SQL PROJECT – MURDER MYSTERY SOLVED

I wrote SQL queries to view the different tables and their respective content. Then, I proceeded to query the crime_scene_report table using the hint given (information remembered); date, city, and type of crime. I was able to retrieve the description using the code below:

```
SELECT Date, Type, description, City
FROM crime_scene_report
WHERE date = 20180115 AND type = "murder" AND City = "SQL City";
```

The narration of the description is as seen below:

> "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"."

I queried the Person table to get full details/identifiers of the witnesses, using the code below:

```
SELECT *
FROM person
WHERE Name LIKE "Annabel%" AND address_street_name = "Franklin Ave";
SELECT *
FROM person
WHERE address_street_name = "Northwestern Dr"
ORDER BY address_number DESC
LIMIT 1;
```

The query returned the following details of the witnesses:

id	name	license_id	address_number	address_street_name	ssn
16371	Annabel Miller	490173	103	Franklin Ave	318771143
14887	Morty Schapiro	118009	4919	Northwestern Dr	111564949

With this information, I queried the interview table for the transcripts from the interview of the witnesses to get more information that could lead to a break in the case using the code below:

```
SELECT person_id, transcript
FROM interview
WHERE person_id IN (16371, 14887);
```

Information retrieved were as follows:

"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""."

"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."

Armed with the information above, I proceeded to narrow down the suspects till I found the killer. I joined the get_fit_now_member table and the get_fit_now_check_in table to gather all information using the code below:

```
SELECT *
FROM get_fit_now_member
JOIN get_fit_now_check_in
ON get_fit_now_member.id = get_fit_now_check_in.membership_id
WHERE get_fit_now_member. membership_status = "gold" AND get_fit_now_member.
id LIKE "48Z%";
```

Information retrieved were as follows:

id	person_id	name	membership_start_date	membership_status	membership_id	check_in_date	check_in_time	check_out_time
48Z7A	28819	Joe Germuska	20160305	gold	48Z7A	20180109	1600	1730
48Z55	67318	Jeremy Bowers	20160101	gold	48Z55	20180109	1530	1700

Again, I joined the person and drivers_license tables together to cross reference the names of the suspects against the plate number that includes “H42W” as seen in the witness’ transcript, using the code below:

```
SELECT person.name, drivers_license.plate_number
FROM person
INNER JOIN drivers_license
ON person.license_id = drivers_license.id
WHERE person.name = "Joe Germuska" or person.name = "Jeremy Bowers";
```

It was found that the car was registered to **Jeremy Bowers** (0H42W2, Chevrolet, Spark LS). I continued further investigation to figure out who had contracted Jeremy Bowers by running the next lines of code:

```
SELECT *
FROM get_fit_now_check_in
JOIN get_fit_now_member
ON get_fit_now_check_in.membership_id = get_fit_now_member.id
WHERE get_fit_now_check_in.check_in_date = 20180109
AND get_fit_now_check_in.membership_id = '48Z55'
```

Get fit gym member with membership id 48Z55 was also at the gym on 20180109 from 15:30 to 17:00, the same period Annabel was in the gym.

```
INSERT INTO solution (user, value)
VALUES  (1, 'Jeremy Bowers')

SELECT *
FROM solution;

-- Check murder interview transcript
SELECT *
FROM interview
WHERE person_id = 67318;
```

Information retrieved (Transcript of the murderer) were as follows:

"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."

Next, I ran the following query:

```
SELECT *
FROM drivers_license
JOIN person
ON drivers_license.id = person.license_id
JOIN income
ON income.ssn = person.ssn
WHERE drivers_license.hair_color = 'red'
AND drivers_license.gender = 'female'
AND drivers_license.car_make = 'Tesla'
```

```
AND drivers_license.car_model = 'Model S'
ORDER BY income.annual_income Desc ;
```

Output was as follows:

```
"202298"    "68"    "66"    "green"    "red"    "female"    "500123"    "Tesla"
    "Model S"    "99716"    "Miranda Priestly"    "202298"    "1883"    "Golden Ave"
    "987756388"    "987756388"    "310000"
"918773"    "48"    "65"    "black""red"    "female"    "917UU3"    "Tesla""Model S"
    "78881"    "Red Korb"    "918773"    "107"    "Camerata Dr""961388910"
    "961388910"    "278000"
```

There are 2 women who match this description, they both earn:

1. Red Korb, person id 78881, license id 918773, plate number 917UU3, salary 310,000
2. Miranda Priestly, person id 99716, license id 202298, plate number 500123, salary 278,000

Next, I investigated which of these women watched the SQL Symphony 3 times in December 2017 using the query below:

```
SELECT person_id, event_name, date
FROM facebook_event_checkin
WHERE person_id in (78881,99716)
AND event_name Like 'SQL SYmphony%'
AND date like '201712%';
```

Query returned:

```
"99716"    "SQL Symphony Concert"    "20171206"
"99716"    "SQL Symphony Concert"    "20171212"
"99716"    "SQL Symphony Concert"    "20171229"
```

Only the person with id 99716 attended the SQL Symphony Concert 3 times in Dec 2017.
The person who hired the murderer is Miranda Priestly.

Confirming the result of my investigation using the code below:

```
INSERT INTO solution (user, value)
VALUES  (2, 'Miranda Priestly')
```

```
SELECT *
FROM solution
```

Query Output:

"2"	"Miranda Priestly"

Thus, our killer has been found to be **Miranda Priestly.**