

Q1) Insert the details of new customer:-

First name : Nancy

Last Name: Perry

Dob : 1988-05-16

License Number: K59042656E

Email : nancy@gmail.com

Sol:

```
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

Sol:

```
INSERT INTO
```

```
rental(start_date,end_date,customer_id,vehicle_type_id,fuel_option_id,pickup_location_id,drop_o  
ff_location_id)
```

```
VALUES (
```

```
'2020-08-25','2020-08-30',
```

```
(SELECT customer.id FROM customer WHERE
```

```
CONCAT(customer.first_name,customer.last_name)='NancyPerry'),
```

```
(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.

Sol:

```
UPDATE rental SET drop_off_location_id = (SELECT location.id FROM location WHERE
location.zipcode=76102) , end_date= (SELECT end_date + INTERVAL 4 DAY)
-> WHERE customer_id=(SELECT customer.id FROM customer where
customer.driver_license_number='W045654959');
```

Q4) Fetch all rental details with their equipment type.

Sol:

```
select concat(first_name,' ',last_name) as fullname,dob,driver_license_number,email,
rental.start_date,rental.end_date,
-> concat(location.city,'-',location.state) as pickup_location,
-> concat (vehicle.brand,' ',vehicle.model) as vehicle
-> from customer
-> inner join rental ON customer.id=rental.customer_id
-> inner join location on rental.pickup_location_id=location.id
-> inner join vehicle on vehicle.current_location_id=rental.pickup_location_id;
```

Q5) Fetch all details of vehicles.

Sol:

```
select concat(vehicle.brand,' ',vehicle.model) as vehicle,
vehicle.model_year,vehicle.mileage,vehicle.color,
vehicle_type.name as vehicle_category,
vehicle_type.rental_value,vehicle_has_equiment.start_date,vehicle_has_equiment.end_date,
equipment.name, equipment_type.name as equipment_category, equipment_type.rental_value
as equipment_rental_value
from vehicle
left join vehicle_type on vehicle.vehicle_type_id= vehicle_type.id
inner join vehicle_has_equiment on vehicle.id=vehicle_has_equiment.vehicle_id
inner join equipment on vehicle_has_equiment.equipment_id=equipment.id
inner join equipment_type on equipment.equipment_type_id=equipment_type.id;
```

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

Sol:

```
select customer.first_name, customer.driver_license_number,
count(rental_has_insurance.rental_id) from customer
-> inner join rental on customer.id = rental.customer_id
-> inner join rental_has_insurance on rental.id=rental_has_insurance.rental_id
```

-> group by 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

Sol:

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

Sol:

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).

Sol:

> select * from rental_invoice

> where rental_id = (select rental.id from rental

where rental.customer_id = (select customer.id from customer where customer.email = 'smacias3@amazonaws.com'));

Q10) Insert the invoice for customer (driving license: **K59042656E**) 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

Sol:

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.

Sol:

```
select
rental.id,rental.start_date,rental.end_date,rental.customer_id,count(rental_has_equipment_type.rental_id) as equipped_rentals from rental
inner join rental_has_equipment_type on rental_has_equipment_type.rental_id = rental.id
group by 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.

Sol:

```
select concat(customer.first_name,' ',customer.last_name) as full_name,
customer.driver_license_number, count(rental_has_insurance.rental_id) from customer
inner join rental on rental.customer_id = customer.id
left join rental_has_insurance on rental.id=rental_has_insurance.rental_id
group by customer.driver_license_number
order by count(rental_has_insurance.rental_id) limit 1;
```

Q13) Insert new location with following details.

Street address : 1460 Thomas Street

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

Sol:

```
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

Sol:

```
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.

Sol:

insert into vehicle_type(name,rental_value)
-> values('Hatchback',33.88);

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

Sol:

insert into fuel_option(name,description)
-> values('Pre-paid','refunded');

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).

Sol:

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.

Sol:

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).

Sol:

update customer set phone = '510-624-4188'
where customer.driver_license_number='K59042656E';

Q20) Increase the insurance cost of Cover The Car (LDW) by 5.65.

Sol:

update insurance set cost=(select insurance.cost + 5.65) where insurance.name='Cover The Car (LDW)';

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

Sol:

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.

Sol:

> update insurance set cost = (select cost*2) where insurance.name != 'Cover The Car (LDW)'

Q23) Fetch the maximum net amount of invoice generated.

Sol:

**select concat(customer.first_name,' ',customer.last_name) as fullname,
max(rental_invoice.net_amount_payable) as max_net_amount from rental_invoice
-> inner join rental on rental_invoice.rental_id = rental.id
-> left join customer on rental.customer_id=customer.id
-> ;**

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

Sol:

update customer set dob='1977-06-22' where driver_license_number='V435899293';

Q25) Insert new location with following details.

Street address : 468 Jett Lane

City : Gardena , State : CA, Zip - 90248

Sol:

**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

Sol:

insert into

rental(customer_id,start_date,end_date,vehicle_type_id,fuel_option_id,pickup_location_id,drop_off_location_id)

values(

(select customer.id from customer where
customer.driver_license_number='W045654959'),
'2020-09-15','2020-10-02',
(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.

Sol:

update customer set driver_license_number='K16046265' where
driver_license_number='G055017319';

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

Sol:

select sum(insurance.cost) from insurance inner join rental_has_insurance on
rental_has_insurance.insurance_id=insurance.id;

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

Sol:

**select sum(discount_amount) from rental_invoice
inner join rental on rental.id = rental_invoice.rental_id;**

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

Sol:

update vehicle set color='black' where concat(brand,' ',model)='Nissan Versa';