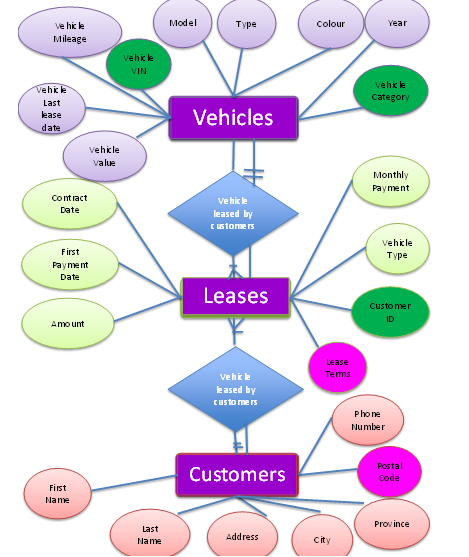
|  |  |
| --- | --- |
| **Course Title** | Database Architecture |
| **Project Code** | SQAE v1-2 Project 2005-0721 |
| **Project Title** | |  | | --- | | MultiLease Management System Part 1 | |
| **Insitution** | CDI College |
| **Project done by** | Barsha Shaikh |
| **Student ID** | 635-201244 |
| **Date Completed** | February 3, 2021 |

1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Entity Relationship Diagram - MultiLease Management System** | | | | |
| **Entities:** | Customer, Vehicles and Lease | |  |  |
| **Relationships:** | Indicated in Blue |  |  |  |
| **Primary Keys:** | Indicated in Pink |  |  |  |
| **Foreign Keys:** | Indicated in Green |  |  |  |



2 and 3.

CREATE DATABASE ML01244;

USE ML01244;

CREATE TABLE Customers (

id INT NOT NULL AUTO\_INCREMENT,

first\_name VARCHAR (45),

last\_name VARCHAR (45),

address VARCHAR (45),

city VARCHAR (45),

province VARCHAR (45),

postal\_code VARCHAR (15),

phone\_num VARCHAR (15),

PRIMARY KEY (id)

);

CREATE DATABASE ML01244;

USE ML01244;

CREATE TABLE Vehicles (

VIN VARCHART(7) NOT NULL,

model VARCHAR (45),

type VARCHAR (45),

colour VARCHAR (45),

year VARCHAR (15),

v\_mileage VARCHAR (45),

v\_lease\_date VARCHAR (15),

book\_value VARCHAR (15),

v\_cat VARCHAR(15),

PRIMARY KEY (VIN),

FOREIGN KEY (v\_cat) REFERENCES vehicle category(v\_cat)

);

CREATE DATABASE ML01244;

USE ML01244;

CREATE TABLE Leases (

lease\_id INT NOT NULL AUTO\_INCREMENT,

monthly\_payment VARCHAR (45),

v\_type VARCHAR (45),

cust\_id INT NOT NULL,

contract\_date VARCHAR (15),

first\_payment\_date VARCHAR (45),

amount VARCHAR (15),

v\_value DECIMAL (6,2),

PRIMARY KEY (lease\_id),

FOREIGN KEY (VIN) REFERENCES vehicles(VIN)

FOREIGN KEY (v\_last\_lease\_date) REFERENCES vehicle last lease date(v\_last\_lease\_date)

);

CREATE DATABASE ML01244;

USE ML01244;

CREATE TABLE Lease Terms (

num\_year VARCHAR (15),

max\_mileage VARCHAR (45),

extra\_mileage VARCHAR (45),

contract\_date VARCHAR (45),

payment\_date VARCHAR (45),

monthly\_payment VARCHAR (45),

payment\_num VARCHAR (45),

vehicle\_type VARCHAR (45),

cust\_name VARCHAR (45),

l\_term VARCHAR (45),

PRIMARY KEY (num\_year),

FOREIGN KEY (VIN) REFERENCES vehicles (VIN)

);

CREATE DATABASE ML01244;

USE ML01244;

CREATE TABLE Payments (

lease\_id INT NOT NULL AUTO\_INCREMENT

p\_date VARCHAR (45),

change\_field VARCHAR (45),

amount VARCHAR (15),

PRIMARY KEY (lease\_id),

FOREIGN KEY (p\_date) REFERENCES payment date(p\_date)

);

CREATE DATABASE ML01244;

USE ML01244;

CREATE TABLE Audits (

lease\_id INT NOT NULL AUTO\_INCREMENT

change\_date VARCHAR (45),

change\_field VARCHAR (45),

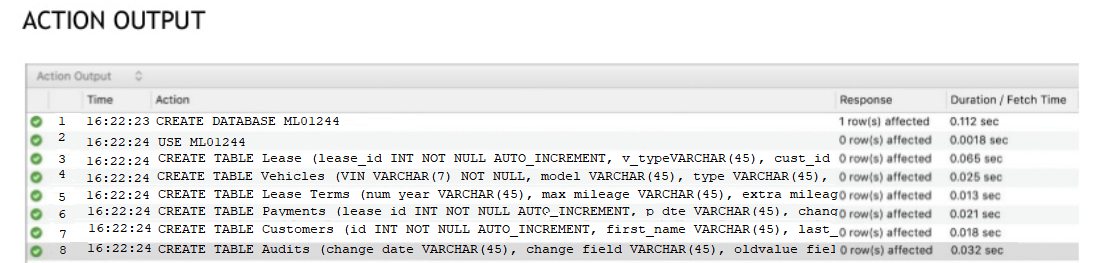
oldvalue\_field VARCHAR (15),

newvalue\_field VARCHAR (15),

PRIMARY KEY (lease\_id),

FOREIGN KEY (change\_date)

);



**4.**

lease\_id

change\_date

change\_field

oldvalue\_field

newvalue\_field

**Audits**

Monthly\_Payment

Vehicle\_Type

Customer\_ID

Lease\_Terms

Contract\_Date

First\_Payment\_Date

Amount

**Leases**

Vehicle\_VIN

Model

Type

Colour

year

v\_mileage

v\_lease\_date

book\_Value

v\_cat

**Vehicles**

lease\_id

p\_date

change\_field

**Payments**

num\_year

max\_mileage

extra\_mileage

**Lease Terms**

**Customers**

First\_Name

Last\_Name

Address

City

Province

Postal\_Code

Phone\_Num

**5.**

**--INSERTING INTO Vehicles (VIN, model, type, colour, year, v\_mileage, v\_lease\_date, book\_value, v\_cat) VALUES**

(“3W9T1-2Q10D-12D0P-2E1R2”, “2003 SC-430”, “2dr Coupe”, “Deep Blue”, “2003”, “120,000km”, “2004-01-15”, “$90,000”, “Auto”),

(“7D901-9W120-Z0029-021P2”, “200 Pirate”, “2dr Coupe”, “Racey Red”, “2000”, “85,000km”, “2004-03-16”, “$45,000”, “Manual”),

(“Z1221-X129A-KO212-9021J”, “2003 Expensive”, “4dr Sedan”, “Lemon Yellow”, “2003”, “90,000km”, “2004-01-15”, “$90,000”, “Auto”),

(“3W9T1-2Q10D-12D0P-2E1R2”, “2003 SC-430”, “2dr Coupe”, “Deep Blue”, “2003”, “150,000km”, “2004-04-01”, “$70,000”, “Auto”),

(“M21L1-3129S-V1292-L12X1”, “2001 Rock”, “Truck”, “Silver Grey”, “2001”, “130,000km”, “2002-02-20”, “$85,000”, “Manual”),

(“M21L-3129S-V1292-L12X1”, “2001 Rock”, “Truck”, “Silver Grey”, “2001”, “150,000km”, “2004-07-01”, “$45,000”, “Manual”),

----------------------------------------------------------------------------

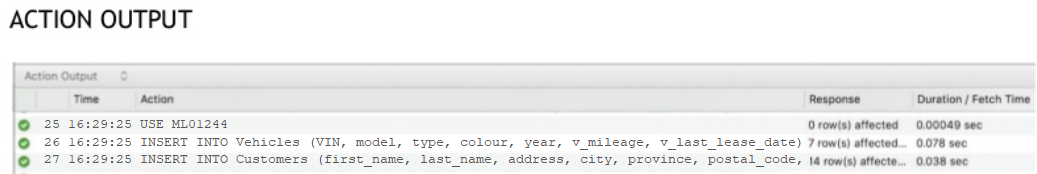
**--INSERT INTO Customers (first\_name, last\_name, address, city, province, postal\_code, phone\_num) VALUES**

(“Candie”, “Wrapper”, “1000 Lollipop Lane”, “Halifax”, “NS”, “B1X 1X1”, “902-123-4567”),

(“Scalli”, “Wag”, “80 Plank Walk”, “Halifax”, “NS”, “B2L 1L1”, “902-812-4567”),

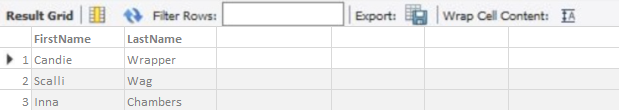
(“Inna”, “Chambers”, “2 Politician Street”, “Halifax”, “NS”, “B3M 1M1”, “902-341-4212”),

(“Multi Lease”, “Corp”, “1200 Motor Way”, “Halifax”, “NS”, “B5A 1K1”, “902-821-4319”),

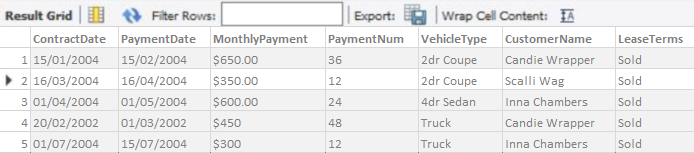


**6. Database – Test Data**

3 Customers:



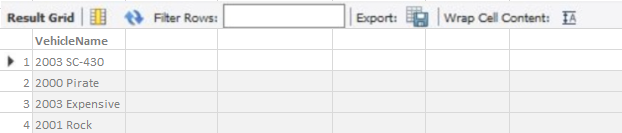
5 Leases with appropriate leasing terms:



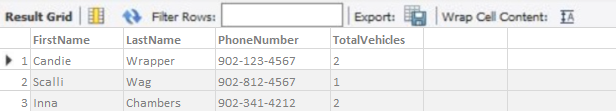
5 models, types and colours:



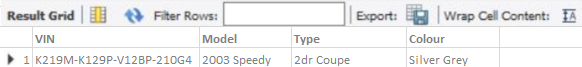
4 Vehicles:

****

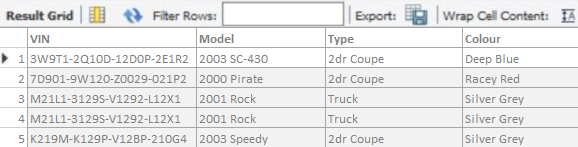
**7. List of Customers:**

****

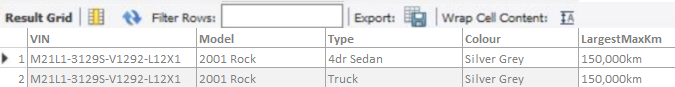
**8. List of Vehicles:**

****

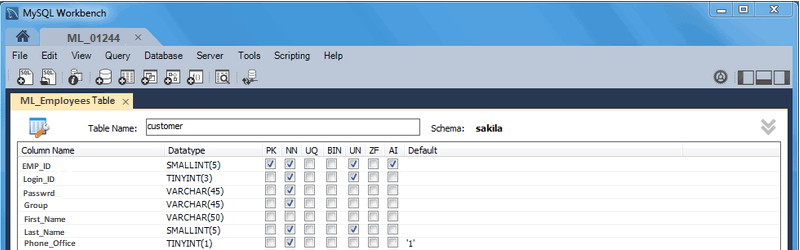
**9. List of Vehicles that have air conditioning and power locks:**

****

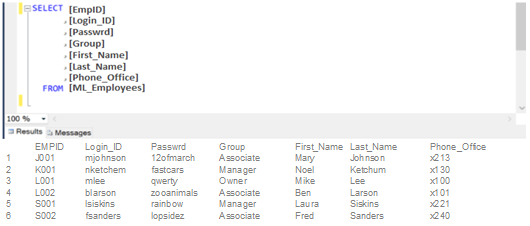
**10. List of Vehicles with the largest maximum kilometres:**

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**11. Database ML\_01244 and ML\_Employees**

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**Group in SQL Server**

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