Group Project

Name of the company: Borro

INTRODUCTION

The purpose of the database for a rental car company is to efficiently manage information related to rental cars, customers, reservations, and transactions. Our database will manage the reservations for rental cars, including information about the rental period, pick-up location, and payment information. This information can be used to ensure that cars are available for customers when needed and to manage the flow of cars between different locations.

Problems to solve (the basis for database queries)

1. Access specific employee details
2. Update and maintain accurate employee information
3. Retreive transactions for a particular employee
4. Ensuring accurate financial records and transaction monitoring
5. Search customer with specific names, discount, or liicense numbers
6. Ensuring service and targeted customer interactions
7. Search vehicle with specific status or rental rates
8. Ensure efficient vehicle allocation and accurate pricing for customers

1. How to access specific employees details?
2. How to update and maintain accurate employee information?
3. How to retrieve specific transactions for a particular employee?
4.
5. How many vehicles are available to rent per location?
6. What are the most frequently rented vehicles per region/location?
7. Which customers rent the most across region/location?
8. Which location has the most rentals reserved?
9. Which customers rented more than one vehicle at a time?

ENTITIES

1) Rental Vehicle: location, license plate number(unique), color, year, Vehicle Status(available, reserved, rented, not available), rental date, rental rates, make and model(manufacturer), TransactionsID, Vehicle category(Car, SUV, minivan), reservation status(confirmed, canceled, modified, fulfilled)
2) Customers: Driver License number(unique), Name, Phone number, credit card number, rental history, address, TransactionsID, email address, discount

3) Employee: Name, contact information, schedule, title, EmployeeID(unique)
4) Transactions: Payment amount, payment method, payment date, TransactionID(unique), Insurance Fee(one-time payment)
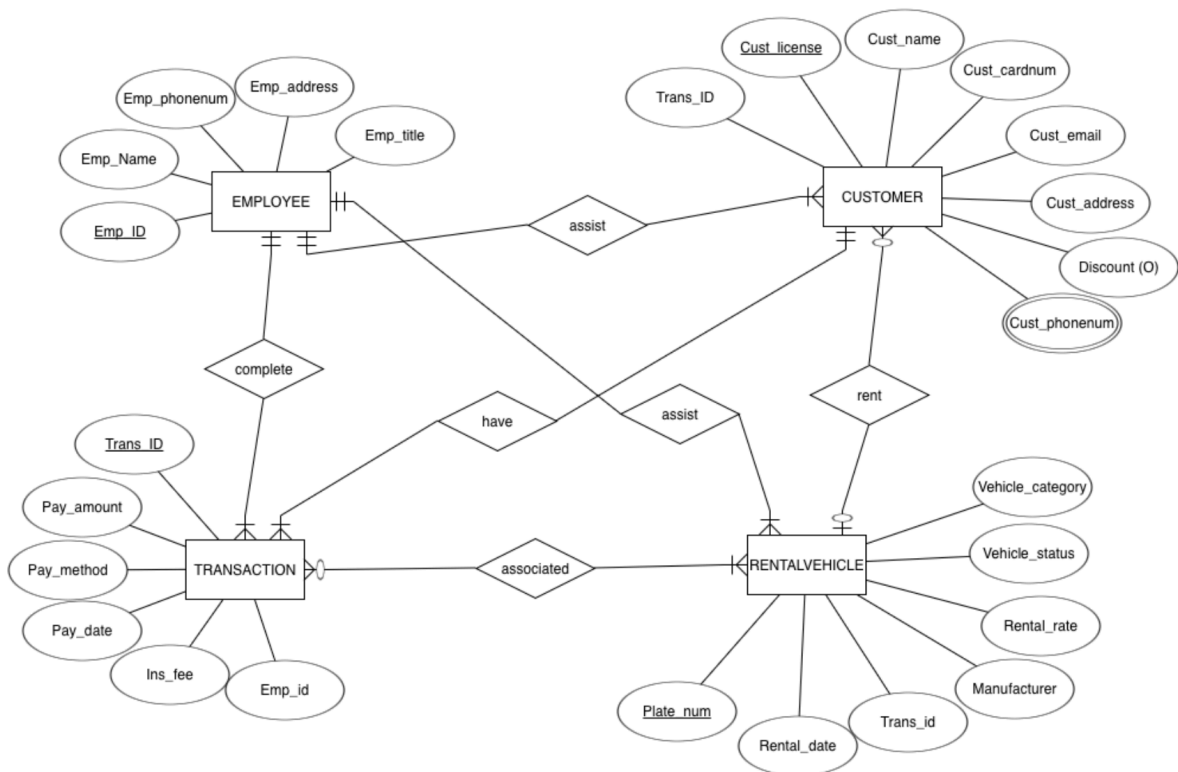
REQUIREMENTS

1. Borro Company wants to keep track of Rental Vehicles, Customers, Employees, and Transactions
2. For Rental Vehicle they will keep track of location, license plate number(unique), color, year, Vehicle Status(available, reserved, rented, not available), rental date, rental rates, make and model(manufacturer), TransactionsID, Vehicle category(Car, SUV, minivan), reservation status(confirmed, canceled, modified, fulfilled)
3. For Customer, they will keep track of Driver's License number(unique), Name, Phone number, credit card number, rental history, address, TransactionsID, email address, discount
4. For Employee, they will keep track of Name, address, Phone number, schedule, title, EmployeeID(unique)
5. For Transactions they will keep track of Payment amount, payment method, payment date, TransactionID(unique), and Insurance Fee(one-time payment).
6. Each rental vehicle can be rented to one customer or none and each customer can rent one to many vehicles.
7. Each employee can assist in renting one or many vehicles and each vehicle must be rented by one employee.
8. For each rented vehicle there can be one or many transactions recorded and each transaction can be associated with one to many rented vehicles.
9. Each employee can help one or many customers and each customer must be assisted by one employee.
10. Each employee can complete one to many transactions and each transaction must be completed by one employee.
11. Each customer can have one to many transactions under their name, and each transaction must have one customer involved.
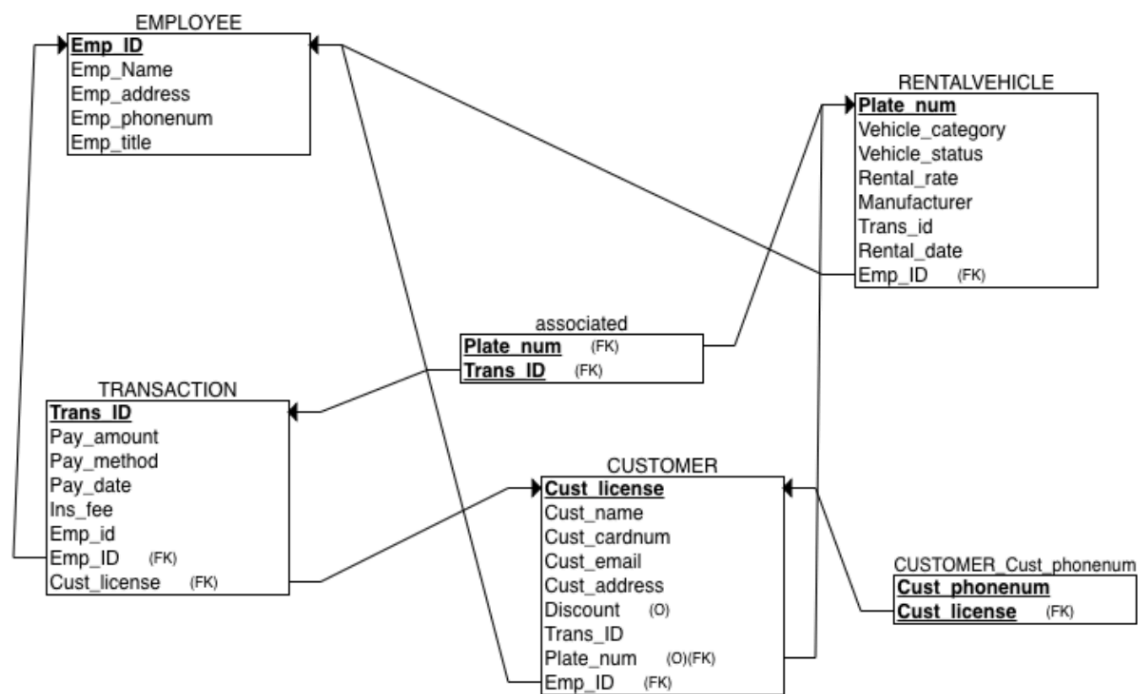
UPDATED REQUIREMENTS

1. Borro Company wants to keep track of Rental Vehicles, Customers, Employees, and Transactions
2. For Rental Vehicle they will keep track of license plate number(unique), Vehicle category, Vehicle Status, Rental Rate, Manufacturer, TransactionsID, and Rental Date
3. For Customer, they will keep track of Customer License number(unique), Name, phone number, credit card number, email address, address, discount, and transactionID
4. For Employee, they will keep track of EmployeeID(unique), Name, address, Phone number, and title

5. For Transactions they will keep track of TransactionID(unique), Payment amount, payment method, payment date, Insurance Fee(one-time payment), and EmployeeID
6. Each rental vehicle can be rented to many customers or none and each customer can rent one or no vehicles.
7. Each employee must assist in renting one or many vehicles and each vehicle must be assisted by one employee.
8. For each rented vehicle there can be many transactions recorded and each transaction must be associated with one or many rented vehicles.
9. Each employee must assist one or many customers and each customer must be assisted by one employee.
10. Each employee must complete one to many transactions and each transaction must be completed by one employee.
11. Each customer must have one to many transactions under their name, and each transaction must have one customer involved.

UPDATED ERD

UPDATED ERD RELATIONAL SCHEMA

CREATE TABLE STATEMENTS

-- RentalVehicle table

CREATE TABLE RentalVehicle (
    Plate_Num VARCHAR(20) PRIMARY KEY NOT NULL,

```
    Location VARCHAR(100) NOT NULL,
    Vehicle_Color VARCHAR(50) NOT NULL,
    Vehicle_Year INT NOT NULL,
    Vehicle_Status VARCHAR(20) NOT NULL,
    Rental_Date DATE NOT NULL,
    Rental_Rate DECIMAL(10, 2) NOT NULL,
    Manufacturer VARCHAR(50) NOT NULL,
    Trans_ID int NOT NULL,
    Emp_ID int NOT NULL,
    Vehicle_Category VARCHAR(20) NOT NULL,
    Reserve_Status VARCHAR(20) NOT NULL,
    Cust_License VARCHAR(20) NOT NULL,
    FOREIGN KEY (Cust_Licence) REFERENCES CUSTOMER (Cust_Licence),
    FOREIGN KEY (Emp_ID) REFERENCES EMPLOYEE (Emp_ID)
);
```

-- Customer table

```
CREATE TABLE Customer (
    Cust_License VARCHAR(20) PRIMARY KEY NOT NULL,
    Cust_Name VARCHAR(100) NOT NULL,
    Cust_CardNum VARCHAR(20) NOT NULL,
    Cust_RentHistory VARCHAR(20) NOT NULL,
    Trans_ID INT NOT NULL,
    Emp_ID INT NOT NULL,
    Cust_Address VARCHAR(100) NOT NULL,
    Cust_Email VARCHAR(100) NOT NULL,
    Discount DECIMAL(5, 2) NOT NULL
);
```

– Customer Phone Number table

```
CREATE TABLE CUSTOMER_Cust_PhoneNum (

    Cust_PhoneNum VARCHAR(20) PRIMARY  KEY NOT NULL,
    Cust_License VARCHAR(20)  PRIMARY  KEY NOT NULL,
    FOREIGN KEY (Cust_Licence) REFERENCES CUSTOMER (Cust_Licence),
);
```

-- Employee table
```
CREATE TABLE EMPLOYEE(
    Emp_ID INT PRIMARY KEY NOT NULL,
    Emp_Name VARCHAR(100) NOT NULL,
    Emp_Address VARCHAR(100) NOT NULL,
```

```
    Emp_Schedule VARCHAR(100) NOT NULL,
    Emp_Title VARCHAR(50) NOT NULL
);
```

– **Employee Phone Number Table**

```
CREATE TABLE EMPLOYEE_Emp_PhoneNum(
    Emp_PhoneNum VARCHAR(20) PRIMARY KEY NOT NULL,
    Emp_ID INT PRIMARY KEY NOT NULL,
    FOREIGN KEY (Emp_ID) REFERENCES EMPLOYEE(Emp_ID)
);
```

-- **Transactions table**

```
CREATE TABLE TRANSACTION(
    Trans_ID VARCHAR(20) PRIMARY KEY NOT NULL,
    Pay_Amount DECIMAL(10, 2) NOT NULL,
    Pay_Method VARCHAR(50),
    Pay_Date DATE NOT NULL,
    Ins_Fee DECIMAL(10, 2),
    Cus_License VARCHAR(20) NOT NULL,
    Emp_ID VARCHAR(20) NOT NULL,
    FOREIGN KEY (Cust_Licence) REFERENCES CUSTOMER (Cus_License),
    FOREIGN KEY (Emp_ID) REFERENCES EMPLOYEE (Emp_ID)
);
```

– **Record Table**

```
CREATE TABLE Record (

    Plate_Num VARCHAR(20) PRIMARY KEY NOT NULL,
    Trans_ID INT PRIMARY KEY NOT NULL,
    FOREIGN KEY (Plate_Num) REFERENCES RENTVEHICLE (Plate_Num),
    FOREIGN KEY (Trans_ID) REFERENCES TRANSACTION (Trans_ID)
);
```

UPDATED CREATE STATEMENTS

```
-- Create Employee table
create table employee (
```

```sql
  emp_id        varchar2(10) not null,
  emp_name      varchar2(50) not null,
  emp_title             varchar2(20) not null,
  emp_address   varchar2(50) not null,
  emp_phonenum       varchar2(15) not null,
        constraint pk_employee primary key (emp_id)
);

-- Create Transaction table
create table transactions (
  trans_id        number not null,
  pay_amount    number not null,
  pay_method            varchar2(50) not null,
  pay_date              date not null,
  ins_fee               number not null,
  emp_id                varchar2(10) not null,
        constraint pk_transactions primary key (trans_id),
    constraint fk_employee_trans_id foreign key (emp_id)
      references employee (emp_id)
);

-- Create Customer table
create table customer (
  cust_license          varchar2(20) not null,
  cust_name             varchar2(50) not null,
  cust_phonennum        varchar2(15) not null,
  cust_cardnum          number not null,
  cust_address          varchar2(75) not null,
  trans_id                      number,
  cust_email            varchar2(50) not null,
  discount                      number,
        constraint pk_customer primary key (cust_license),
    constraint fk_customer_trans_id foreign key (trans_id)
      references transactions (trans_id)
);

-- Create RentalVehicle table
create table rental_vehicle (
  plate_num        varchar2(10) not null,
  vehicle_category varchar2(20) not null,
  vehicle_status   varchar2(20) not null,
  rental_date      date not null,
  rental_rate      number not null,
  manufacturer     varchar2(10) not null,
```

```
    trans_id                number not null,
  constraint pk_rental_vehicle primary key (plate_num),
  constraint fk_rental_vehicle_id foreign key (trans_id)
    references transactions (trans_id)
);


-- Create Associated table
create table associated (
    plate_num   varchar2(10) not null,
    trans_id    number not null,
    constraint fk_associated foreign key (plate_num)
    references rental_vehicle (plate_num),
    constraint fk_associated foreign key (trans_id)
    references transactions (trans_id)
);

-- Create Customer_Cust_Phonenum table
create table customer_cust_phonenum (
    cust_phonenum    varchar2(15) not null,
    cust_license     varchar2(20) not null,
    constraint pk_cust_phonenum primary key (cust_phonenum),
    constraint fk_customer_cust_phonenum foreign key (cust_license)
    references customer (cust_license)
);
```

INSERT STATEMENTS

```
-- Insert Employee table
insert into employee (emp_id, emp_name, emp_title, emp_address, emp_phonenum) values
  ('MN9876','Lucas Mitchell','Manager','790 Main Street, New York 10007','(123)-456-7891');
insert into employee (emp_id, emp_name, emp_title, emp_address, emp_phonenum) values
  ('BV7654','Steven Brown','Employee','654 Oak Lane, New York 10003','(345)-789-1011');
insert into employee (emp_id, emp_name, emp_title, emp_address, emp_phonenum) values
  ('CX5432','Albert King','Employee','980 Cedar Court, New York 10005','(678)-910-1112');
```

EMP_ID	EMP_NAME	EMP_TITLE	EMP_ADDRESS	EMP_PHONENUM
MN9876	Lucas Mitchell	Manager	790 Main Street, New York 10007	(123)-456-7891
BV7654	Steven Brown	Employee	654 Oak Lane, New York 10003	(345)-789-1011
CX5432	Albert King	Employee	980 Cedar Court, New York 10005	(678)-910-1112

-- Insert Transaction table
insert into transactions (trans_id, pay_amount, pay_method, pay_date, ins_fee, emp_id) values
(987654, 1000,'Credit Card',TO_DATE('20-10-2022', 'dd-MM-yyyy'),'100','MN9876');
insert into transactions (trans_id, pay_amount, pay_method, pay_date, ins_fee, emp_id) values
(123456, 80000,'Credit Card',TO_DATE('06-04-2022', 'dd-MM-yyyy'),'150','CX5432');
insert into transactions (trans_id, pay_amount, pay_method, pay_date, ins_fee, emp_id) values
(456790, 12000,'Credit Card',TO_DATE('01-01-2022', 'dd-MM-yyyy'),'200','BV7654');
insert into transactions (trans_id, pay_amount, pay_method, pay_date, ins_fee, emp_id) values
(236908, 5000,'Credit Card',TO_DATE('02-02-2023', 'dd-MM-yyyy'),'90','BV7654');
insert into transactions (trans_id, pay_amount, pay_method, pay_date, ins_fee, emp_id) values
(367809, 9000,'Credit Card',TO_DATE('03-03-2023', 'dd-MM-yyyy'),'100','CX5432');
insert into transactions (trans_id, pay_amount, pay_method, pay_date, ins_fee, emp_id) values
(106754, 12000,'Credit Card',TO_DATE('04-04-2023', 'dd-MM-yyyy'),'100','CX5432');

TRANS_ID	PAY_AMOUNT	PAY_METHOD	PAY_DATE	INS_FEE	EMP_ID
123456	80000	Credit Card	06-APR-22	150	CX5432
456790	12000	Credit Card	01-JAN-22	200	BV7654
236908	5000	Credit Card	02-FEB-23	90	BV7654
367809	9000	Credit Card	03-MAR-23	100	CX5432
106754	12000	Credit Card	04-APR-23	100	CX5432
987654	1000	Credit Card	20-OCT-22	100	MN9876

-- Insert Customer table
insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values

('AB123456','David Johnson','(555)-123-4567',4111 1111 1111 1111,'123 Maple Street, New York 10001', 987654,'JDAVID@YAHOO.COM', 0.10);
insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
    ('CD345678','Sarah Thompson','(555)-987-6543',5222 2222 2222 2222,'456 Oak Avenue, New York 10003', 123456,'TSARAH49@AOL.COM',);
insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
    ('CD345678','Sarah Thompson','(333)-945-5690',5222 2222 2222 2222,'456 Oak Avenue, New York 10003', 456790,'TSARAH49@AOL.COM',);
insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
    ('EF567891','Jane Smith','(555)-234-5678',6333 3333 3333 3333,'324 Pine Road, New York 10004', 236908,'SJANE@GMAIL.COM', 0.5);
insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
    ('GH789101','Sophia Davis','(555)-876-5432',7000 0000 0000 0000,'789 Elm Lane, New York 10003', 367809,'SOPHIA.DAVIS@AOL.COM',);
insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
    ('IJ910111','Olivia Parker','(333)-790-2346',9777 7777 7777 7777,'987 Cedar Court, New York 10005', 106754,'POLIVIA@GMAIL.COM', 0.20);
insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
    ('KL213141','Sam Rodriguez','(444)-999-5555',8555 5555 5555 5555,'600 Pine Road, New York 10004', ,'RSAM79@GMAIL.COM',);

CUST_LICENSE	CUST_NAME	CUST_PHONENNUM	CUST_CARDNUM	CUST_ADDRESS	TRANS_ID	CUST_EMAIL	DISCOUNT
AB123456	David Johnson	(555)-123-4567	4111111111111111	123 Maple Street, New York 10001	987654	JDAVID@YAHOO.COM	.1
CD345678	Sarah Thompson	(555)-987-6543	5222222222222222	456 Oak Avenue, New York 10003	123456	TSARAH49@AOL.COM	—
EF567891	Jane Smith	(555)-234-5678	6333333333333333	324 Pine Road, New York 10004	236908	SJANE@GMAIL.COM	.5
GH789101	Sophia Davis	(555)-876-5432	7000000000000000	789 Elm Lane, New York 10003	367809	SOPHIA.DAVIS@AOL.COM	—
IJ910111	Olivia Parker	(333)-790-2346	9777777777777777	987 Cedar Court, New York 10005	106754	POLIVIA@GMAIL.COM	.2

```
 99    -- Insert Customer table
100    insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
101       ('AB123456','David Johnson','(555)-123-4567', 4111111111111111,'123 Maple Street, New York 10001', 987654,'JDAVID@YAHOO.COM', 0.10);
102    insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
103       ('CD345678','Sarah Thompson','(555)-987-6543',5222222222222222,'456 Oak Avenue, New York 10003', 123456,'TSARAH49@AOL.COM', null);
104    insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
105       ('CD345678','Sarah Thompson','(333)-945-5690',5222222222222222,'456 Oak Avenue, New York 10003', 456790,'TSARAH49@AOL.COM', null);
106    insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
107       ('EF567891','Jane Smith','(555)-234-5678',6333333333333333,'324 Pine Road, New York 10004', 236908,'SJANE@GMAIL.COM', 0.5);
108    insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
109       ('GH789101','Sophia Davis','(555)-876-5432',7000000000000000,'789 Elm Lane, New York 10003', 367809,'SOPHIA.DAVIS@AOL.COM', null);
110    insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
111       ('IJ910111','Olivia Parker','(333)-790-2346',9777777777777777,'987 Cedar Court, New York 10005', 106754,'POLIVIA@GMAIL.COM', 0.20);
112    insert into customer (cust_license, cust_name, cust_phonennum, cust_cardnum, cust_address, trans_id, cust_email, discount) values
113       ('KL213141','Sam Rodriguez','(444)-999-5555',8555555555555555,'600 Pine Road, New York 10004', ,'RSAM79@GMAIL.COM', null);
114
```

```
ORA-00001: unique constraint (SQL_HWOPDMLSYYDMIGMVLBJOHEKHR.PK_CUSTOMER) violated ORA-06512: at "SYS.DBMS_SQL", line 1721

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

ORA-00936: missing expression
```

-- Insert RentalVehicle table
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
  ('ABCD1234','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 200,'Mercedes', 123456);
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
  ('EFGH5678','Car','Reserved',TO_DATE('03-03-2023', 'dd-MM-yyyy'), 250,'BMW', 367809);
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
  ('IJKL9101','Car','Reserved',TO_DATE('04-04-2023', 'dd-MM-yyyy'), 100,'Toyota', 106754);
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
  ('MNOP1112','Car','Reserved',TO_DATE('02-02-2022', 'dd-MM-yyyy'), 100,'Honda', 236908);
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
  ('QRST1314','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 300,'Mercedes', 123456);
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
  ('QRST1314','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 300,'Mercedes', 456790);
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
  ('QRST1314','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 300,'Mercedes', 106754);

insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
    ('UVWX1516','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 200,'BMW', 987654);
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
    ('YZAB4321','Car','Not available',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 100,'Honda', null);
insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
    ('CDEF8765','Car','Unreserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 100,'Audi', null);

```
118  -- Insert RentalVehicle table
119  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
120      ('ABCD1234','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 200,'Mercedes', 123456);
121  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
122      ('EFGH5678','Car','Reserved',TO_DATE('03-03-2023', 'dd-MM-yyyy'), 250,'BMW', 367809);
123  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
124      ('IJKL9101','Car','Reserved',TO_DATE('04-04-2023', 'dd-MM-yyyy'), 100,'Toyota', 106754);
125  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
126      ('MNOP1112','Car','Reserved',TO_DATE('02-02-2022', 'dd-MM-yyyy'), 100,'Honda', 236908);
127  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
128      ('QRST1314','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 300,'Mercedes', 123456);
129  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
130      ('QRST1314','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 300,'Mercedes', 456790);
131  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
132      ('QRST1314','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 300,'Mercedes', 106754);
133  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
134      ('UVWX1516','Car','Reserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 200,'BMW', 987654);
135  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
136      ('YZAB4321','Car','Not available',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 100,'Honda', null);
137  insert into rental_vehicle (plate_num, vehicle_category, vehicle_status, rental_date, rental_rate, manufacturer, trans_id) values
138      ('CDEF8765','Car','Unreserved',TO_DATE('06-04-2022', 'dd-MM-yyyy'), 100,'Audi', null);
139
```

1 row(s) inserted.

ORA-00001: unique constraint (SQL_HWOPDMLSYYDMIGMVLBJOHEKHR.PK_RENTAL_VEHICLE) violated ORA-06512: at "SYS.DBMS_SQL", line 1721

ORA-00001: unique constraint (SQL_HWOPDMLSYYDMIGMVLBJOHEKHR.PK_RENTAL_VEHICLE) violated ORA-06512: at "SYS.DBMS_SQL", line 1721

1 row(s) inserted.

ORA-01400: cannot insert NULL into ("SQL_HWOPDMLSYYDMIGMVLBJOHEKHR"."RENTAL_VEHICLE"."TRANS_ID") ORA-06512: at "SYS.DBMS_SQL", line 1721

ORA-01400: cannot insert NULL into ("SQL_HWOPDMLSYYDMIGMVLBJOHEKHR"."RENTAL_VEHICLE"."TRANS_ID") ORA-06512: at "SYS.DBMS_SQL", line 1721

PLATE_NUM	VEHICLE_CATEGORY	VEHICLE_STATUS	RENTAL_DATE	RENTAL_RATE	MANUFACTURER	TRANS_ID
ABCD1234	Car	Reserved	06-APR-22	200	Mercedes	123456
EFGH5678	Car	Reserved	03-MAR-23	250	BMW	367809
IJKL9101	Car	Reserved	04-APR-23	100	Toyota	106754
MNOP1112	Car	Reserved	02-FEB-22	100	Honda	236908
QRST1314	Car	Reserved	06-APR-22	300	Mercedes	123456
UVWX1516	Car	Reserved	06-APR-22	200	BMW	987654

-- Insert Associated table
insert into associated (plate_num, trans_id) values

('ABCD1234','123456');
insert into associated (plate_num, trans_id) values
('QRST1314','123456');
insert into associated (plate_num, trans_id) values
('QRST1314','456790');
insert into associated (plate_num, trans_id) values
('QRST1314','106754');
insert into associated (plate_num, trans_id) values
('UVWX1516','987654');
insert into associated (plate_num, trans_id) values
('MNOP1112','236908');
insert into associated (plate_num, trans_id) values
('EFGH5678','367809');
insert into associated (plate_num, trans_id) values
('IJKL9101','106754');

```
142  -- Insert Associated table
143  insert into associated (plate_num, trans_id) values
144      ('ABCD1234','123456');
145  insert into associated (plate_num, trans_id) values
146      ('QRST1314','123456');
147  insert into associated (plate_num, trans_id) values
148      ('QRST1314','456790');
149  insert into associated (plate_num, trans_id) values
150      ('QRST1314','106754');
151  insert into associated (plate_num, trans_id) values
152      ('UVWX1516','987654');
153  insert into associated (plate_num, trans_id) values
154      ('MNOP1112','236908');
155  insert into associated (plate_num, trans_id) values
156      ('EFGH5678','367809');
157  insert into associated (plate_num, trans_id) values
158      ('IJKL9101','106754');
159
160  select * from associated;
161
```

ORA-00942: table or view does not exist

```
53  -- Create Associated table
54 v create table associated (
55      plate_num   varchar2(10) not null,
56      trans_id    number not null,
57      constraint fk_associated foreign key (plate_num)
58      references rental_vehicle (plate_num),
59      constraint fk_associated foreign key (trans_id)
60      references transactions (trans_id)
61  );
62
```

ORA-02264: name already used by an existing constraint

-- Insert Customer_Cust_Phonenum
insert into customer_cust_phonenum (cust_phonenum, cust_license) values
  ('(555)-987-6543','CD345678');
insert into customer_cust_phonenum (cust_phonenum, cust_license) values
  ('(333)-945-5690','CD345678');

CUST_PHONENUM	CUST_LICENSE
(555)-987-6543	CD345678
(333)-945-5690	CD345678

ALTER TABLE STATEMENTS

ALTER TABLE transactions MODIFY(
 pay_amount number(10,2)
);

 ALTER TABLE employee ADD (
emp_phone varchar2(20)
);

CREATE QUERIES

EMPLOYEE TABLE

Query 1: Retrieve all employees and their details:

SELECT * FROM employee;

This query allows the car rental company to view the complete list of employees, including their ID, name, title, address, and phone number.

Query 2: Retrieve the details of an employee by their ID:

SELECT * FROM employee

WHERE EMP_ID = 'MN9876';

This query allows the car rental company to fetch the details of a specific employee based on their ID ('MN9876' in this case).

Query 3: Update the title of an employee:

UPDATE employee
SET EMP_TITLE = 'Senior Manager'
WHERE EMP_ID = 'MN9876';

This query allows the car rental company to update the title of an employee. In this example, it changes the title of the employee with ID 'MN9876' to 'Senior Manager'. It helps in managing employee roles and responsibilities effectively and reflecting any changes or promotions within the company.

Query 4: Delete an employee from the database:

DELETE FROM employee
WHERE EMP_ID = 'BV7654';

This query allows the car rental company to remove an employee from the database based on their ID when an employee leaves the company or is no longer associated with the car rental operations.

TRANSACTION TABLE

Query 1: Retrieve transactions for a specific employee:

SELECT * FROM transactions
WHERE EMP_ID = 'CX5432';

Query 2: Retrieve transactions within a specific date range:

SELECT * FROM transactions
WHERE PAY_DATE BETWEEN '06-APR-22' AND '02-FEB-23';

Query 3: Retrieve transactions with a payment amount greater than a certain value:

SELECT * FROM transactions
WHERE PAY_AMOUNT > 2000;

Query 4: Retrieve transactions sorted by payment amount in descending order:

SELECT * FROM transactions
 ORDER BY PAY_AMOUNT DESC; //from highest to lowest

CUSTOMER

Query 1: Retrieve customers whose names contain "Thompson":

SELECT *
FROM customer
WHERE CUST_NAME LIKE '%Thompson%';

Query 2: Retrieve customers with a discount greater than 0.1:

SELECT *
FROM customer
WHERE discount > 0.1;

Query 3: Retrieve customers with a specific license number:
SELECT *
FROM customer
WHERE CUST_LICENSE= 'AB123456';

RENTAL VEHICLE

Query 1: Retrieve rental vehicles with a specific vehicle status:

SELECT * FROM rental_vehicle
WHERE VEHICLE_STATUS = 'Reserved';

Query 2: Retrieve rental vehicles with a rental rate greater than a certain amount:

SELECT * FROM rental_vehicle
WHERE RENTAL_RATE > 200;

DATA

Customer

Cust_License	Cust_Name	Cust_PhoneNum	Cust_CardNum	Cust_Address	Trans_ID	Cust_Email	Discount
AB123456	David Johnson	(555)-123-4567	4111 1111 1111 1111	123 Maple Street, New York 10001	987654	JDAVID@YAHOO.COM	0.10
CD345678	Sarah Thompson	(555)-987-6543	5222 2222 2222 2222	456 Oak Avenue, New York 10003	123456	TSARAH49@AOL.COM	
CD345678	Sarah Thompson	(333)-945-5690	5222 2222 2222 2222	456 Oak Avenue, New York 10003	456790	TSARAH49@AOL.COM	
EF567891	Jane Smith	(555)-234-5678	6333 3333 3333 3333	324 Pine Road, New York 10004	236908	SJANE@GMAIL.COM	0.5
GH789101	Sophia Davis	(555)-876-5432	7000 0000 0000 0000	789 Elm Lane, New York 10003	367809	SOPHIA.DAVIS@AOL.COM	
IJ910111	Olivia Parker	(333)-790-234	9777 7777 7777 7777	987 Cedar Court, New York 10005	106754	POLIVIA@GMAIL.COM	0.20
KL213141	Sam Rodriguez	(444)-999-5555	8555 5555 5555 5555	600 Pine Road, New York 10004		RSAM79@GMAIL.COM	

Transaction

Trans_ID	Pay_Amount	Pay_Method	Pay_Date	Ins_Fee	Emp_ID
987654	1,000	Credit Card	10/20/2022	100	MN9876
123456	80,000	Credit Card	06/04/2022	150	CX5432
456790	12,000	Credit Card	01/01/2023	200	BV7654
236908	5,000	Credit Card	02/02/2023	90	BV7654
367809	9,000	Credit Card	03/03/2023	100	CX5432
106754	12,000	Credit Card	04/04/2023	100	CX5432

Employee

Emp_ID	Emp_Name	Emp_Title	Emp_Address	Emp_PhoneNum
MN9876	Lucas Mitchell	Manager	790 Main Street, New York 10007	(123)-456-7891
BV7654	Steven Brown	Employee	654 Oak Lane, New York 10003	(345)-789-1011
CX5432	Albert King	Employee	980 Cedar Court, New York 10005	(678)-910-1112

Rental_Vehicle

Plate_Num	Vehicle_Category	Vehicle_Status	Rental_Date	Rental_Rate	Manufacturer	Trans_ID
ABCD1234	car	Reserved	06/04/2022	200	Mercedes	123456
EFGH5678	car	Reserved	03/03/2023	250	BMW	367809
IJKL9101	car	Reserved	04/04/2023	100	Toyota	106754
MNOP1112	car	Reserved	02/02/2022	100	Honda	236908
QRST1314	car	Reserved	06/04/2022 01/01/2023 04/04/2023	300	Mercedes	123456 456790 106754
UVWX1516	car	Reserved	10/20/2023	200	BMW	987654
YZAB4321	car	Not available		100	Honda	
CDEF8765	car	Unreserved		100	Audi	