

**CS457 LAB SIGNATURE ASSIGNMENT**  
**LYFT- RIDE SHARING COMPANY DATABASE & QUERIES**  
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## ENTITY TABLES

MariaDB [19566ss]> SELECT \* FROM USER;

USER_ID	F_NAME	L_NAME	E_MAIL	ADDRESS	ZIPCODE	GENDER	PHONE_NO	PASSWORD	USER_TYPE
1	David	Warner	d_warner@gmail.com	1401 Taylor Street, San Jose, CA	95119	M	5012346791	thanks@1401	Driver
2	Bettina	Pauley	bettina_pauley@gmail.com	789 Logan Street, San Francisco, CA	95111	F	5082346793	hell@123	Driver
3	Justin	Dsouza	justin_dsouza@gmail.com	567 Stevenson Street, Richmond, CA	95131	M	1282346793	djdj@123	Driver
4	James	Smith	j_smith@gmail.com	123 Belmont Street, Fresno, CA	94567	M	1282899793	mith_jam	Passenger
5	Emily	Cortes	emily_cortes@gmail.com	123 Morwy Ave, Fremont, CA	94536	F	1289999793	cortes_34	Passenger
6	Sherlock	Holmes	holmes123@gmail.com	458 Walnut Creek, San Francisco, CA	95671	M	1289999788	4hol123	Passenger

6 rows in set (0.000 sec)

MariaDB [19566ss]> SELECT \* FROM PASSENGER;

PASSENGER_ID	OVERALL_RATING	USER_ID
1	5	4
2	4.1	5
3	4.7	6

3 rows in set (0.000 sec)

MariaDB [19566ss]> SELECT \* FROM DRIVER;

DRIVER_ID	DL_NUM	SSN	ACCOUNT_NO	AVG_RATING	USER_ID
1	43567283	123456789	1001001234	5	1
2	43567457	133488789	1111001234	4.8	3
3	89567457	135588789	1111003334	4.5	2

3 rows in set (0.000 sec)

MariaDB [19566ss]> SELECT \* FROM CAR;

CAR_VIN_NO	COLOR	YEAR	CAPACITY	CAR_INSURANCE	DRIVER_ID	MODEL	MAKE
W14550ck78k09we97	White	2020	5	129-6700-8991	1	SUV	MERCEDES
W17890jm78k09we91	Black	2019	4	123-4567-8901	2	SEDAN	TOYOTA
W18950kk78k09fg66	Red	2018	4	199-2300-0990	3	SEDAN	NISSAN

3 rows in set (0.000 sec)

MariaDB [19566ss]> SELECT \* FROM LYFT;

EMPLOYEE_ID	DEPARTMENT	STREET_ADDRESS	CITY	STATE
10	Infrastructure	1Folsom Street	San Francisco	CA
11	Infrastructure	1Folsom Street	San Francisco	CA
12	Security	34Fresno Street	San Francisco	CA
13	Research	4Folsom Street	San Francisco	CA
14	Research	4Folsom Street	San Francisco	CA

5 rows in set (0.000 sec)

MariaDB [19566ss]> SELECT \* FROM REQUEST;

REQUEST_ID	PICKUP_LOC	SEAT	DROPOFF_LOC	RIDE_TYPE	EST_FARE_\$	USER_ID
1	123 Belmont Street	4	International SF Airport	Economy	34.4	4
2	International SF Airport	5	1458 Walnut Creek	Luxury	80.65	2
3	International SF Airport	4	123 Mowry Ave	Economy	54.3	5

3 rows in set (0.000 sec)

MariaDB [19566ss]> SELECT \* FROM TRIP;

TRIP_ID	PICKUP_LOC	DROPOFF_LOC	START_TIME	DURATION	FARE_\$	DRIVER_RATING	REQUEST_ID	DRIVER_ID
1	International SF Airport	123 Mowry Ave	07:00 am	55 Min	60.34	4.8	3	1
2	International SF Airport	1458 Walnut Creek	10:00 pm	30 Min	81.25	4.9	2	2
3	123 Belmont Street	International SF Airport	10:00 am	40 Min	33.55	4.2	1	3
4	123 Belmont Street	567 Logan drive	11:00 pm	20 Min	20.39	4.5	4	1

4 rows in set (0.000 sec)

MariaDB [19566ss]> SELECT \* FROM PAYMENT;

PAYMENT_ID	PAYMENT_TYPE	FARE_\$	PASSENGER_ID	TRIP_ID
1	APPLE PAY	81.25	2	2
2	GIFT_CARD	33.55	1	3
3	CARD	60.34	3	1
4	COUPON	20.39	4	4

4 rows in set (0.001 sec)

## QUERIES

### Query 1

Display detail information about completed trips

```
MariaDB [19566ss]> select
R.REQUEST_ID,R.PICKUP_LOC,R.DROPOFF_LOC,U.USER_ID,U.L_NAME,U.F_NAME,U.USER_TYPE,T
.TRIP_ID,T.FARE_$,P.PAYMENT_TYPE from REQUEST R INNER JOIN USER U USING (USER_ID)
INNER JOIN TRIP T USING (REQUEST_ID) INNER JOIN PAYMENT P USING (TRIP_ID) order
by TRIP_ID;
```

REQUEST_ID	PICKUP_LOC	DROPOFF_LOC	USER_ID	L_NAME	F_NAME	USER_TYPE	TRIP_ID	FARE_\$	PAYMENT_TYPE
3	International SF Airport	123 Mowry Ave	5	Cortes	Emily	Passenger	1	60.34	CARD
2	International SF Airport	1458 Walnut Creek	2	Pauley	Bettina	Driver	2	81.25	APPLE PAY
1	123 Belmont Street	International SF Airport	4	Smith	James	Passenger	3	33.55	GIFT_CARD

3 rows in set (0.001 sec)

This query is giving the detailed information of the completed trips. Here we are joining 4 different tables REQUEST, USER, TRIP and PAYMENT on the common records using INNER JOINS.

### Query 2

List of all the user who never book any ride.

```
MariaDB [19566ss]> select u.USER_ID, u.F_NAME,u.L_NAME,u.USER_TYPE,p.PASSENGER_ID
FROM PASSENGER p INNER JOIN USER u ON p.USER_ID = u.USER_ID where p.USER_ID NOT
in (SELECT USER_ID FROM REQUEST);
```

USER_ID	F_NAME	L_NAME	USER_TYPE	PASSENGER_ID
6	Sherlock	Holmes	Passenger	3

1 row in set (0.001 sec)

### Subquery

MariaDB [19566ss]> `SELECT USER_ID FROM REQUEST;`

USER_ID
4
2
5

3 rows in set (0.000 sec)

This query is giving the list of passengers who has never taken a trip. Here we are using subquery method and joining 2 different tables USER and PASSENGER on the common records using INNER JOIN.

### Query 3

Right join between REQUEST and USER.

MariaDB [19566ss]> `select R.REQUEST_ID,R.PICKUP_LOC,R.DROPOFF_LOC,U.USER_ID,U.L_NAME,U.F_NAME,U.USER_TYPE from REQUEST R RIGHT JOIN USER U USING (USER_ID);`

REQUEST_ID	PICKUP_LOC	DROPOFF_LOC	USER_ID	L_NAME	F_NAME	USER_TYPE
1	123 Belmont Street	International SF Airport	4	Smith	James	Passenger
2	International SF Airport	1458 Walnut Creek	2	Pauley	Bettina	Driver
3	International SF Airport	123 Mowry Ave	5	Cortes	Emily	Passenger
NULL	NULL	NULL	1	Warner	David	Driver
NULL	NULL	NULL	3	Dsouza	Justin	Driver
NULL	NULL	NULL	6	Holmes	Sherlock	Passenger

6 rows in set (0.001 sec)

It will return all the data from the right table which is USER and corresponding record from left table REQUEST. In case of no common column match, NULL value will be printed for LEFT table.

### Query 4

Natural join between PASSENGER and USER to get the detail of the passenger.

```
MariaDB [19566ss]> select * from USER u JOIN PASSENGER p using (USER_ID);
```

USER_ID	F_NAME	L_NAME	E_MAIL	ADDRESS	ZIPCODE	GENDER	PHONE_NO	PASSWORD	USER_TYPE	PASSENGER_ID	OVERALL_RATING
4	James	Smith	j_smith@gmail.com	123 Belmont Street,Fresno,CA	94567	M	1282899793	mith_jam	Passenger	1	5
5	Emily	Cortes	emily_cortes@gmail.com	123 Morwy Ave,Fremont,CA	94536	F	1289999793	cortes_34	Passenger	2	4.1
6	Sherlock	Holmes	holmes123@gmail.com	458 Walnut Creek,San Francisco,CA	95671	M	1289999788	4hol123	Passenger	3	4.7

3 rows in set (0.001 sec)

This query is giving the list of passenger details. Here we are joining 2 different tables USER and PASSENGER on the common records using NATURAL JOIN OR OUTER JOIN.

## Query 5

**Joining 4 tables and LEFT JOIN.**

```
MariaDB [19566ss]> SELECT d.DRIVER_ID, d.AVG_RATING, t.PICKUP_LOC, t.DROPOFF_LOC, c.COLOR, c.MODEL, u.USER_ID, u.F_NAME, u.L_NAME FROM DRIVER d INNER JOIN TRIP t on d.DRIVER_ID = t.DRIVER_ID INNER JOIN CAR c ON c.DRIVER_ID = d.DRIVER_ID LEFT JOIN USER u on d.USER_ID= u.USER_ID;
```

DRIVER_ID	AVG_RATING	PICKUP_LOC	DROPOFF_LOC	COLOR	MODEL	USER_ID	F_NAME	L_NAME
1	5	International SF Airport	123 Mowry Ave	White	SUV	1	David	Warner
2	4.8	International SF Airport	1458 Walnut Creek	Black	SEDAN	3	Justin	Dsouza
3	4.5	123 Belmont Street	International SF Airport	Red	SEDAN	2	Bettina	Pauley
1	5	123 Belmont Street	567 Logan drive	White	SUV	1	David	Warner

4 rows in set (0.001 sec)

This query will return all the data from USER table along with corresponding records from DRIVER, TRIP and CAR table. We are seeing all the user\_id which are present in the driver table.

## Query 6

**List total number of trips by each driver.**

```
MariaDB [19566ss]> SELECT u.USER_ID, u.USER_TYPE, d.AVG_RATING, COUNT(1) as ride_count from USER u INNER JOIN DRIVER d on u.USER_ID = d.USER_ID group by u.USER_ID;
```

USER_ID	USER_TYPE	AVG_RATING	ride_count
1	Driver	5	1
2	Driver	4.5	1
3	Driver	4.8	1

3 rows in set (0.001 sec)

This query is giving the list of total number of trip by each driver. Here we are joining 2 different tables USER and DRIVER on the common records using INNER JOIN group by user\_id.

## Query 7

**CROSS JOIN between CAR and TRIP.**

```
MariaDB [19566ss]> SELECT t.TRIP_ID,t.DURATION,c.MAKE, c.MODEL,c.COLOR FROM TRIP  
t CROSS JOIN CAR c ;
```

TRIP_ID	DURATION	MAKE	MODEL	COLOR
1	55 Min	MERCEDES	SUV	White
1	55 Min	TOYOTA	SEDAN	Black
1	55 Min	NISSAN	SEDAN	Red
2	30 Min	MERCEDES	SUV	White
2	30 Min	TOYOTA	SEDAN	Black
2	30 Min	NISSAN	SEDAN	Red
3	40 Min	MERCEDES	SUV	White
3	40 Min	TOYOTA	SEDAN	Black
3	40 Min	NISSAN	SEDAN	Red
4	20 Min	MERCEDES	SUV	White
4	20 Min	TOYOTA	SEDAN	Black
4	20 Min	NISSAN	SEDAN	Red

12 rows in set (0.000 sec)

CROSS JOIN between car and trip. It will return multiple of number of records from both the car.

## Query 8

**Joining 4 tables and RIGHT JOIN.**

```
MariaDB [19566ss]> SELECT d.DRIVER_ID, d.AVG_RATING, t.PICKUP_LOC, t.DROPOFF_LOC  
,c.COLOR, c.MODEL ,u.USER_ID, u.F_NAME, u.L_NAME FROM DRIVER d INNER JOIN TRIP t  
on d.DRIVER_ID = t.DRIVER_ID INNER JOIN CAR c ON c.DRIVER_ID = d.DRIVER_ID RIGHT  
JOIN USER u on d.USER_ID= u.USER_ID;
```

DRIVER_ID	AVG_RATING	PICKUP_LOC	DROPOFF_LOC	COLOR	MODEL	USER_ID	F_NAME	L_NAME
1	5	International SF Airport	123 Mowry Ave	White	SUV	1	David	Warner
1	5	123 Belmont Street	567 Logan drive	White	SUV	1	David	Warner
3	4.5	123 Belmont Street	International SF Airport	Red	SEDAN	2	Bettina	Pauley
2	4.8	International SF Airport	1458 Walnut Creek	Black	SEDAN	3	Justin	Dsouza
NULL	NULL	NULL	NULL	NULL	NULL	4	James	Smith
NULL	NULL	NULL	NULL	NULL	NULL	5	Emily	Cortes
NULL	NULL	NULL	NULL	NULL	NULL	6	Sherlock	Holmes

7 rows in set (0.001 sec)

This query will return all the data from USER table along with corresponding records from driver, trip and car table. We are seeing null on the left because user\_id from user table are passenger who never booked any ride.