PREPINSTA INTERNSHIP TASK 5

SQL Murder Mystery - MySQL Workbench

STEP 1 :

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

STEP 2 :

Now, 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.

```
13
14    /*Retrieve the crime scene report for the murder that occurred on Jan.15, 2018, in SQL City*/
15 •  select * from sql_murder.crime_scene_report where city="SQL City" and date = 20180115 and type ='murder';
16
17    /*First Witness  */
18 •  select * from sql_murder.person where address_street_name = 'Northwestern Dr' order by  address_number desc limit 1;
19
20    /*Second Witness */
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
date	type	description		city
▶ 20180115	murder	Security footage shows that there were 2 witne...		SQL City

STEP 3 :

According to the output, security footage shows that there were 2 witnesses.
- 1st witness lives at the last house on "Northwestern Dr".
- 2nd witness , named Annabel, lives somewhere on "Franklin Ave".

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:
1. Select the person table
2. Find address_street_name - Northwestern Dr
3. Find the first name in Descending order

```
16
17    /*First Witness  */
18 •  select * from sql_murder.person where address_street_name = 'Northwestern Dr' order by  address_number desc limit 1;
19
20    /*Second Witness */
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:	
id	name	license_id	address_number	address_street_name	ssn	
▶ 14887	Morty Schapiro	118009	4919	Northwestern Dr	111564949	

STEP 4 :

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:
1. Select the person table
2. Find address_street_name - Franklin Ave
3. Find the name like Annabel

```
19
20      /*Second Witness */
21  •   select * from sql_murder.person where address_street_name='Franklin Ave' and name like '%Annabel%';
22
23      /*Listening to the interview of 2 person with ID 144887,16371)*/
24  •   select * from sql_murder.interview where person_id in (14887,16371);
25
26      /*Witness 1 Gym details*/
```

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

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

STEP 5 :

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

```
23      /*Listening to the interview of 2 person with ID 144887,16371)*/
24  •   select * from sql_murder.interview where person_id in (14887,16371);
25
26      /*Witness 1 Gym details*/
```

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

person_id	transcript
14887	I heard a gunshot and then saw a man run out....
16371	I saw the murder happen, and I recognized the ...

STEP 6 :

ID 14887 : Gold member of GET FIT NOW GYM.
          Membership number starting with 48Z.
          Has car with number plate including H42W.

ID 16371 : Gym Checkin on 9th Jan 2018.

According to first witness, the culprit has following characteristics:
- Is a male

- Gold Member of Get Fit Now Gym
- Bag with membership number starting with 48Z
- Has car number plate including H42W.

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 48Z

```
25
26      /*Witness 1 Gym details*/
27  ●   select * from sql_murder.get_fit_now_member where membership_status='gold' and id like '48Z%';
28
29      /*Witness 1 with Car detail*/
30  ●   select * from sql_murder.drivers_license where plate_number like '%H42W%' and gender='male';
31
32      /*Witness 1 with Car and Gym details*/
```

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

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

```
28
29      /*Witness 1 with Car detail*/
30  ●   select * from sql_murder.drivers_license where plate_number like '%H42W%' and gender='male';
31
32      /*Witness 1 with Car and Gym details*/
```

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

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

STEP 7 :

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

```
31
32      /*Witness 1 with Car and Gym details*/
33  •   select * from sql_murder.person as p inner join sql_murder.drivers_license as dl
34      on p.license_id=dl.id where plate_number like '%H42W%' and gender = 'male';
35
36      /*Witness 2 with Gym Check In details*/
37  •   select * from sql_murder.get_fit_now_check_in where check_in_date=20180109;
38
```

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

STEP 8:

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

```
36      /*Witness 2 with Gym Check In details*/
37  •   select * from sql_murder.get_fit_now_check_in where check_in_date=20180109;
38
39      /*Witness 2 with Gym,Car details and Gym Check In details*/
40  •   select p.*,gfn.* from sql_murder.person as p
41      inner join sql_murder.drivers_license as dl on dl.id = p.license_id
42      inner join sql_murder.get_fit_now_member as gfn on p.id = gfn.person_id
43      inner join sql_murder.get_fit_now_check_in as gfc on gfc.membership_id=gfn.id
44      where plate_number like '%H42W%' and gender = 'male' and membership_status = 'gold'
```

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

STEP 9:

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.

```
38
39    /*Witness 2 with Gym,Car details and Gym Check In details*/
40 •  select p.*,gfn.* from sql_murder.person as p
41    inner join sql_murder.drivers_license as dl on dl.id = p.license_id
42    inner join sql_murder.get_fit_now_member as gfn on p.id = gfn.person_id
43    inner join sql_murder.get_fit_now_check_in as gfc on gfc.membership_id=gfn.id
44    where plate_number like '%H42%%' and gender = 'male' and membership_status = 'gold'
45    and gfn.id like '48Z%' and check_in_date=20180109;
46
47    /*Interviewing with culprit of murder*/
```

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

STEP 10 :

CHECKING FOR JERMEY BOWERS IN SOLUTION

Check your solution

Did you find the killer?

```sql
1  INSERT INTO solution VALUES (1, 'Jeremy Bowers');
2
3      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.

STEP 11 :

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

```
47    /*Interviewing with culprit of murder*/
48 •  select * from sql_murder.interview where person_id=67318;
49
50    /*Proving the data of previous query output such as Car details, Height and Hair Color*/
51 •  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;
52
53    /*Proving the data of previous query output such as Concert Check In*/
54 •  select * from sql_murder.facebook_event_checkin where event_name='SQL Symphony Concert' and date between 20171201 and 20171231;
55
56    /*Proving all the data using Concert Check In, Car deatils and Personal Characteristics*/
```

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

person_id	transcript
67318	I was hired by a woman with a lot of money. I d...

STEP 12 :

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"

```
49
50    /*Proving the data of previous query output such as Car details, Height and Hair Color*/
51 •  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;
52
53    /*Proving the data of previous query output such as Concert Check In*/
54 •  select * from sql_murder.facebook_event_checkin where event_name='SQL Symphony Concert' and date between 20171201 and 20171231;
55
56    /*Proving all the data using Concert Check In, Car deatils and Personal Characteristics*/
```

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

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

```
--
53      /*Proving the data of previous query output such as Concert Check In*/
54 •    select * from sql_murder.facebook_event_checkin where event_name='SQL Symphony Concert' and date between 20171201 and 20171231;
55
56      /*Proving all the data using Concert Check In, Car deatils and Personal Characteristics*/
```

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
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
24556	1143	SQL Symphony Concert	20171224
99716	1143	SQL Symphony Concert	20171206
99716	1143	SQL Symphony Concert	20171212
99716	1143	SQL Symphony Concert	20171229
67318	1143	SQL Symphony Concert	20171206

STEP 13 :

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.

```
56      /*Proving all the data using Concert Check In, Car deatils and Personal Characteristics*/
57 •    select p.*,dl.car_make,dl.car_model,dl.hair_color,dl.height
58      from sql_murder.person as p
59      inner join sql_murder.drivers_license as dl on dl.id = p.license_id
60      inner join sql_murder.facebook_event_checkin as fec on p.id = fec.person_id
61      where car_make = 'Tesla' and car_model = 'Model S'and hair_color = 'red' and height between 65 and 67;
62
```

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

STEP 14 :

CHECKING FOR MIRANDA PRIESTLY IN SOLUTION

Check your solution

Did you find the killer?

```
1   INSERT INTO solution VALUES (1, 'Miranda Priestly');
2
3          SELECT value FROM solution;
```
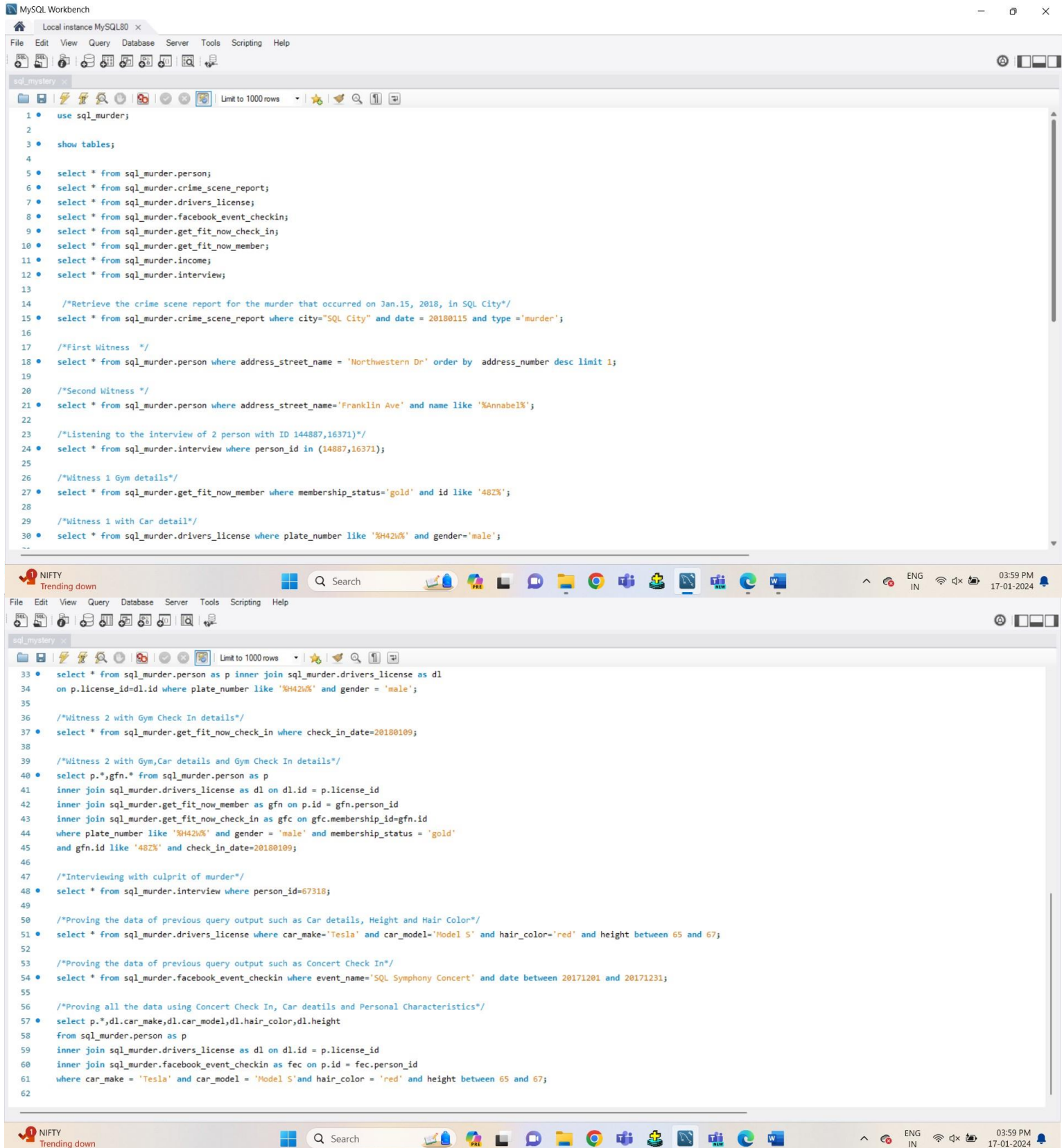
RUN ⇩   RESET

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!

MY WHOLE WORK IN MYSQL – WORKBENCH

```sql
1 •   use sql_murder;
2
3 •   show tables;
4
5 •   select * from sql_murder.person;
6 •   select * from sql_murder.crime_scene_report;
7 •   select * from sql_murder.drivers_license;
8 •   select * from sql_murder.facebook_event_checkin;
9 •   select * from sql_murder.get_fit_now_check_in;
10 •  select * from sql_murder.get_fit_now_member;
11 •  select * from sql_murder.income;
12 •  select * from sql_murder.interview;
13
14    /*Retrieve the crime scene report for the murder that occurred on Jan.15, 2018, in SQL City*/
15 •  select * from sql_murder.crime_scene_report where city="SQL City" and date = 20180115 and type ='murder';
16
17    /*First Witness */
18 •  select * from sql_murder.person where address_street_name = 'Northwestern Dr' order by  address_number desc limit 1;
19
20    /*Second Witness */
21 •  select * from sql_murder.person where address_street_name='Franklin Ave' and name like '%Annabel%';
22
23    /*Listening to the interview of 2 person with ID 144887,16371)*/
24 •  select * from sql_murder.interview where person_id in (14887,16371);
25
26    /*Witness 1 Gym details*/
27 •  select * from sql_murder.get_fit_now_member where membership_status='gold' and id like '48Z%';
28
29    /*Witness 1 with Car detail*/
30 •  select * from sql_murder.drivers_license where plate_number like '%H42W%' and gender='male';
```

```sql
33 •  select * from sql_murder.person as p inner join sql_murder.drivers_license as dl
34    on p.license_id=dl.id where plate_number like '%H42W%' and gender = 'male';
35
36    /*Witness 2 with Gym Check In details*/
37 •  select * from sql_murder.get_fit_now_check_in where check_in_date=20180109;
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39    /*Witness 2 with Gym,Car details and Gym Check In details*/
40 •  select p.*,gfn.* from sql_murder.person as p
41    inner join sql_murder.drivers_license as dl on dl.id = p.license_id
42    inner join sql_murder.get_fit_now_member as gfn on p.id = gfn.person_id
43    inner join sql_murder.get_fit_now_check_in as gfc on gfc.membership_id=gfn.id
44    where plate_number like '%H42W%' and gender = 'male' and membership_status = 'gold'
45    and gfn.id like '48Z%' and check_in_date=20180109;
46
47    /*Interviewing with culprit of murder*/
48 •  select * from sql_murder.interview where person_id=67318;
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52
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54 •  select * from sql_murder.facebook_event_checkin where event_name='SQL Symphony Concert' and date between 20171201 and 20171231;
55
56    /*Proving all the data using Concert Check In, Car deatils and Personal Characteristics*/
57 •  select p.*,dl.car_make,dl.car_model,dl.hair_color,dl.height
58    from sql_murder.person as p
59    inner join sql_murder.drivers_license as dl on dl.id = p.license_id
60    inner join sql_murder.facebook_event_checkin as fec on p.id = fec.person_id
61    where car_make = 'Tesla' and car_model = 'Model S'and hair_color = 'red' and height between 65 and 67;
62
```