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STEP 1: The information given are type of the crime, city it took place and the date.

Now we use the data from Crime Scene Report table to shortlist the number of murders that occured in SQL city on the given date. We use Joint Queries to shortlist.

Following is the code:

```sql
1 SELECT
2      *
3 FROM
4      crime_scene_report
5 WHERE
6      date=20180115
7 AND
8      type= "murder"
9 AND
10     city = "SQL City"
11
```

When we run this code, the results we get are:

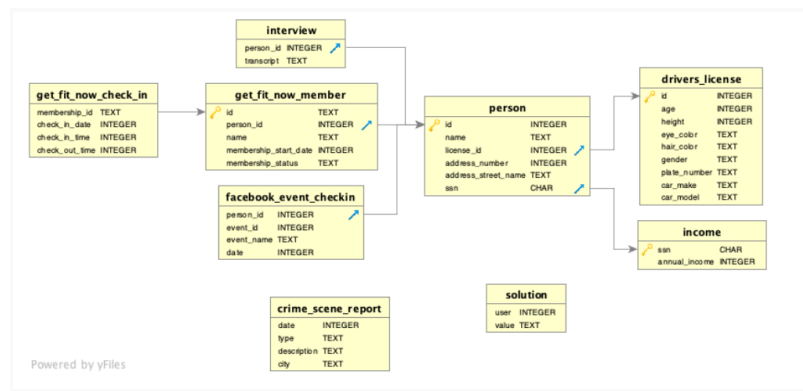| date	type	description	city
20180115	murder	Security footage shows that there were 2 witnesses. The first witness lives at the last house on "Northwestern Dr". The second witness, named Annabel, lives somewhere on "Franklin Ave".	SQL City

Step 2:
We have the following description:

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."

We now have new information which is:
1. The first witness lives at the last house on "Northwestern Dr."
2. The second witness, named Annabel, lives somewhere on "Franklin Ave."

We can go back to the Schema and look for the potential table that contains the information we are looking for:

The person table contains name, address number, drivers license,etc

Now we run the code to obtain information from the person table, following is are the codes:

From information 2,

```sql
1 SELECT
2     *
3 FROM
4     person
5 WHERE
6     address_street_name
7 LIKE
8     "Franklin ave%"
9 AND
10    name
11 LIKE
12    "Annabel%"
13
```

The result of the code is:

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

From information 1,

```
 1  SELECT
 2      *
 3  FROM
 4      person
 5  WHERE
 6      address_street_name = "Northwestern Dr"
 7  ORDER BY
 8      address_number DESC
 9
10
```

Though the result gives a large table, we require only the first row because the witness lives in the last house on the street. (The table is sorted in descending order)

id	name	license_id	address_number	address_street_name	ssn
14887	Morty Schapiro	118009	4919	Northwestern Dr	111564949

From the information, we found the complete details of one of the witnesses.

Therefore Annabel Miller and Morty Schapiro are our witnesses.

Step 4

We now obtain the information from the interview tables using their person id

Following is the code:

```
 1  SELECT
 2      *
 3  FROM
 4      interview
 5  WHERE
 6      person_id = 14887
 7
```

Interview of Morty Schapiro:

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 "48Z". Only gold members have those bags. The man got into a car with a plate that included "H42W".

Interview of Annabel Miller:

person_id	transcript
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.

Step 5:

From the information obtained we use joint tables to further shortlist the names:

```
1  SELECT
2      *
3  FROM
4      get_fit_now_check_in
5  JOIN
6      get_fit_now_member
7  ON
8      get_fit_now_check_in.membership_id = get_fit_now_member.id
9  WHERE
10     membership_id
11 LIKE
12     "48Z%"
13 AND
14     check_in_date = 20180109
15
```

Result:

in_time	check_out_time	id	person_id	name	membership_start_date	membership_status
	1730	48Z7A	28819	Joe Germuska	20160305	gold
	1700	48Z55	67318	Jeremy Bowers	20160101	gold

Step 6:

We have two names we can check for it in by running the solution code.

The murderer is Jeremy Bowers.

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.

More Tables:

1. Another way to shortlist the names is by Joining the person table driver's license id table, where the plate number is H42W.

```
1 select
2       *
3 from
4       person
5 join
6       drivers_license
7 on
8       person.license_id= drivers_license.id
9 where
10      plate_number
11 like
12      '%H42W%'
13
```

Result:

id	name	license_id	address_number	address_street_name	ssn	id	age	heig
51739	Tushar Chandra	664760	312	Phi St	137882671	664760	21	71
67318	Jeremy Bowers	423327	530	Washington Pl, Apt 3A	871539279	423327	30	70
78193	Maxine Whitely	183779	110	Fisk Rd	137882671	183779	21	65

2. Joint Table 2, Finding the master mind

```sql
1  SELECT
2          *
3  FROM
4          person P
5  join
6      drivers_license as L
7  ON
8          L. id= P.license_id
9  JOIN
10         income as I
11 ON
12         I.ssn = P.ssn
13 WHERE
14         L.gender = "female"
15 AND
16         L.car_make = "Tesla"
17 AND
18         L.car_model = "Model S"
19 AND
20         L.height > 65
21 AND
22         L.height < 67
23 AND
24         L.hair_color = "red"
```

Result

id	name	license_id	address_number	address_street_name	ssn	id	age	heig
99716	Miranda Priestly	202298	1883	Golden Ave	987756388	202298	68	66

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!

3. Joint table 3, Finding people who own tesla

```sql
1 SELECT
2      *
3 FROM
4      person
5 JOIN
6     drivers_license
7 ON
8     person.license_id = drivers_license.id
9 WHERE
10     car_make
11 LIKE
12     "TESLA%"
13 ORDER BY
14     age ASC
15
```

Result:

id	name	license_id	address_number	address_street_name	ssn	id	age	h
75162	Spring Federick	595803	3064	Menomini Circle	841968134	595803	32	
25788	Oralia Fleisher	544252	1280	Skeffington Blvd	986461626	544252	46	
78881	Red Korb	918773	107	Camerata Dr	961388910	918773	48	
67673	Alyssa Faggett	682231	3838	Mc Guffie Dr	666309770	682231	51	
32858	Mei Bianchin	405170	551	S Frederick Dr	739663067	405170	58	
90700	Regina George	291182	332	Maple Ave	337169072	291182	65	
99716	Miranda Priestly	202298	1883	Golden Ave	987756388	202298	68	

4. Joint table to find people with red hair and a Tesla.

```sql
1  select
2       *
3  from
4      person P
5  join
6      drivers_license D
7  ON
8        P.license_id = D.id
9  where
10       hair_color ="red"
11 AND
12       car_make = "Tesla"
13
14
```

Result:

id	name	license_id	address_number	address_street_name	ssn	id	age	hei
57410	Cletus Zoeller	736081	2987	Kingham Way	924648898	736081	79	69
78881	Red Korb	918773	107	Camerata Dr	961388910	918773	48	65
90700	Regina George	291182	332	Maple Ave	337169072	291182	65	66
99716	Miranda Priestly	202298	1883	Golden Ave	987756388	202298	68	66