, Height and Hair Color
SELECT * FROM sql_murder.drivers_license WHERE car_make = 'Tesla' AND car_model = 'Model S'
AND hair_color = 'red' AND height BETWEEN 65 AND 67;
```

The result grid shows the following data:

| 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    | Model S   |

5. Select facebook\_event\_checkin
6. Search for event\_name – SQL Symphony Concert
7. Ranging the date between 20171201 and 20171231

Murder\_Mystery\_Culprit Murder\_Mystery\_Master\_Mind

Limit to 1000 rows

```

1 -- Keynotes from the interview : Gender - Female
2 -- Height - Between 65" and 67"
3 -- Hair - Red
4 -- Car - Tesla Model S
5 -- Concert - SQL Symphony Concert x3 in December
6
7 -- Validating the data using CONCERT CHECKIN
8 • SELECT * FROM sql_murder.facebook_event_checkin WHERE event_name = 'SQL Symphony Concert' AND date BETWEEN 20171201 AND 20171231;

```

Result Grid Filter Rows: Export: Wrap Cell Content: IA

| person_id | event_id | event_name           | date     |
|-----------|----------|----------------------|----------|
| 62596     | 1143     | SQL Symphony Concert | 20171225 |
| 19260     | 1143     | SQL Symphony Concert | 20171214 |
| 58898     | 1143     | SQL Symphony Concert | 20171220 |
| 69699     | 1143     | SQL Symphony Concert | 20171214 |
| 19292     | 1143     | SQL Symphony Concert | 20171213 |
| 43366     | 1143     | SQL Symphony Concert | 20171207 |
| 92343     | 1143     | SQL Symphony Concert | 20171212 |
| 28582     | 1143     | SQL Symphony Concert | 20171220 |
| 28582     | 1143     | SQL Symphony Concert | 20171215 |
| 81526     | 1143     | SQL Symphony Concert | 20171202 |
| 24397     | 1143     | SQL Symphony Concert | 20171208 |
| 11173     | 1143     | SQL Symphony Concert | 20171223 |
| 79312     | 1143     | SQL Symphony Concert | 20171203 |
| 69325     | 1143     | SQL Symphony Concert | 20171206 |
| 24556     | 1143     | SQL Symphony Concert | 20171207 |
| 24556     | 1143     | SQL Symphony Concert | 20171221 |

We will now Inner Join the person, drivers\_license, facebook\_event\_checkin and income tables on common parameters to find mastermind.

Also check if the person has a good annual\_income.

Murder\_Mystery\_Culprit Murder\_Mystery\_Master\_Mind

Limit to 1000 rows

```

1 -- Keynotes from the culprit interview : Gender - Female
2 -- Height - Between 65" and 67"
3 -- Hair - Red
4 -- Car - Tesla Model S
5 -- Concert - SQL Symphony Concert x3 in December
6
7 -- Validating the data using CONCERT CHECKIN, CAR DETAILS and PERSONAL CHARACTERISTICS
8 • SELECT p.*, dl.car_make, dl.car_model, dl.hair_color, dl.height
9 FROM sql_murder.person as p
10 INNER JOIN sql_murder.drivers_license as dl on dl.id = p.license_id
11 INNER JOIN sql_murder.facebook_event_checkin as fec on p.id = fec.person_id
12 WHERE car_make = 'Tesla' AND car_model = 'Model S' AND hair_color = 'red' AND height BETWEEN 65 AND 67;

```

Result Grid Filter Rows: Export: Wrap Cell Content: IA

| id    | name             | license_id | address_number | address_street_name | ssn       | car_make | car_model | hair_color | height |
|-------|------------------|------------|----------------|---------------------|-----------|----------|-----------|------------|--------|
| 99716 | Miranda Priestly | 202298     | 1883           | Golden Ave          | 987756388 | Tesla    | Model S   | red        | 66     |
| 99716 | Miranda Priestly | 202298     | 1883           | Golden Ave          | 987756388 | Tesla    | Model S   | red        | 66     |
| 99716 | Miranda Priestly | 202298     | 1883           | Golden Ave          | 987756388 | Tesla    | Model S   | red        | 66     |

## Checking for MIRANDA PRIESTLY in solution

### Check your solution

Did you find the killer?

- 1 **INSERT INTO** solution **VALUES** (1, 'Miranda Priestly');
- 2 **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!

## MySQL Workbench

The screenshot shows the MySQL Workbench interface with the 'Murder\_Mystery\_Master\_Mind' database selected. The query editor displays a complex SQL query with 13 lines. The query filters for a person named 'Jeremy Bowers' based on various criteria including license, membership, and car details. The 'Result Grid' shows one result row for 'Jeremy Bowers'.

```

1 -- ID 14887 Keynotes : Gold Member of GET FIT NOW GYM.
2 -- Membership Number Starting with 482
3 -- Has car with number plate including H42W
4 -- ID 16371 Keynotes : Gym Checkin on 9 Jan 2018
5
6 -- Validating data with the notes of 2 witnesses : Looking after the common factor of GYM, Car Details and GYM Checking
7 • SELECT p.*,gfn.* FROM sql_murder.person as p
8 INNER JOIN sql_murder.drivers_license as dl on dl.id = p.license_id
9 INNER JOIN sql_murder.get_fit_now_member as gfn on p.id = gfn.person_id
10 INNER JOIN sql_murder.get_fit_now_check_in as gfc on gfc.membership_id = gfn.id
11 WHERE plate_number LIKE '%H42W%' AND gender = 'male' AND membership_status = 'gold'
12 AND gfn.id LIKE '482%' AND check_in_date = 20180109;
13

```

| id    | name          | license_id | address_number | address_street_name   | ssn       | id    | person_id | name          | membership_start_date | membership_status |
|-------|---------------|------------|----------------|-----------------------|-----------|-------|-----------|---------------|-----------------------|-------------------|
| 67318 | Jeremy Bowers | 423327     | 530            | Washington Pl, Apt 3A | 871539279 | 48255 | 67318     | Jeremy Bowers | 20160101              | gold              |

The screenshot shows the MySQL Workbench interface with the 'Murder\_Mystery\_Culprit' database selected. The query editor displays a complex SQL query with 12 lines. The query filters for a person named 'Miranda Priestly' based on various criteria including license, car details, and concert attendance. The 'Result Grid' shows three result rows for 'Miranda Priestly'.

```

1 -- Keynotes from the culprit interview : Gender - Female
2 -- Height - Between 65" and 67"
3 -- Hair - Red
4 -- Car - Tesla Model S
5 -- Concert - SQL Symphony Concert x3 in December
6
7 -- Validating the data using CONCERT CHECKIN, CAR DETAILS and PERSONAL CHARACTERISTICS
8 • SELECT p.*, dl.car_make, dl.car_model, dl.hair_color, dl.height
9 FROM sql_murder.person as p
10 INNER JOIN sql_murder.drivers_license as dl on dl.id = p.license_id
11 INNER JOIN sql_murder.facebook_event_checkin as fec on p.id = fec.person_id
12 WHERE car_make = 'Tesla' AND car_model = 'Model S' AND hair_color = 'red' AND height BETWEEN 65 AND 67;

```

| id    | name             | license_id | address_number | address_street_name | ssn       | car_make | car_model | hair_color | height |
|-------|------------------|------------|----------------|---------------------|-----------|----------|-----------|------------|--------|
| 99716 | Miranda Priestly | 202298     | 1883           | Golden Ave          | 987756388 | Tesla    | Model S   | red        | 66     |
| 99716 | Miranda Priestly | 202298     | 1883           | Golden Ave          | 987756388 | Tesla    | Model S   | red        | 66     |
| 99716 | Miranda Priestly | 202298     | 1883           | Golden Ave          | 987756388 | Tesla    | Model S   | red        | 66     |