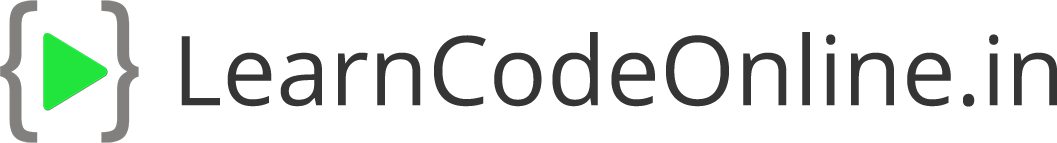
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**Course**: MySQL

**Difficulty:** Intense

**Instruction**: Import the given **lco\_car\_rentals.sql** file in phpmyadmin and then answer the following questions with mySQL queries.

**Q1)** Insert the details of new customer:-

First name : Nancy

Last Name: Perry

Dob : 1988-05-16

License Number: K59042656E

Email : [nancy@gmail.com](mailto:nancy@gmail.com)

**Ans: INSERT INTO `customer` (`first\_name`, `last\_name`, `dob`, `driver\_license\_number`, `email`) VALUES ("Nancy", "Perry", "1988-05-16", "K59042656E", "nancy@gmail.com");**

**Q2)** The new customer (inserted above) wants to rent a car from 2020-08-25 to 2020-08-30. More details are as follows:

Vehicle Type : Economy SUV

Fuel Option : Market

Pick Up location: 5150 W 55th St , Chicago, IL, zip- 60638

Drop Location: 9217 Airport Blvd, Los Angeles, CA, zip - 90045

**Ans: INSERT INTO `rental`(`start\_date`, `end\_date`, `customer\_id`, `vehicle\_type\_id`, `fuel\_option\_id`, `pickup\_location\_id`, `drop\_off\_location\_id`) VALUES ("2020-08-25", "2020-08-30", (SELECT customer.id FROM customer WHERE customer.driver\_license\_number="K59042656E"), (SELECT vehicle\_type.id FROM vehicle\_type WHERE vehicle\_type.name="Economy SUV"), (SELECT fuel\_option.id FROM fuel\_option WHERE fuel\_option.name="Market"), (SELECT location.id FROM location WHERE location.zipcode=60638),(SELECT location.id FROM location WHERE location.zipcode=90045));**

**Q3)** The customer with the driving license W045654959 changed his/her drop off location to 1001 Henderson St, Fort Worth, TX, zip - 76102 and wants to extend the rental upto 4 more days. Update the record.

Ans: **UPDATE `rental` INNER JOIN customer ON customer.id = rental.customer\_id SET drop\_off\_location\_id = (SELECT location.id FROM location WHERE location.zipcode=76102) , end\_date=(SELECT end\_date + INTERVAL 4 DAY) WHERE customer.driver\_license\_number="W045654959";**

**Q4)** Fetch all rental details with their equipment type.

**Ans:SELECT CONCAT(customer.first\_name , " ", customer.last\_name) AS customer\_name, customer.driver\_license\_number, rental.start\_date,rental.end\_date,vehicle\_type.name,fuel\_option.name, CONCAT(pick\_location.street\_address, ", ", pick\_location.city, ", ", pick\_location.state, ", ", drop\_location.zipcode) AS pickup\_location, CONCAT(drop\_location.street\_address, ", ", drop\_location.city, ", ", drop\_location.state, ", ", drop\_location.zipcode) AS drop\_location , equipment\_type.name AS equipment\_type FROM rental INNER JOIN customer ON customer.id=rental.customer\_id INNER JOIN vehicle\_type ON vehicle\_type.id=rental.vehicle\_type\_id INNER JOIN fuel\_option ON fuel\_option.id=rental.fuel\_option\_id INNER JOIN location pick\_location ON pick\_location.id=rental.pickup\_location\_id INNER JOIN location drop\_location ON drop\_location.id=rental.drop\_off\_location\_id INNER JOIN rental\_has\_equipment\_type ON rental\_has\_equipment\_type.rental\_id=rental.id INNER JOIN equipment\_type ON equipment\_type.id = rental\_has\_equipment\_type.equipment\_type\_id;**

**Q5)** Fetch all details of vehicles.

**Ans: SELECT vehicle.id, vehicle.brand, vehicle.model, vehicle.model\_year, vehicle.mileage, vehicle.color, vehicle\_type.name AS vehicle\_type, CONCAT(location.street\_address, ", ", location.city, ", ", location.state, ", ", location.zipcode) AS current\_location FROM vehicle LEFT JOIN vehicle\_type ON vehicle\_type.id=vehicle.vehicle\_type\_id LEFT JOIN location ON location.id = vehicle.current\_location\_id;**

**Q6)** Get driving license of the customer with most rental insurances.

**Ans: SELECT customer.driver\_license\_number, COUNT(rental\_has\_insurance.rental\_id) AS number\_of\_insurance FROM customer LEFT JOIN rental ON rental.customer\_id = customer.id LEFT JOIN rental\_has\_insurance ON rental\_has\_insurance.rental\_id = rental.id GROUP BY rental\_has\_insurance.rental\_id ORDER BY COUNT(rental\_has\_insurance.rental\_id) DESC LIMIT 1;**

**Q7)** Insert a new equipment type with following details.

Name : Mini TV

Rental Value : 8.99

**Ans: INSERT INTO `equipment\_type`(`name`, `rental\_value`) VALUES ("Mini TV" , 8.99);**

**Q8)** Insert a new equipment with following details:

Name : Garmin Mini TV

Equipment type : Mini TV

Current Location zip code : 60638

**Ans: INSERT INTO `equipment`(`name`, `equipment\_type\_id`, `current\_location\_id`) VALUES ("Garmin Mini TV", (SELECT equipment\_type.id FROM equipment\_type WHERE equipment\_type.name = "Mini TV"), (SELECT location.id FROM location WHERE location.zipcode = 60638));**

**Q9)** Fetch rental invoice for customer (email: smacias3@amazonaws.com).

**Ans: SELECT rental\_invoice.id, rental\_invoice.car\_rent, rental\_invoice.equipment\_rent\_total, rental\_invoice.insurance\_cost\_total, rental\_invoice.tax\_surcharges\_and\_fees, rental\_invoice.total\_amount\_payable, rental\_invoice.discount\_amount, rental\_invoice.net\_amount\_payable, rental\_invoice.rental\_id, customer.id AS customer\_id FROM rental\_invoice LEFT JOIN rental ON rental.id = rental\_invoice.rental\_id LEFT JOIN customer ON customer.id = rental.customer\_id WHERE customer.email = "smacias3@amazonaws.com";**

**Q10)** Insert the invoice for customer (driving license: ) with following details:-

Car Rent : 785.4

Equipment Rent : 114.65

Insurance Cost : 688.2

Tax : 26.2

Total: 1614.45

Discount : 213.25

Net Amount: 1401.2

**Ans: INSERT INTO `rental\_invoice`(`car\_rent`, `equipment\_rent\_total`, `insurance\_cost\_total`, `tax\_surcharges\_and\_fees`, `total\_amount\_payable`, `discount\_amount`, `net\_amount\_payable`, `rental\_id`) VALUES (785.4, 114.65, 688.2, 26.2, 1614.45, 213.25, 1401.2, (SELECT rental.id FROM rental INNER JOIN customer ON customer.id = rental.customer\_id WHERE customer.driver\_license\_number = "K59042656E"));**

**Q11)** Which rental has the most number of equipment.

**Ans: SELECT rental\_has\_equipment\_type.rental\_id, COUNT(rental\_has\_equipment\_type.rental\_id) as number\_of\_equipment\_type FROM rental\_has\_equipment\_type GROUP BY rental\_has\_equipment\_type.rental\_id ORDER BY COUNT( rental\_has\_equipment\_type.rental\_id) DESC LIMIT 1;**

**Q12)** Get driving license of a customer with least number of rental licenses.

**Ans: SELECT customer.driver\_license\_number, COUNT(rental\_has\_insurance.rental\_id) AS number\_of\_insurance FROM customer LEFT JOIN rental ON rental.customer\_id = customer.id LEFT JOIN rental\_has\_insurance ON rental\_has\_insurance.rental\_id = rental.id GROUP BY rental\_has\_insurance.rental\_id ORDER BY COUNT(rental\_has\_insurance.rental\_id) ASC LIMIT 1;**

**Q13)** Insert new location with following details.

Street address : 1460 Thomas Street

City : Burr Ridge , State : IL, Zip - 61257

**Ans: INSERT INTO `location`(`street\_address`, `city`, `state`, `zipcode`) VALUES ("1460 Thomas Street", "Burr Ridge", "IL", 61257);**

**Q14)** Add the new vehicle with following details:-

Brand: Tata

Model: Nexon

Model Year : 2020

Mileage: 17000

Color: Blue

Vehicle Type: Economy SUV

Current Location Zip: 20011

**Ans: INSERT INTO `vehicle`(`brand`, `model`, `model\_year`, `mileage`, `color`, `vehicle\_type\_id`, `current\_location\_id`) VALUES ("Tata", "Nexon", 2020, 17000, "blue", (SELECT vehicle\_type.id FROM vehicle\_type WHERE vehicle\_type.name="Economy SUV"), (SELECT location.id FROM location WHERE location.zipcode=20011));**

**Q15)** Insert new vehicle type Hatchback and rental value: 33.88.

**Ans: INSERT INTO `vehicle\_type`(`name`, `rental\_value`) VALUES ("Hatchback", 33.88);**

**Q16)** Add new fuel option Pre-paid (refunded).

**Ans: INSERT INTO `fuel\_option`(`name`, `description`) VALUES ("Pre-paid (refunded)" , "Customer buy a tank of fuel at pick-up and get refunded the amount customer don’t use.");**

**Q17)** Assign the insurance : Cover My Belongings (PEP), Cover The Car (LDW) to the rental started on 25-08-2020 (created in Q2) by customer (Driving License:K59042656E).

**Ans: INSERT INTO `rental\_has\_insurance` (`rental\_id`, `insurance\_id`) VALUES ((SELECT rental.id FROM rental INNER JOIN customer ON customer.id=rental.customer\_id WHERE rental.start\_date="2020-08-25" AND customer.driver\_license\_number="K59042656E"), (SELECT insurance.id FROM insurance WHERE insurance.name = "Cover My Belongings (PEP)")), ((SELECT rental.id FROM rental INNER JOIN customer ON customer.id=rental.customer\_id WHERE rental.start\_date="2020-08-25" AND customer.driver\_license\_number="K59042656E"), (SELECT insurance.id FROM insurance WHERE insurance.name = "Cover The Car (LDW)"));**

**Q18)** Remove equipment\_type :Satellite Radio from rental started on 2018-07-14 and ended on 2018-07-23.

**Ans: DELETE FROM `rental\_has\_equipment\_type` WHERE rental\_has\_equipment\_type.rental\_id = (SELECT rental.id FROM rental WHERE rental.start\_date="2018-07-14" AND rental.end\_date="2018-07-23") AND rental\_has\_equipment\_type.equipment\_type\_id = (SELECT equipment\_type.id FROM `equipment\_type` WHERE equipment\_type.name="Satellite Radio");**

**Q19)** Update phone to 510-624-4188 of customer (Driving License: K59042656E).

**Ans: UPDATE `customer` SET phone = "510-624-4188" WHERE customer.driver\_license\_number = "K59042656E";**

**Q20) I**ncrease the insurance cost of Cover The Car (LDW) by 5.65.

**Ans: UPDATE `insurance` SET cost = (SELECT cost + 5.65) WHERE insurance.name = "Cover The Car (LDW)" ;**

**Q21)** Increase the rental value of all equipment types by 11.25.

**Ans: UPDATE `equipment\_type` SET rental\_value= (SELECT rental\_value + 11.25);**

**Q22)** Increase the cost of all rental insurances except Cover The Car (LDW) by twice the current cost.

**Ans: UPDATE `insurance` SET cost = (SELECT cost \* 2) WHERE insurance.name != "Cover The Car (LDW)";**

**Q23)** Fetch the maximum net amount of invoice generated.

**Ans: SELECT MAX(rental\_invoice.net\_amount\_payable) FROM `rental\_invoice`;**

**Q24)** Update the dob of customer with driving license V435899293 to 1977-06-22.

**Ans:UPDATE `customer` SET dob = "1977-06-22" WHERE customer.driver\_license\_number = "V435899293";**

**Q25)** Insert new location with following details.

Street address : 468 Jett Lane

City : Gardena , State : CA, Zip - 90248

**Ans: INSERT INTO `location`(`street\_address`, `city`, `state`, `zipcode`) VALUES ("468 Jett Lane", "Gardena", "CA", 90248);**

**Q26)** The new customer (Driving license: W045654959) wants to rent a car from 2020-09-15 to 2020-10-02. More details are as follows:

Vehicle Type : Hatchback

Fuel Option : Pre-paid (refunded)

Pick Up location: 468 Jett Lane , Gardena , CA, zip- 90248

Drop Location: 5911 Blair Rd NW, Washington, DC, zip - 20011

**Ans: INSERT INTO `rental`(`start\_date`, `end\_date`, `customer\_id`, `vehicle\_type\_id`, `fuel\_option\_id`, `pickup\_location\_id`, `drop\_off\_location\_id`) VALUES ("2020-09-15", "2020-10-02", (SELECT customer.id FROM customer WHERE customer.driver\_license\_number="W045654959"), (SELECT vehicle\_type.id FROM vehicle\_type WHERE vehicle\_type.name="Hatchback"), (SELECT fuel\_option.id FROM fuel\_option WHERE fuel\_option.name="Pre-paid (refunded)"), (SELECT location.id FROM location WHERE location.zipcode=90248),(SELECT location.id FROM location WHERE location.zipcode=20011));**

**Q27)** Replace the driving license of the customer (Driving License: G055017319) with new one K16046265.

**Ans: UPDATE `customer` SET driver\_license\_number = "K16046265" WHERE customer.driver\_license\_number = "G055017319";**

**Q28)** Calculated the total sum of all insurance costs of all rentals.

**Ans: SELECT SUM(insurance.cost) FROM `rental\_has\_insurance` INNER JOIN insurance ON insurance.id= rental\_has\_insurance.insurance\_id;**

**Q29)** How much discount we gave to customers in total in the rental invoice?

**Ans: SELECT SUM(rental\_invoice.discount\_amount) FROM rental\_invoice;**

**Q30)** The Nissan Versa has been repainted to black. Update the record.

**Ans: UPDATE `vehicle` SET color = "black" WHERE brand = "Nissan" AND model = "Versa"**