

CENG 315

PROJECT DESIGN REPORT

Group 12

Hüseyin Kanat

Yusuf Bayındır

Ahmet Çoko

Rana Elif Albayrak

1. Aim of the database

In the dynamic workplace of automotive rentals, the need for an efficient database system cannot be overstated. The database design outlined in this document is designed to meet the different requirements of a dynamic car rental company. The core objective of this database is to meticulously orchestrate and optimize every facet of the car rental operation. This includes sophisticated management of customer engagements, comprehensive tracking of vehicle inventory and availability, seamless handling of rental agreements and transactions, and meticulous upkeep of service and maintenance records. Furthermore, the database plays a crucial role in staff management and payroll processing, ensuring that staff schedules align with operational needs.

2. Entity Sets and Attributes

Customer : Entity that holds customer information

- **customer_id (Primary Key):** A unique identifier for each customer.
- **name:** Full name of the customer.
- **address:** Residential address of the customer.
- **phone_number:** Contact number of the customer.
- **e-mail:** Email address of the customer.

Receipt: Entity that holds payment information of customers.

- **receipt_id (Primary Key):** A unique identifier for each receipt.
- **payment_date:** The date and time when the payment was made.
- **payment_method:** The method of payment used (e.g., Credit Card, Debit Card, Cash).
- **extra_charges:** For late returns and damages
- **total_charge:** This is a calculated value that represents the total amount to be charged for the rental.

Vehicle : Entity that holds vehicle information

- **license_plate (Primary Key):** A unique identifier for each vehicle.
- **make:** Brand of the vehicle.
- **model:** Specific model of the vehicle.
- **year:** Manufacturing year of the vehicle.
- **daily_price:** Daily price of the vehicle.
- **transmission:** Transmission type vehicle.
- **fuel_type:** Fuel type of vehicle.
- **status:** Current status of the vehicle.(rented, maintenance or available)

Maintenance : Entity that holds vehicle maintenance information

- **maintenance_id (Primary Key):** A unique identifier for each maintenance schedule.
- **date:** Date of the maintenance.
- **service_details:** Details about the maintenance service performed.

DamageRecord: Entity that holds damage information.

- **damage_id (Primary Key):** A unique identifier for each damage record.
- **date_reported:** The date when the damage was reported.
- **description:** A detailed description of the damage.
- **damage_cost:** Charge for repairing the damage.

RentalContract: Entity that holds generated contract information for each.

- **rental_contract_id (Primary Key):** A unique identifier assigned to each rental contract.
- **start_date:** The date and time when the rental period begins.
- **end_date:** The date and time when the rental period end.

Reservation: Entity that holds reservation information

- **reservation_id (Primary Key):** A unique identifier for each reservation.
- **reserved_from:** Start date of the reservation.
- **reserved_to:** End date of the reservation.

Staff: Entity that holds staff information

- **staff_id (Primary Key):** A unique identifier for each staff member.
- **name:** Full name of the staff member.
- **address:** Residential address of the staff member.
- **position:** Job position (e.g., manager, customer service rep).
- **e-mail:** Email address of the staff.
- **phone_number:** Contact number of the staff.

Payroll: Entity that holds payroll informations of

- **payroll_id (Primary Key):** A unique identifier for each payrolls.
- **salary:** Amount of staff's payment.
- **pay_periods:** Frequency of payment.

Rental Rate:

- **rate_id (Primary Key)**: A unique identifier for each type of rate.
- **daily_rate**: Rate of daily rental for charging.
- **weekly_rate**: Rate of weekly rental for charging.
- **monthly_rate**: Rate of monthly rental for charging.

Schedule:

- **schedule_id (Primary Key)**: A unique identifier for each type of rate.
- **work_hours**: Work hours of staff.
- **work_days**: Work days of staff.

3. Relationship Sets and ER Diagram

1. Customer - RentalContract:

- **Relationship**: "Signs"
- **Cardinality**: One to Many (One customer can sign multiple rental contracts).
- **Participation**: Partial for Customer, Total for RentalContract (A rental contract must be signed by a customer).
- **Attributes**: (customer_id, rental_contract_id)

2. Customer - Reservation:

- **Relationship**: "Makes"
- **Cardinality**: One to Many (A customer can make multiple reservations, but each reservation is made by one customer).
- **Participation**: Partial for Customer, Total for Reservation (Not every customer has to make a reservation, but each reservation must be associated with a customer).
- **Attributes**: (customer_id, reservation_id)

3. Vehicle - Maintenance:

- **Relationship:** "Requires"
- **Cardinality:** One to Many (One vehicle can have multiple maintenance records).
- **Participation:** Partial for Vehicle, Total for Maintenance (Not all vehicles may require maintenance at the time of the database snapshot, but every maintenance record is associated with some vehicle).
- **Attributes:** (vehicle_id, maintenance_id)

4. Vehicle - Reservation:

- **Relationship:** "Reserved_For"
- **Cardinality:** One to Many (A vehicle can be reserved for multiple reservations assuming they are for different times).
- **Participation:** Partial for Vehicle, Total for Reservation (Not every vehicle may be reserved at a given time, but every reservation is for a specific vehicle).
- **Attributes:** (vehicle_id, reservation_id)

5. RentalContract - Vehicle:

- **Relationship:** "Involves"
- **Cardinality:** Many to One (Multiple rental contracts can involve the same vehicle, assuming they are at different times).
- **Participation:** Partial for Vehicle, Total for RentalContract (Not all vehicles may be rented out at the time of the database snapshot, but every rental contract is associated with a vehicle).
- **Attributes:** (rental_contract_id, vehicle_id)

6. RentalContract - Receipt:

- **Relationship:** "has_receipt"
- **Cardinality:** One to One (Each rental contract should generate a single receipt and each receipt has one rental contract.)
- **Participation:** Total for RentalContract, Total for Receipt (All rental contracts have a receipt, and every receipt is associated with a rental contract).
- **Attributes:** (rental_contract_id, receipt_id)

7. Rental Rate – Receipt:

- **Relationship:** "Applies_To"
- **Cardinality:** One to Many (One rental rate can apply to many receipts, but each receipt is associated with one rate).
- **Participation:** Total for Rental Rate, Total for Receipt (Each receipt must have a rental rate applied to it, and each rental rate can apply to multiple receipt).
- **Attributes:** (rental_rate_id, rental_contract_id)

8. Staff - Payroll:

- **Relationship:** "Receives"
- **Cardinality:** Many to One (One payroll type can apply to many staff, but each staff is associated with one payroll type).
- **Participation:** Total for both entities (Every staff must have payroll information and every payroll entry must be associated with a staff member).
- **Attributes:** (staff_id, payroll_id)

9. Staff - Schedule:

- **Relationship:** "Follows"
- **Cardinality:** Many to One (One schedule type can apply to many staff, but each staff is associated with one schedule type).
- **Participation:** Total for both entities (Every staff member has a schedule, and every schedule is followed by a staff member).
- **Attributes:** (staff_id, schedule_id)

10. Staff – RentalContract:

- **Relationship:** "Processes"
- **Cardinality:** One to Many (Assuming one staff member can process multiple rental contracts).
- **Participation:** Partial for Staff, Total for RentalContract (Not all staff members may process rental contracts, but every rental contract is processed by a staff member).
- **Attributes:** (staff_id, rental_contract_id)

11. DamageRecord – Receipt:

- **Relationship:** "creates_extra_cost"
- **Cardinality:** Many to One (One receipt can apply to many damage records)
- **Participation:** Total for Damage Record, Partial for Receipt (Each damage record must have a receipt applied to it.)
- **Attributes:** (damage_id, receipt_id)

12. Maintenance – DamageRecord:

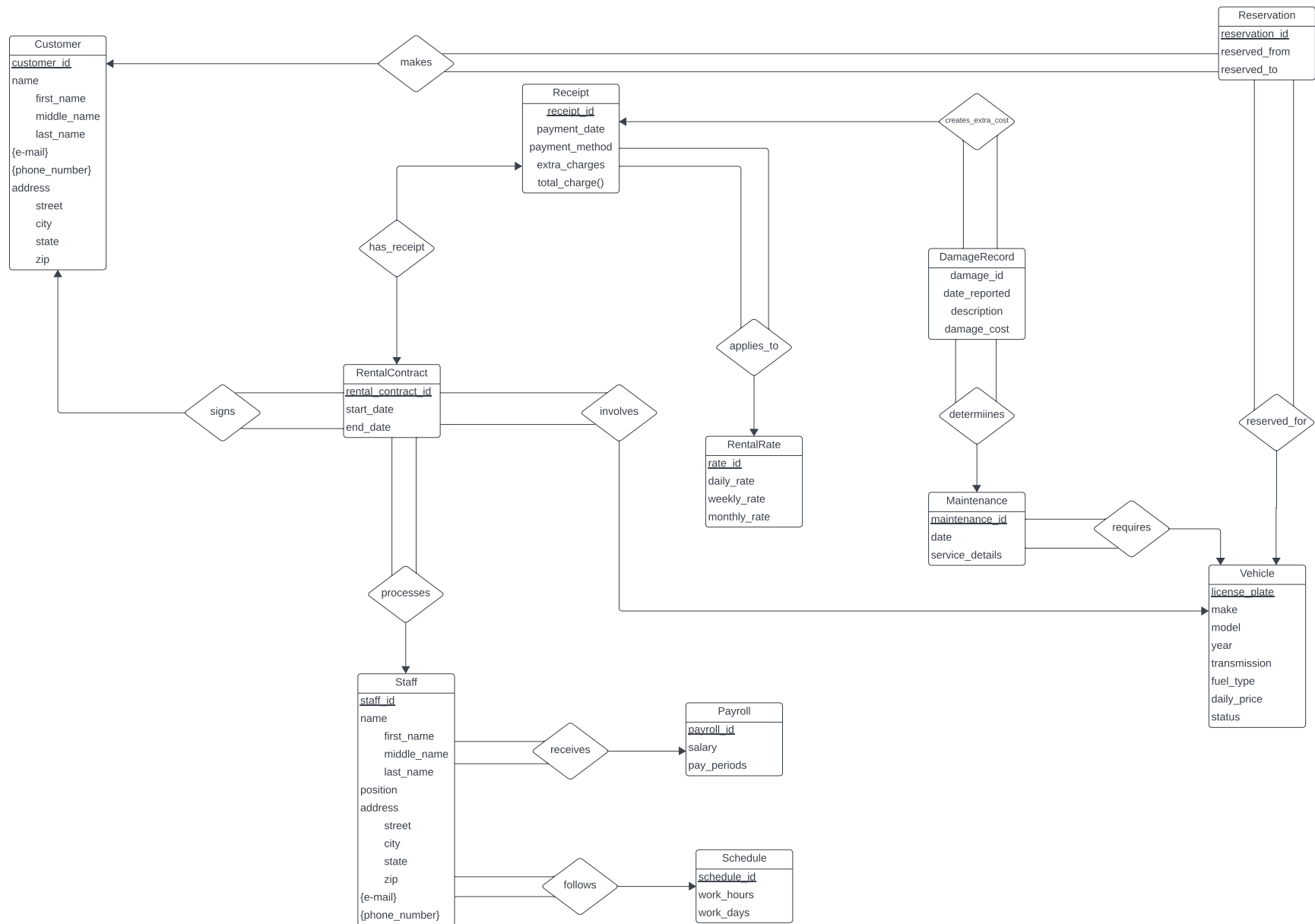
- **Relationship:** "determines"
- **Cardinality:** One to Many (One maintenance can apply to many damage record.).
- **Participation:** Total for Damage Record, Partial for Maintenance (Each damage record must have a maintenance applied to it).
- **Attributes:** (maintenance_id, damage_id)

4. Users of the System

- **Customers:** People who rent cars and interact with the system to make reservations, payments, and view their rental history.
- **Employees:** The staff members who manage the day-to-day operations.
 - **Sales:** Responsible for engaging with customers and facilitating vehicle rentals.
 - **Back Office:** Manages administrative and operational tasks to ensure smooth business functioning.
 - **Valet:** provides personalized vehicle handling and delivery services to enhance customer experience.
- **Managers:** Oversee the operation, review reports, manage staff, and make strategic decisions.

5. Assumptions and Business Rules

- Each vehicle can only be rented out to one customer at a time.
- Vehicles are not available for rental during their scheduled maintenance periods.
- The rental period is defined by a start and end date, and a vehicle is expected to be returned by the end date. Late returns will have an extra cost.
- A vehicle can only be allocated to a customer if it is not already reserved or rented out.
- Rental charges are calculated based on the vehicle's daily price and rental rate. $(\text{daily_price} * \text{days} * \text{rental_rate})$
- Any accidents or damages to the vehicle during the rental period will have an extra charge.
- Company does not pay for regular maintenance which does not include a damage repair. Company pays maintenance company annually for regular maintenance.



6. ER Diagram to Relational Schema

Customer (customer_id, first_name, middle_name, last_name, street, city, state, zip)

RentalContract (rental_contract_id, start_date, end_date, customer_id, vehicle_id, staff_id)

Receipt (receipt_id, payment_date, payment_method, extra_charges, rental_charge, total_charge, rental_rate_id, rental_contract_id)

RentalRate (rate_id, daily_rate, weekly_rate, monthly_rate)

DamageRecord(damage_id, date_reported, description, damage_cost, receipt_id, maintenance_id)

Maintenance (maintenance_id, date, service_details, vehicle_id)

Reservation (reservation_id, reserved_from, reserved_to, customer_id, vehicle_id)

Vehicle (license_plate, make, model, year, daily_price, status)

Staff (staff_id, first_name, middle_name, last_name, position, street, city, state, payroll_id, schedule_id)

Payroll (payroll_id, salary, pay_periods)

Schedule (schedule_id, work_hours, work_days)

A multivalued attribute M of an entity E is represented by a separate schema EM. EM has attributes corresponding to the primary key of E and an attribute corresponding to multivalued attribute M.

CustomerEmail (customer_id, e-mail)

CustomerPhoneNumber (customer_id, phone_number)

StaffEmail (staff_id, e-mail)

StaffPhoneNumber (staff_id, phone_number)

Many to one and one to many relationship sets that are total on the many side can be represented by adding an extra attribute to the “many” side, containing the primary key of the “one” side. So, removed tables are:

~~Signs (customer_id, rental_contract_id)~~

~~Makes (customer_id, reservation_id)~~

~~Requires (vehicle_id, maintenance_id)~~

~~Reserved_for (vehicle_id, reservation_id)~~

~~Involves (rental_contract_id, vehicle_id)~~

~~Applies_to (rental_rate_id, receipt_id)~~

~~Processes (staff_id, rental_contract_id)~~

```
Creates_extra_cost(damage_id, receipt_id)
```

~~Determines (maintenance_id, damage_id)~~

~~Has_receipt(rental_contract_id, receipt_id)~~

~~Receives (staff_id, payroll_id)~~

~~Follows (staff_id, schedule_id)~~

7. Output Screenshots of the Script

1. Table Contents

a. Customer Table

| 1 | SELECT *FROM Customer | | | | | |
|-------------|-----------------------|------------|------------------------|---------------|------------|-------|
| Results | Explain | Describe | Saved SQL | History | | |
| CUSTOMER_ID | FIRST_NAME | LAST_NAME | STREET | CITY | STATE | ZIP |
| 101 | Alis | Prower | 386 Emma Street | Lakeview | Texas | 79239 |
| 102 | Carolynn | Rosenwald | 4942 Fidler Drive | San Antonio | Texas | 78233 |
| 103 | Arman | Neal | 126 Bubby Drive | Austin | Texas | 78701 |
| 104 | Izaak | Mckenzie | 3831 Glenview Drive | San Antonio | Texas | 77979 |
| 105 | Robbie | Fischer | 3207 Charla Lane | Dallas | Texas | 75240 |
| 106 | Harriet | Davidson | 1092 Freshour Circle | San Antonio | Texas | 78205 |
| 107 | Anais | Simon | 1118 Ashton Lane | Austin | Texas | 78701 |
| 108 | Tim | Fitzgerald | 4730 Alexander Drive | Dallas | Texas | 75212 |
| 109 | Taylor | Acosta | 3844 Monroe Street | Houston | Texas | 77030 |
| 110 | Joel | Stokes | 2608 Brannon Street | Los Angeles | California | 90071 |
| 111 | Stefan | Stuart | 3890 Crestview Terrace | New Braunfels | Texas | 78130 |

| | | | | | | | |
|----------------------------------|----------|-----------|------------------------|----------------|----------------|-------|--|
| 1 SELECT *FROM Customer | | | | | | | |
| Results | Explain | Describe | Saved SQL | History | | | |
| 107 | Joel | Stokes | 2608 Brannon Street | Los Angeles | California | 90071 | |
| 111 | Stefan | Stuart | 3890 Crestview Terrace | New Braunfels | Texas | 78130 | |
| 112 | Leonard | Ayala | 2550 Brookview Drive | Beaumont | Texas | 77701 | |
| 113 | Benjamin | Cohen | 3586 White Avenue | Corpus Christi | Texas | 78415 | |
| 114 | Oliver | Key | 747 Clair Street | Gorman | Texas | 76454 | |
| 115 | Raphael | Weaver | 3185 Layman Avenue | Elizabethtown | North Carolina | 28337 | |
| 116 | Chelsey | Suarez | 431 Parrish Avenue | Kerrville | Texas | 78028 | |
| 117 | Tim | Hamilton | 1831 Ryder Avenue | Everett | Washington | 98204 | |
| 118 | Logan | Rosenwald | 4353 Holden Street | San Diego | California | 92121 | |
| 119 | Lucas | Jimenez | 2336 Liberty Street | Dallas | Texas | 75248 | |
| 120 | Camille | Davenport | 179 Poco Mas Drive | Dallas | Texas | 75212 | |
| 20 rows returned in 0.03 seconds | | Download | | | | | |

b. CustomerEmail

| 1 SELECT *FROM CustomerEmail | |
|------------------------------|------------------------------------|
| Results | Explain Describe Saved SQL History |
| CUSTOMER_ID | EMAIL |
| 101 | alisprower@gmail.com |
| 102 | carolynnrosenwald@gmail.com |
| 103 | armanneal@gmail.com |
| 103 | armanneal@hotmail.com |
| 104 | tzaakmckenzie@gmail.com |
| 105 | robbiefischer@gmail.com |
| 106 | harrietdavidson@gmail.com |
| 107 | anaissimon@gmail.com |
| 108 | timfitzgerald@gmail.com |
| 109 | tayloracosta@gmail.com |
| 109 | tayloracosta@hotmail.com |

| | |
|---|------------------------------------|
| 1 SELECT *FROM CustomerEmail | |
| Results | Explain Describe Saved SQL History |
| 107 | logankuciszewski@gmail.com |
| 109 | tayloracosta@hotmail.com |
| 110 | joelstokes@hotmail.com |
| 111 | stefanstuart@hotmail.com |
| 112 | leonardayala@hotmail.com |
| 114 | oliverkey@gmail.com |
| 114 | oliverkey@hotmail.com |
| 115 | raphaelweaver@hotmail.com |
| 117 | timhamilton@hotmail.com |
| 118 | loganrosenwald@hotmail.com |
| 119 | lucasjimenez@hotmail.com |
| 120 | camilledavenport@hotmail.com |
| 21 rows returned in 0.03 seconds Download | |

c. CustomerPhoneNumber

| 1 SELECT *FROM CustomerPhoneNumber | |
|------------------------------------|------------------------------------|
| Results | Explain Describe Saved SQL History |
| CUSTOMER_ID | PHONE_NUMBER |
| 101 | +12794992586 |
| 101 | +16059714423 |
| 102 | +13479466861 |
| 103 | +16059719337 |
| 104 | +18332403627 |
| 105 | +18332405104 |
| 106 | +18332626819 |
| 107 | +18332631063 |
| 108 | +18332633159 |
| 109 | +18332648106 |
| 110 | +18332656434 |

| | |
|---|------------------------------------|
| 1 SELECT *FROM CustomerPhoneNumber | |
| Results | Explain Describe Saved SQL History |
| 111 | +18332672839 |
| 111 | +18332691066 |
| 112 | +18332691067 |
| 113 | +18332691068 |
| 114 | +16059714424 |
| 115 | +16059714425 |
| 116 | +16059714426 |
| 117 | +12794992587 |
| 118 | +12794992588 |
| 119 | +13479466862 |
| 120 | +13479466863 |
| 22 rows returned in 0.03 seconds Download | |

d. DamageRecord

1SELECT *FROM DamageRecord

Results

Explain

Describe

Saved SQL

History

| DAMAGE_ID | DATE_REPORTED | DAMAGE_DESCRIPTION | DAMAGE_COST | RENTAL_CONTRACT_ID | MAINTENANCE_ID |
|-----------|---------------|--|-------------|--------------------|----------------|
| 1 | 08/15/2023 | Minor scratches and a small dent on the rear bumper. | 120 | 1001 | 1 |
| 2 | 08/15/2023 | Right rear tire punctured and flat, requiring replacement. | 100 | 1001 | 2 |
| 3 | 07/17/2023 | Minor scratches and a small dent on the rear bumper. | 120 | 1005 | 3 |
| 4 | 07/17/2023 | Stain and burn mark on the back seat. | 150 | 1005 | 4 |
| 5 | 02/24/2023 | Stain and burn mark on the back seat. | 150 | 1007 | 5 |
| 6 | 02/24/2023 | Significant dent and scratches on the driver side door, caused by a collision. | 450 | 1007 | 6 |
| 7 | 02/24/2023 | Cracked windshield. | 250 | 1007 | 7 |
| 8 | 02/24/2023 | Broken right headlight. | 100 | 1007 | 8 |
| 9 | 02/24/2023 | Left side mirror broken. | 100 | 1010 | 9 |
| 10 | 02/24/2023 | Broken left headlight. | 100 | 1010 | 10 |
| 11 | 12/05/2023 | Stain and burn mark on the back seat. | 150 | 1012 | 11 |

1SELECT *FROM DamageRecord

Results

Explain

Describe

Saved SQL

History

| | | | | | |
|----|------------|--|-----|------|----|
| 7 | | Left side mirror broken. | 100 | 1016 | 7 |
| 10 | 02/24/2023 | Broken left headlight. | 100 | 1010 | 10 |
| 11 | 12/05/2023 | Stain and burn mark on the back seat. | 150 | 1012 | 11 |
| 12 | 12/01/2023 | Stain and burn mark on the front seat. | 150 | 1016 | 12 |
| 13 | 12/01/2023 | Flat tire due to puncture. | 100 | 1016 | 13 |
| 14 | 12/01/2023 | Left side mirror broken. | 100 | 1016 | 14 |
| 15 | 12/01/2023 | Minor scratches on rear bumper. | 120 | 1016 | 15 |
| 16 | 09/08/2023 | Minor scratches on rear bumper. | 120 | 1017 | 16 |
| 17 | 09/08/2023 | Flat tire due to puncture. | 100 | 1017 | 17 |
| 18 | 12/17/2023 | Flat tire due to puncture. | 100 | 1020 | 18 |
| 19 | 12/17/2023 | Cracked windshield. | 250 | 1020 | 19 |
| 20 | 12/17/2023 | Front bumper cracked due to a low-speed impact with a barrier. | 300 | 1020 | 20 |

20 rows returned in 0.04 secondsDownload

e. Maintenance

1SELECT *FROM Maintenance

Results

Explain

Describe

Saved SQL

History

| MAINTENANCE_ID | MAINTENANCE_DATE | SERVICE_DETAILS | LICENSE_PLATE |
|----------------|------------------|---|---------------|
| 1 | 08/15/2023 | Bodywork and paint touch-up for rear bumper scratches. | UVP-5491 |
| 2 | 08/15/2023 | Tire replacement. | UVP-5491 |
| 3 | 07/18/2023 | Bodywork and paint touch-up for rear bumper scratches. | KCM-7687 |
| 4 | 07/18/2023 | Interior cleaning and upholstery repair for back seat stains. | KCM-7687 |
| 5 | 02/24/2023 | Interior cleaning and upholstery repair for back seat stains. | MYZ-2310 |
| 6 | 02/24/2023 | Driver side door replacement. | MYZ-2310 |
| 7 | 02/24/2023 | Windshield replacement. | MYZ-2310 |
| 8 | 02/24/2023 | Right headlight replacement. | MYZ-2310 |
| 9 | 02/24/2023 | Left side mirror replacement. | JXC-5644 |
| 10 | 02/24/2023 | Left headlight replacement. | JXC-5644 |
| 11 | 12/05/2023 | Interior cleaning and upholstery repair for back seat stains. | RCJ-9798 |

1SELECT *FROM Maintenance

Results

Explain

Describe

Saved SQL

History

| | | | |
|----|------------|--|----------|
| 7 | | Left side mirror replacement. | JXC-5644 |
| 10 | 02/24/2023 | Left headlight replacement. | JXC-5644 |
| 11 | 12/05/2023 | Interior cleaning and upholstery repair for back seat stains. | RCJ-9798 |
| 12 | 12/01/2023 | Interior cleaning and upholstery repair for front seat stains. | YFM-4774 |
| 13 | 12/01/2023 | Tire replacement and wheel balancing for punctured tire. | YFM-4774 |
| 14 | 12/01/2023 | Left side mirror replacement. | YFM-4774 |
| 15 | 12/01/2023 | Bodywork and paint touch-up for rear bumper scratches. | YFM-4774 |
| 16 | 09/08/2023 | Bodywork and paint touch-up for rear bumper scratches. | DCZ-4834 |
| 17 | 09/08/2023 | Tire replacement and wheel balancing for punctured tire. | DCZ-4834 |
| 18 | 12/17/2023 | Tire replacement and wheel balancing for punctured tire. | DZT-3575 |
| 19 | 12/17/2023 | Windshield replacement. | DZT-3575 |
| 20 | 12/17/2023 | Windshield replacement. | DZT-3575 |

20 rows returned in 0.04 secondsDownload

f. Payroll

| 1 SELECT *FROM Payroll | | |
|--|---------|----------------------------|
| Results | Explain | Describe Saved SQL History |
| PAYROLL_ID | SALARY | PAY_PERIODS |
| 1 | 80000 | Annually |
| 2 | 3200 | Monthly |
| 3 | 4000 | Monthly |
| 4 | 3000 | Monthly |
| 4 rows returned in 0.01 seconds Download | | |

g. Receipt

| 1 SELECT *FROM Receipt | | | | | | | |
|------------------------|--------------|----------------|---------------|---------------|--------------|---------|--------------------|
| Results | Explain | Describe | Saved SQL | History | | | |
| RECEIPT_ID | PAYMENT_DATE | PAYMENT_METHOD | EXTRA_CHARGES | RENTAL_CHARGE | TOTAL_CHARGE | RATE_ID | RENTAL_CONTRACT_ID |
| 2001 | 08/15/2023 | CASH | 220 | 1162.5 | 1382.5 | MONTHLY | 1001 |
| 2002 | 08/03/2023 | CASH | 0 | 120 | 120 | DAILY | 1002 |
| 2003 | 05/15/2023 | CASH | 0 | 552.5 | 552.5 | WEEKLY | 1003 |
| 2004 | 07/25/2023 | CREDIT CARD | 0 | 100 | 100 | DAILY | 1004 |
| 2005 | 07/18/2023 | DEBIT CARD | 320 | 386.75 | 706.75 | WEEKLY | 1005 |
| 2006 | 02/20/2023 | DEBIT CARD | 150 | 476 | 626 | WEEKLY | 1006 |
| 2007 | 02/24/2023 | DEBIT CARD | 950 | 200 | 1150 | DAILY | 1007 |
| 2008 | 03/30/2023 | CREDIT CARD | 0 | 765 | 765 | WEEKLY | 1008 |
| 2009 | 07/13/2023 | CREDIT CARD | 0 | 270 | 270 | DAILY | 1009 |
| 2010 | 07/17/2023 | DEBIT CARD | 200 | 476 | 676 | WEEKLY | 1010 |
| 2011 | 12/04/2023 | CREDIT CARD | 0 | 180 | 180 | DAILY | 1011 |

| 1 SELECT *FROM Receipt | | | | | | | |
|---|--------------|----------------|---------------|---------------|--------------|---------|--------------------|
| Results | Explain | Describe | Saved SQL | History | | | |
| RECEIPT_ID | PAYMENT_DATE | PAYMENT_METHOD | EXTRA_CHARGES | RENTAL_CHARGE | TOTAL_CHARGE | RATE_ID | RENTAL_CONTRACT_ID |
| 2010 | 07/17/2023 | DEBIT CARD | 200 | 476 | 676 | WEEKLY | 1010 |
| 2011 | 12/04/2023 | CREDIT CARD | 0 | 180 | 180 | DAILY | 1011 |
| 2012 | 12/05/2023 | CREDIT CARD | 150 | 240 | 390 | DAILY | 1012 |
| 2013 | 12/15/2023 | CREDIT CARD | 0 | 1125 | 1125 | MONTHLY | 1013 |
| 2014 | 12/17/2023 | DEBIT CARD | 0 | 467.5 | 467.5 | WEEKLY | 1014 |
| 2015 | 12/04/2023 | CREDIT CARD | 0 | 210 | 210 | DAILY | 1015 |
| 2016 | 12/01/2023 | CREDIT CARD | 470 | 2745 | 3215 | MONTHLY | 1016 |
| 2017 | 09/08/2023 | CASH | 220 | 357 | 577 | WEEKLY | 1017 |
| 2018 | 08/25/2023 | CASH | 0 | 120 | 120 | DAILY | 1018 |
| 2019 | 12/05/2023 | CASH | 0 | 200 | 200 | DAILY | 1019 |
| 2020 | 12/17/2023 | CASH | 650 | 280 | 930 | DAILY | 1020 |
| 20 rows returned in 0.00 seconds Download | | | | | | | |

h. RentalRate

| 1 SELECT *FROM RentalRate | |
|--|------------------------------------|
| Results | Explain Describe Saved SQL History |
| RATE_ID | RATE |
| DAILY | 1 |
| WEEKLY | .85 |
| MONTHLY | .75 |
| 3 rows returned in 0.01 seconds Download | |

i.Schedule

| 1 SELECT *FROM Schedule | | |
|--|---------------|----------------------------|
| Results | Explain | Describe Saved SQL History |
| SCHEDULE_ID | WORK_HOURS | WORK_DAYS |
| 1 | 08:00 - 16:00 | Monday to Sunday |
| 2 | 16:00 - 00:00 | Monday to Sunday |
| 3 | 00:00 - 08:00 | Monday to Sunday |
| 3 rows returned in 0.03 seconds Download | | |

j. RentalContract

| 1 SELECT *FROM RentalContract | | | | | |
|-------------------------------|------------|------------|-------------|---------------|----------|
| Results | Explain | Describe | Saved SQL | History | |
| RENTAL_CONTRACT_ID | START_DATE | END_DATE | CUSTOMER_ID | LICENSE_PLATE | STAFF_ID |
| 1001 | 07/15/2023 | 08/15/2023 | 102 | UVP-5491 | 204 |
| 1002 | 08/01/2023 | 08/03/2023 | 105 | XLH-4702 | 204 |
| 1003 | 05/05/2023 | 05/15/2023 | 112 | KCM-7687 | 204 |
| 1004 | 07/23/2023 | 07/25/2023 | 113 | UVP-5491 | 204 |
| 1005 | 07/10/2023 | 07/17/2023 | 113 | KCM-7687 | 204 |
| 1006 | 02/10/2023 | 02/17/2023 | 114 | JXC-5644 | 205 |
| 1007 | 02/20/2023 | 02/24/2023 | 115 | MYZ-2310 | 205 |
| 1008 | 03/20/2023 | 03/30/2023 | 116 | YYY-3801 | 205 |
| 1009 | 07/10/2023 | 07/13/2023 | 117 | YYY-3801 | 205 |
| 1010 | 07/10/2023 | 07/17/2023 | 118 | JXC-5644 | 205 |
| 1011 | 12/01/2023 | 12/04/2023 | 101 | LJY-9444 | 202 |

| 1 SELECT *FROM RentalContract | | | | | |
|---|------------|------------|-------------|---------------|----------|
| Results | Explain | Describe | Saved SQL | History | |
| RENTAL_CONTRACT_ID | START_DATE | END_DATE | CUSTOMER_ID | LICENSE_PLATE | STAFF_ID |
| 1012 | 12/01/2023 | 12/05/2023 | 102 | RCJ-9798 | 202 |
| 1013 | 11/15/2023 | 12/15/2023 | 103 | ZFM-8752 | 202 |
| 1014 | 12/06/2023 | 12/17/2023 | 104 | BZV-7192 | 202 |
| 1015 | 12/01/2023 | 12/04/2023 | 105 | DZT-3575 | 202 |
| 1016 | 10/01/2023 | 12/01/2023 | 108 | YFM-4774 | 203 |
| 1017 | 09/01/2023 | 09/08/2023 | 109 | DCZ-4834 | 203 |
| 1018 | 08/23/2023 | 08/25/2023 | 110 | DCZ-4834 | 203 |
| 1019 | 12/01/2023 | 12/05/2023 | 102 | BZV-7192 | 202 |
| 1020 | 12/13/2023 | 12/17/2023 | 106 | DZT-3575 | 203 |
| 1021 | 12/31/2023 | 01/02/2024 | 107 | LJY-9444 | 203 |
| 1022 | 12/31/2023 | 01/02/2024 | 110 | BZV-7192 | 203 |
| 22 rows returned in 0.01 seconds Download | | | | | |

k. Reservation

| 1 SELECT *FROM Reservation | | | | |
|----------------------------|---------------|-------------|-------------|---------------|
| Results | Explain | Describe | Saved SQL | History |
| RESERVATION_ID | RESERVED_FROM | RESERVED_TO | CUSTOMER_ID | LICENSE_PLATE |
| 1 | 01/01/2023 | 01/04/2023 | 101 | RCJ-9798 |
| 2 | 01/01/2023 | 01/04/2023 | 102 | ZFM-8752 |
| 3 | 01/01/2023 | 01/04/2023 | 103 | GSW-9304 |
| 4 | 02/02/2023 | 02/05/2023 | 104 | RCJ-9798 |
| 5 | 02/02/2023 | 02/05/2023 | 105 | ZFM-8752 |
| 6 | 02/02/2023 | 02/05/2023 | 106 | GSW-9304 |
| 7 | 03/08/2023 | 03/11/2023 | 107 | YYY-3801 |
| 8 | 03/08/2023 | 03/11/2023 | 108 | UVP-5491 |
| 9 | 03/08/2023 | 03/11/2023 | 109 | DCZ-4834 |
| 10 | 04/08/2023 | 04/11/2023 | 110 | YYY-3801 |
| 11 | 04/08/2023 | 04/11/2023 | 111 | UVP-5491 |

| 1 SELECT *FROM Reservation | | | | |
|---|---------------|-------------|-------------|---------------|
| Results | Explain | Describe | Saved SQL | History |
| RESERVATION_ID | RESERVED_FROM | RESERVED_TO | CUSTOMER_ID | LICENSE_PLATE |
| 10 | 04/08/2023 | 04/11/2023 | 110 | YYY-3801 |
| 11 | 04/08/2023 | 04/11/2023 | 111 | UVP-5491 |
| 12 | 03/08/2023 | 03/11/2023 | 112 | DCZ-4834 |
| 13 | 03/08/2023 | 03/11/2023 | 113 | KCM-7687 |
| 14 | 03/15/2023 | 03/18/2023 | 114 | KCM-7687 |
| 15 | 03/22/2023 | 03/25/2023 | 115 | DCZ-4834 |
| 16 | 03/28/2023 | 03/30/2023 | 116 | CJS-7067 |
| 17 | 04/08/2023 | 04/11/2023 | 117 | KCM-7687 |
| 18 | 04/08/2023 | 04/11/2023 | 118 | LDU-7715 |
| 19 | 12/17/2023 | 03/01/2024 | 119 | LDU-7715 |
| 20 | 12/17/2023 | 03/01/2024 | 119 | CJS-7067 |
| 20 rows returned in 0.03 seconds Download | | | | |

l. Staff

1 SELECT *FROM Staff|

| Results | Explain | Describe | Saved SQL | History | | | | | |
|----------|------------|-----------|---------------------|----------------------|--------|-------|-------|------------|-------------|
| STAFF_ID | FIRST_NAME | LAST_NAME | POSITION | STREET | CITY | STATE | ZIP | PAYROLL_ID | SCHEDULE_ID |
| 201 | Emilia | Ray | SALES MANAGER | 406 Whitetail Lane | Dallas | Texas | 75234 | 1 | 1 |
| 202 | Hannah | Griffin | SALES | 4644 Poco Mas Drive | Dallas | Texas | 75212 | 2 | 1 |
| 203 | Rowan | Morse | SALES | 2998 Sycamore Circle | Dallas | Texas | 75204 | 2 | 2 |
| 204 | Haseeb | Foster | SALES | 3126 Formula Lane | Dallas | Texas | 75240 | 2 | 2 |
| 205 | Juliette | Foster | SALES | 3126 Formula Lane | Dallas | Texas | 75240 | 2 | 3 |
| 206 | Joanne | Reed | BACK-OFFICE MANAGER | 4730 Alexander Drive | Dallas | Texas | 75212 | 1 | 1 |
| 207 | Pearl | Mcconnell | BACK-OFFICE | 2922 Moore Avenue | Dallas | Texas | 75207 | 3 | 1 |
| 208 | Humza | Kelley | BACK-OFFICE | 3322 Ersel Street | Dallas | Texas | 75209 | 3 | 2 |
| 209 | Benedict | Wade | BACK-OFFICE | 3755 Carolyns Circle | Dallas | Texas | 75212 | 3 | 2 |
| 210 | Joanne | Kelley | BACK-OFFICE | 3322 Ersel Street | Dallas | Texas | 75209 | 3 | 3 |
| 211 | Earl | Underwood | VALET | 787 Baker Avenue | Dallas | Texas | 75207 | 4 | 1 |

1 SELECT *FROM Staff|

| Results | Explain | Describe | Saved SQL | History | | | | | |
|---------|----------|-----------|-------------|------------------------|--------|-------|-------|---|---|
| 210 | Joanne | Kelley | BACK-OFFICE | 3322 Ersel Street | Dallas | Texas | 75209 | 3 | 3 |
| 211 | Earl | Underwood | VALET | 787 Baker Avenue | Dallas | Texas | 75207 | 4 | 1 |
| 212 | Billy | Harding | VALET | 3322 Ersel Street | Dallas | Texas | 75209 | 4 | 2 |
| 213 | Bernard | Hall | VALET | 3755 Carolyns Circle | Dallas | Texas | 75212 | 4 | 2 |
| 214 | Jack | Bradford | VALET | 2202 Romines Mill Road | Dallas | Texas | 75201 | 4 | 3 |
| 215 | Ben | Bradford | SALES | 2202 Romines Mill Road | Dallas | Texas | 75201 | 2 | 1 |
| 216 | Rufus | Harding | SALES | 2624 Fancher Drive | Dallas | Texas | 75207 | 2 | 1 |
| 217 | Ismael | Wolf | BACK-OFFICE | 3857 Moore Avenue | Dallas | Texas | 75207 | 3 | 1 |
| 218 | Marley | Davies | BACK-OFFICE | 2222 Ash Street | Dallas | Texas | 75201 | 3 | 1 |
| 219 | Roger | Bolton | VALET | 2202 Romines Mill Road | Dallas | Texas | 75201 | 4 | 1 |
| 220 | Zakariya | Davidson | VALET | 3857 Moore Avenue | Dallas | Texas | 75207 | 4 | 1 |

20 rows returned in 0.04 seconds Download

m. StaffEmail

1 SELECT *FROM StaffEmail|

| Results | Explain | Describe | Saved SQL | History |
|----------|--------------------------|----------|-----------|---------|
| STAFF_ID | EMAIL | | | |
| 201 | emiliaray@gmail.com | | | |
| 202 | hannahgriffin@gmail.com | | | |
| 203 | rowenmorse@gmail.com | | | |
| 204 | haseebfoster@gmail.com | | | |
| 205 | juliettofoster@gmail.com | | | |
| 206 | joannereed@gmail.com | | | |
| 206 | joannereed@hotmail.com | | | |
| 207 | pearlmcconnell@gmail.com | | | |
| 208 | humzaketley@gmail.com | | | |
| 209 | benedictwade@gmail.com | | | |
| 209 | benedictwade@hotmail.com | | | |

1 SELECT *FROM StaffEmail|

| Results | Explain | Describe | Saved SQL | History |
|---------|---------|----------|------------------------------|---------|
| 210 | | | joannekelley@gmail.com | |
| 211 | | | earlunderwood@gmail.com | |
| 212 | | | billyharding@gmail.com | |
| 213 | | | bernardhall@gmail.com | |
| 214 | | | jackbradford@gmail.com | |
| 215 | | | benbradford@gmail.com | |
| 216 | | | rufusharding@gmail.com | |
| 217 | | | ismaelwolf@gmail.com | |
| 218 | | | marleydavis@gmail.com | |
| 219 | | | rogerbolton@gmail.com | |
| 220 | | | zakariyadavidson@gmail.com | |
| 220 | | | zakariyadavidson@hotmail.com | |

23 rows returned in 0.01 seconds [Download](#)

n. StaffPhoneNumber

1 SELECT *FROM StaffPhoneNumber

| STAFF_ID | PHONE_NUMBER |
|----------|--------------|
| 201 | +16059714427 |
| 202 | +16059714428 |
| 203 | +16059714429 |
| 203 | +16059714430 |
| 204 | +16059714431 |
| 204 | +16059714432 |
| 205 | +16059714433 |
| 206 | +16059714434 |
| 207 | +16059714435 |
| 208 | +16059714436 |
| 209 | +16059714437 |

1 SELECT *FROM StaffPhoneNumber

| STAFF_ID | PHONE_NUMBER |
|----------|--------------|
| 210 | +16059714438 |
| 210 | +16059714439 |
| 211 | +16059714440 |
| 212 | +16059714441 |
| 213 | +16059714442 |
| 214 | +16059714443 |
| 215 | +16059714444 |
| 216 | +16059714445 |
| 217 | +16059714446 |
| 218 | +16059714447 |
| 219 | +16059714448 |
| 220 | +16059714449 |

23 rows returned in 0.06 seconds Download

o. Vehicle

1 SELECT *FROM Vehicle

| LICENSE_PLATE | MAKE | MODEL | YEAR | TRANSMISSION | FUEL_TYPE | DAILY_PRICE | STATUS |
|---------------|------------|---------|------|--------------|-----------|-------------|-------------|
| LJY-9444 | Volkswagen | Passat | 2020 | AUTOMATIC | DIESEL | 60 | RENTED |
| RCL-9798 | Volkswagen | Golf | 2021 | AUTOMATIC | DIESEL | 60 | AVAILABLE |
| ZFM-8752 | Volkswagen | Golf | 2021 | AUTOMATIC | PETROL | 50 | AVAILABLE |
| BZV-7192 | Volkswagen | Passat | 2020 | MANUEL | DIESEL | 50 | RENTED |
| DZT-3575 | Toyota | Corolla | 2022 | AUTOMATIC | HYBRID | 70 | MAINTENANCE |
| GSW-9304 | Toyota | Yaris | 2022 | AUTOMATIC | HYBRID | 70 | AVAILABLE |
| MYZ-2310 | Fiat | Egea | 2022 | MANUEL | PETROL | 50 | AVAILABLE |
| YFM-4774 | Fiat | Egea | 2022 | AUTOMATIC | PETROL | 60 | AVAILABLE |
| DCZ-4834 | Fiat | 500X | 2020 | AUTOMATIC | DIESEL | 60 | AVAILABLE |
| UVP-5491 | Fiat | 500X | 2020 | AUTOMATIC | PETROL | 50 | AVAILABLE |
| YYY-3801 | Audi | A6 | 2022 | AUTOMATIC | DIESEL | 90 | AVAILABLE |

1 SELECT *FROM Vehicle

| LICENSE_PLATE | MAKE | MODEL | YEAR | TRANSMISSION | FUEL_TYPE | DAILY_PRICE | STATUS |
|---------------|---------|--------|------|--------------|-----------|-------------|-----------|
| UVP-5491 | Fiat | 500X | 2020 | AUTOMATIC | PETROL | 50 | AVAILABLE |
| YYY-3801 | Audi | A6 | 2022 | AUTOMATIC | DIESEL | 90 | AVAILABLE |
| BVP-8162 | Audi | A6 | 2022 | AUTOMATIC | PETROL | 80 | AVAILABLE |
| JXC-5644 | Audi | A4 | 2022 | AUTOMATIC | DIESEL | 80 | AVAILABLE |
| HFY-2539 | Audi | A4 | 2022 | AUTOMATIC | PETROL | 70 | AVAILABLE |
| UFH-7572 | Renault | Clio | 2021 | AUTOMATIC | PETROL | 55 | AVAILABLE |
| LDU-7715 | Renault | Clio | 2021 | MANUEL | PETROL | 50 | RESERVED |
| XLH-4702 | Renault | Clio | 2021 | AUTOMATIC | DIESEL | 60 | AVAILABLE |
| CJS-7067 | Renault | Megane | 2023 | AUTOMATIC | DIESEL | 70 | RESERVED |
| NTV-3431 | Renault | Megane | 2023 | MANUEL | DIESEL | 60 | AVAILABLE |
| KCM-7687 | Renault | Megane | 2023 | AUTOMATIC | PETROL | 65 | AVAILABLE |

20 rows returned in 0.01 seconds Download

2.Results

| Number ↑ ↓ | Elapsed | Statement | Feedback | Rows |
|--|---------|---|----------------|------|
| 1 | 0.85 | DROP TABLE Customer CASCADE CONSTRAINTS | Table dropped. | 0 |
| 2 | 0.82 | DROP TABLE RentalContract CASCADE CONSTRAINTS | Table dropped. | 0 |
| 3 | 0.84 | DROP TABLE Vehicle CASCADE CONSTRAINTS | Table dropped. | 0 |
| 4 | 0.80 | DROP TABLE Staff CASCADE CONSTRAINTS | Table dropped. | 0 |
| 5 | 0.78 | DROP TABLE RentalRate CASCADE CONSTRAINTS | Table dropped. | 0 |
| 6 | 0.80 | DROP TABLE Receipt CASCADE CONSTRAINTS | Table dropped. | 0 |
| 7 | 0.78 | DROP TABLE Reservation | Table dropped. | 0 |
| 8 | 0.80 | DROP TABLE Maintenance CASCADE CONSTRAINTS | Table dropped. | 0 |
| 9 | 0.84 | DROP TABLE DamageRecord | Table dropped. | 0 |
| 10 | 0.77 | DROP TABLE Payroll CASCADE CONSTRAINTS | Table dropped. | 0 |
| 11 | 0.78 | DROP TABLE Schedule CASCADE CONSTRAINTS | Table dropped. | 0 |
| 12 | 0.79 | DROP TABLE CustomerEmail | Table dropped. | 0 |
| 13 | 0.78 | DROP TABLE CustomerPhoneNumber | Table dropped. | 0 |
| 14 | 0.78 | DROP TABLE StaffEmail | Table dropped. | 0 |
| 15 | 0.80 | DROP TABLE StaffPhoneNumber | Table dropped. | 0 |
| Download | | | | |
| row(s) 1 - 15 of 328 Next ▶ | | | | |
| 328 | | 328 | 0 | |
| Statements Processed | | Successful | With Errors | |