

## Assignment: 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.

**Let's Start the Investigation:**

**Fact: 1**

**SELECT \*FROM crime\_scene\_report  
WHERE type = 'murder' AND city = 'SQL City' AND date = 20180115**

DB Browser for SQLite - C:\Users\Mohammed Saif Wasay\Downloads\sql-murder-mystery-solution.sqbpro [sql-murder-mys

File Edit View Tools Help

New Database Open Database Write Changes Revert Changes Open Project Save Project

Database Structure Browse Data Edit Pragmas Execute SQL

SQL 1 SQL 2

```
1 SELECT *
2 FROM crime_scene_report
3 WHERE type = 'murder' AND city = 'SQL City' AND date = 20180115
4
```

	date	type	description	city
1	20180115	murder	Security footage shows that there we...	SQL City

Execution finished without errors.  
Result: 1 rows returned in 7ms  
At line 1:  
SELECT \*  
FROM crime\_scene\_report  
WHERE type = 'murder' AND city = 'SQL City' AND date = 20180115

## Fact: 2

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

DB Browser for SQLite - C:\Users\Mohammed Saif Wasay\Downloads\sql-murder-mystery-solution.sqbpro [sql-murder-mystery.d

File Edit View Tools Help

New Database Open Database Write Changes Revert Changes Open Project Save Project Attach

Database Structure Browse Data Edit Pragma Execute SQL

SQL 1 SQL 2 SQL 3

```
1 SELECT * FROM person
2 WHERE address_street_name= "Northwestern Dr"
3 ORDER BY address_number DESC
```

	id	name	license_id	address_number	address_street_name	ssn
1	14887	Morty Schapiro	118009	4919	Northwestern Dr	111564949
2	17729	Lasonya Wildey	439686	3824	Northwestern Dr	917817122
3	53890	Sophie Tiberio	957671	3755	Northwestern Dr	442830147
4	73368	Torie Thalmann	773862	3697	Northwestern Dr	341559436
5	96595	Coretta Cubie	303645	3631	Northwestern Dr	378403829

Execution finished without errors.  
Result: 50 rows returned in 25ms  
At line 1:  
SELECT \* FROM person  
WHERE address\_street\_name= "Northwestern Dr"  
ORDER BY address\_number DESC

### Fact: 3

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

DB Browser for SQLite - C:\Users\Mohammed Saif Wasay\Downloads\sql-murder-mystery-solution.sqbpro [sql-murder-myst

File Edit View Tools Help

New Database Open Database Write Changes Revert Changes Open Project Save Project

Database Structure Browse Data Edit Pragmas Execute SQL

SQL 1 SQL 2 SQL 3

```
4
5
6 SELECT * FROM person
7 WHERE name like 'Annabel%'
8 AND address_street_name = "Franklin Ave"
```

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

Execution finished without errors.  
Result: 1 rows returned in 17ms  
At line 6:  
SELECT \* FROM person  
WHERE name like 'Annabel%'  
AND address\_street\_name = "Franklin Ave"

Fact: 4

```
SELECT *  
FROM interview  
where (person_id = 14887 OR person_id = 16371)
```

DB Browser for SQLite - C:\Users\Mohammed Saif Wasay\Downloads\sql-murder-mystery

File Edit View Tools Help

New Database Open Database Write Changes Revert Changes

Database Structure Browse Data Edit Pragmas Execute SQL

SQL 1 SQL 2 SQL 3

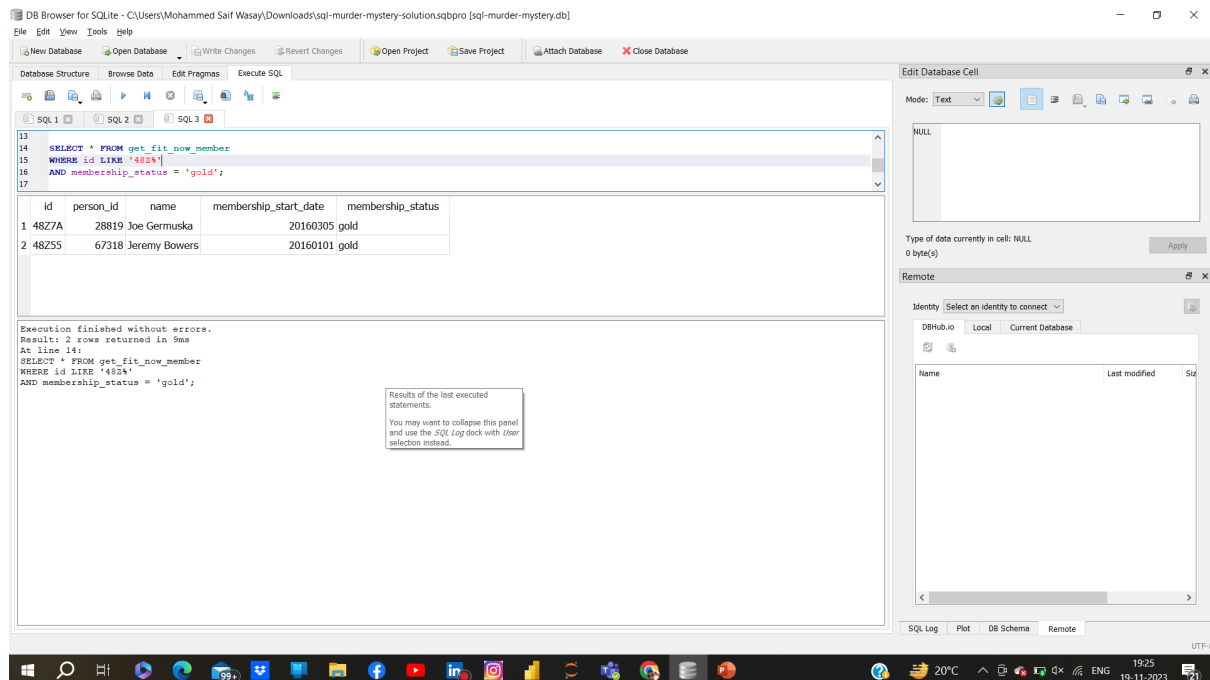
```
9 SELECT *  
10 FROM interview  
11 where (person_id = 14887 OR person_id = 16371)  
12  
13
```

	person_id	transcript
1	14887	I heard a gunshot and then saw a ma...
2	16371	I saw the murder happen, and I ...

Execution finished without errors.  
Result: 2 rows returned in 12ms  
At line 9:  
SELECT \*  
FROM interview  
where (person\_id = 14887 OR person\_id = 16371)

## Fact: 4

```
SELECT * FROM get_fit_now_member
WHERE id LIKE '48Z%'
AND membership_status = 'gold';
```



## let's Look for Clues:

### CLUES

- It was a man. He had a gym bag.
- Gym Membership ID began with '48Z'.
- Only Gold Members have that type of bag.
- The license plate of the getaway car includes 'H42W'.
- The murder date was 2018-01-09

After considering, clues the solution is to JOIN all possible tables to find the suspect.

**Solution:**

**Query:**

```
SELECT p.name, d.gender, m.membership_status, n.membership_id, n.check_in_date
FROM person as p
JOIN drivers_license as d ON p.license_id=d.id
JOIN get_fit_now_member as m ON p.id = m.person_id
JOIN get_fit_now_check_in as n ON n.membership_id=m.id
WHERE membership_id like '48Z%' AND membership_status = 'gold'
AND gender='male' AND plate_number like '%H42W%';
```

DB Browser for SQLite - C:\Users\Mohammed Saif Wasay\Downloads\sql-murder-mystery-solution.sqbpro [sql-murde

File Edit View Tools Help

New Database Open Database Write Changes Revert Changes Open Project Save Project

Database Structure Browse Data Edit Pragmas Execute SQL

SQL 1 SQL 3 SQL 4

```

1 SELECT p.name, d.gender, m.membership_status, n.membership_id ,n.check_in_date
2 FROM person as p
3 JOIN drivers_license as d ON p.license_id=d.id
4 JOIN get_fit_now_member as m ON p.id = m.person_id
5 JOIN get_fit_now_check_in as n ON n.membership_id=m.id
6 WHERE membership_id like '48Z%' AND membership_status = 'gold'
7 AND gender='male' AND plate_number like '%H42W%';
8

```

	name	gender	membership_status	membership_id	check_in_date
1	Jeremy Bowers	male	gold	48Z55	20180109

Execution finished without errors.  
Result: 1 rows returned in 25ms  
At line 19:  
SELECT p.name, d.gender, m.membership\_status, n.membership\_id ,n.check\_in\_date  
FROM person as p JOIN drivers\_license as d ON p.license\_id=d.id  
JOIN get\_fit\_now\_member as m  
ON p.id = m.person\_id  
JOIN get\_fit\_now\_check\_in as n ON n.membership\_id=m.id  
WHERE membership\_id like '48Z%' AND membership\_status = 'gold'  
AND gender='male' AND plate\_number like '%H42W%';

## Explanation:

### SELECT Clause:

**p.name, d.gender, m.membership\_status, n.membership\_id,n.check\_in\_date**

p.name: Select the name of the person.

d.gender: Select the gender of the person.

m.membership\_status: Select the gym membership of the person.

n.check\_in\_date: Select the check-in date of the person.

### **FROM Clause:**

- Person as p: Represents Person and takes p as an Alias
- drivers\_licence as d: Represents driver's license and takes d as Alias
- get\_fit\_now\_member as m: Represents Gym membership and takes m as an Alias
- get\_fit\_now\_check\_in as n: Represents the person's check-in date and takes n as an Alias

### **JOIN Clauses:**

JOIN drivers\_license ON p.license\_id = d.id: Joins the 'person' table with the 'drivers\_license' table based on the driver's license ID.

JOIN get\_fit\_now\_member ON p.name = m.name: Joins the 'person' table with the 'get\_fit\_now\_member' table based on the Persons Name.

JOIN get\_fit\_now\_check\_in ON n.membership\_id=m.id Joins the 'get\_fit\_now\_check\_in' table with the 'get\_fit\_now\_member' table based on the person's Name.

### **WHERE Clause:**

**WHERE membership\_id like '48Z%' AND membership\_status = 'gold'  
AND gender='male' AND plate\_number like '%H42W%';**

### **Here:**

-membership\_id Like '48Z' (Filters members ID opted for a gym membership)

-membership\_status= 'gold' (Filters members who opted for a gold gym membership)

-gender='male' (Filters the gender of a person such as male)

-plate\_number='%H42W%' (Filters the car plate number of a person)

### **In conclusion:**

After considering all the clues that a suspect is a man, who had a gym bag, and a gym Membership ID beginning with '48Z', Only Gold Members have that type of bag, license plate of the getaway car includes 'H42W'. And, the murder date was 2018-01-09. So, the suspect is Jeremy Bowers.