

SQL Murder Mystery

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In the description, it is mentioned that the **murder** crime occurred on **15 Jan 2018** in **SQL City**. Let's dig into the crime scene report with the clues obtained for more information.

Step 1 – Check the crime scene report for more clues

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

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

By including all the clues in the filter, we gained some information on two witnesses who might saw the murderer. One lives at the **last house** on '**Northwestern Dr**' while another witness, named **Annabel**, lives somewhere on '**Franklin Ave**'.

Step 2 – Check on the witnesses mentioned in the description

Witness 1

```
SELECT p.address_number, p.id, p.name, p.address_street_name, i.transcript
FROM person p INNER JOIN interview I ON p.id = i.person_id
WHERE p.address_street_name = 'Northwestern Dr'
ORDER BY p.address_number DESC
```

Since the data for 'interview' and 'person' are stored in different tables, both tables shall be joined on attribute 'id' to create a new table with both personal details and interview records. The order of the new table is arranged by address number in descending order to get the last house as the first to be shown.

address_number	id	name	address_street_name	transcript
4919	14887	Morty Schapiro	Northwestern Dr	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".

Clue from the first witness, Morty Schapiro: A **man** with a '**Get Fit Now Gym**' bag with the membership number starting with '**48Z**' which only can be obtained by **gold** members, get into a car with '**H42W**' included in the plate number.

Witness 2

```
SELECT p.id, p.name, p.address_street_name, i.transcript
FROM person p INNER JOIN interview I ON p.id = i.person_id
WHERE p.name LIKE 'Annabel%' AND p.address_street_name = 'Franklin Ave'
```

A new table is created with a similar process as Witness 1 and included all the clues in the filter to search for the interview record of the second witness.

id	name	address_street_name	transcript
16371	Annabel Miller	Franklin Ave	I saw the murder happen, and I recognized the killer from my gym when I was working out last week on January the 9th.

Clue from the second witness, Annabel Miller: The killer is the same guy who visited the **gym** on **January 9**.

Step 3 – Looking for suspects from gym data

```
SELECT m.id, m.name, m.membership_status, c.check_in_date
FROM get_fit_now_member m LEFT JOIN get_fit_now_check_in c ON m.id = c.membership_id
WHERE m.id LIKE '48Z%' AND m.membership_status = 'gold' AND c.check_in_date = '20180109'
```

From the witness records, it is known that the suspect is one of the gym members. By joining the 'get_fit_now_member' and 'get_fit_now_check_in' tables, we could detect the possible culprits by filtering with the clues obtained.

id	name	membership_status	check_in_date
48Z7A	Joe Germuska	gold	20180109
48Z55	Jeremy Bowers	gold	20180109

It seems two persons match the characteristics mentioned by the witnesses. Another filtering is needed to identify the correct culprit.

Step 4 – Filtering suspects through plate number

```
SELECT p.name, d.plate_number
FROM person p INNER JOIN drivers_license d ON p.license_id = d.id
WHERE p.name LIKE 'J%' AND d.plate_number LIKE '%H42W%'
```

Another clue we could use is the plate number mentioned by the first witness. By joining the 'person' and 'driver_license' tables, it is possible to obtain the name of the person with the respective car plate number.

name	plate_number
Jeremy Bowers	0H42W2

Ta-da, Jeremy Bowers is the culprit! Let's check if our solution is correct.

Step 5 – Insert the name to check if the solution is correct

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

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.

Voila! We caught the murderer. But wait, it seems there is a mastermind behind the scene. Let's try to discover the truth within 2 queries.

Step 6 – Retrieve the interview transcript of the murderer

```
SELECT p.name, i.transcript  
FROM person p INNER JOIN interview i ON p.id = i.person_id  
WHERE p.name = 'Jeremy Bowers'
```

name	transcript
Jeremy Bowers	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.

Wow! Some decent clues are provided by the murderer. A **red hair woman** with a height of around **65" to 67"** who drives a **Tesla Model S**, attended **SQL Symphony Concert three times** in **December 2017**.

Step 7 – Searching for the mastermind

```
SELECT p.name, d.height, d.hair_color, d.gender, d.car_make, d.car_model, f.event_name, f.date  
FROM (person p INNER JOIN drivers_license d ON p.license_id = d.id)  
LEFT JOIN facebook_event_checkin f ON f.person_id = p.id  
WHERE d.hair_color = 'red' AND d.gender = 'female'  
AND d.car_make = 'Tesla' AND d.car_model = 'Model S'  
AND f.event_name = 'SQL Symphony Concert' AND f.date LIKE '201712%'
```

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

By combining all the tables (person, drivers_license, facebook_event_checkin) and all the clues for filtering, Miranda Priestly matched with the details provided by the murderer. Let's check if we are having the correct answer.

Step 8 – Insert the name to check if the solution is correct

```
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!

Yay, you found the mastermind! Now the mystery is solved!