SQL RAW CODES

CREATE TABLE Customer(

customer\_name VARCHAR(200) NOT NULL,

Customer\_ID INT PRIMARY KEY,

customer\_contact VARCHAR(200) NOT NULL

);

INSERT INTO Customer (customer\_name, Customer\_ID, customer\_contact)

VALUES ('John Smith', 1, '1234567890'),

('Jane Doe', 2, '9876543210'),

('Michael Johnson', 3, '5551234567'),

('Emily Brown', 4, '9998887777'),

('David Wilson', 5, '4445556666'),

('Sarah Davis', 6, '1112223333'),

('Robert Taylor', 7, '6667778888'),

('Linda Anderson', 8, '2223334444'),

('Thomas Lee', 9, '7778889999'),

('Olivia Martin', 10, '3334445555'),

('William Johnson', 11, '5556667777'),

('Emma Thompson', 12, '8889990000'),

('Christopher Davis', 13, '4443332222'),

('Sophia Wilson', 14, '6665554444'),

('James Brown', 15, '1112223333'),

('Ava Smith', 16, '8889991111'),

('Matthew Anderson', 17, '2223334444'),

('Emma Taylor', 18, '5556667777'),

('Daniel Davis', 19, '7778889999'),

('Sophia Martin', 20, '3334445555');

SELECT \* FROM customer;

CREATE TABLE Employee(

Employee\_ID INT PRIMARY KEY,

Employee\_Name VARCHAR(200) NOT NULL,

Employee\_Position VARCHAR(200) NOT NULL,

Date\_of\_hire VARCHAR(200) NOT NULL,

shift TEXT NOT NULL

);

SELECT \* FROM Employee;

INSERT INTO Employee (Employee\_ID, Employee\_Name, Employee\_Position, Date\_of\_hire, Shift)

VALUES

(101, 'Robert Johnson', 'Manager', '15/01/2010', 'Day Shift'),

(105, 'Jennifer Smith', 'Supervisor', '03/05/2011', 'Night Shift'),

(103, 'Christopher Davis', 'Technician', '21/09/2012', 'Evening Shift'),

(104, 'Michelle Thompson', 'Assistant', '12/07/2013', 'Day Shift'),

(102, 'Daniel Wilson', 'Operator', '30/11/2014', 'Night Shift'),

(106, 'Jessica Brown', 'Technician', '01/03/2015', 'Day Shift'),

(108, 'David Johnson', 'Supervisor', '18/06/2016', 'Night Shift'),

(111, 'Samantha Davis', 'Technician', '24/09/2017', 'Evening Shift'),

(107, 'Andrew Smith', 'Assistant', '09/02/2018', 'Day Shift'),

(110, 'Emily Wilson', 'Operator', '28/05/2019', 'Night Shift'),

(115, 'Michael Thompson', 'Operator', '05/09/2020', 'Day Shift'),

(112, 'Emma Davis', 'Supervisor', '19/12/2021', 'Night Shift'),

(109, 'James Johnson', 'Technician', '14/03/2022', 'Evening Shift'),

(113, 'Sophia Brown', 'Assistant', '08/06/2023', 'Day Shift'),

(117, 'Matthew Wilson', 'Operator', '25/09/2020', 'Night Shift'),

(116, 'Olivia Smith', 'Technician', '17/12/2021', 'Day Shift'),

(119, 'Jacob Thompson', 'Supervisor', '04/03/2021', 'Night Shift'),

(114, 'Isabella Davis', 'Technician', '29/05/2010', 'Evening Shift'),

(118, 'William Johnson', 'Assistant', '13/08/2011', 'Day Shift'),

(120, 'Emily Wilson', 'Operator', '21/11/2020', 'Night Shift');

SELECT \* FROM Employee;

ALTER TABLE Employee ADD COLUMN Reports\_to TEXT;

UPDATE Employee SET Reports\_to = 'Manager' WHERE Employee\_Position != 'Manager';

CREATE TABLE Vehicle (

Vehicle\_ID SERIAL PRIMARY KEY,

Customer\_ID INT NOT NULL,

Car\_Brand VARCHAR(200) NOT NULL,

FOREIGN KEY (Customer\_ID) REFERENCES Customer (Customer\_ID)

);

SELECT \* FROM vehicle;

INSERT INTO Vehicle (Customer\_ID, Car\_Brand)

VALUES (15, 'Toyota'),

(18, 'Honda'),

(12, 'Ford'),

(19, 'Chevrolet'),

(14, 'BMW'),

(16, 'Mercedes-Benz'),

(20, 'Nissan'),

(13, 'Volkswagen'),

(11, 'Audi'),

(17, 'Hyundai'),

(10, 'Kia'),

(9, 'Mazda'),

(7, 'Subaru'),

(8, 'Lexus'),

(6, 'Jeep'),

(5, 'Volvo'),

(4, 'Mitsubishi'),

(3, 'Chrysler'),

(2, 'Land Rover'),

(1, 'Tesla');

SELECT \* FROM vehicle;

SELECT \* FROM customer JOIN vehicle ON customer.customer\_ID = vehicle.customer\_ID;

SELECT Customer.customer\_name, customer.customer\_ID, customer.customer\_contact, vehicle.vehicle\_ID, vehicle.car\_brand FROM Customer JOIN VEHICLE ON customer.customer\_ID = vehicle.customer\_ID;

CREATE TABLE FuelType (

fuel\_id INT PRIMARY KEY,

fuel\_name VARCHAR(50),

price\_per\_litre DECIMAL(5,2) NOT NULL,

Customer\_ID INT NOT NULL,

FOREIGN KEY (Customer\_ID) REFERENCES Customer (Customer\_ID)

);

SELECT \* FROM FuelType;

INSERT INTO FuelType (fuel\_id, fuel\_name, price\_per\_litre, Customer\_ID)

VALUES

(1, 'Gasoline', 20.75, 1),

(2, 'Diesel', 18.95, 2),

(3, 'Electric', 14.5, 3),

(4, 'Hybrid', 23.10, 4),

(5, 'Ethanol', 17.80, 5),

(6, 'Biodiesel', 19.25, 6),

(7, 'Compressed Natural Gas (CNG)', 14.8, 7),

(8, 'Liquefied Petroleum Gas (LPG)', 16.45, 8),

(9, 'Hydrogen', 21.30, 9),

(10, 'Propane', 24.90, 10),

(11, 'Methanol', 22.75, 11),

(12, 'Liquefied Natural Gas (LNG)', 15.60, 12),

(13, 'Biofuel', 18.25, 13),

(14, 'Synthetic Fuel', 23.50, 14),

(15, 'Aviation Fuel', 25.20, 15),

(16, 'Kerosene', 16.75, 16),

(17, 'Methane', 20.40, 17),

(18, 'Butane', 19.90, 18),

(19, 'Jet Fuel', 21.50, 19),

(20, 'Biomethane', 17.95, 20);

SELECT\* FROM Fueltype;

--CREATING FUELPUMP TABLE

CREATE TABLE FuelPump(

Pump\_ID SERIAL PRIMARY KEY,

Fuel\_ID INT NOT NULL,

Status VARCHAR(50) NOT NULL,

FOREIGN KEY (Fuel\_ID) REFERENCES FuelType (fuel\_ID)

);

INSERT INTO FuelPump(Fuel\_ID, Status)

VALUES

(1, 'Active'),

(2, 'Active'),

(3, 'Active'),

(4, 'Active'),

(5, 'Active'),

(6, 'Active'),

(7, 'Active'),

(8, 'Active'),

(9, 'Active'),

(10, 'Active'),

(11, 'Active'),

(12, 'Active'),

(13, 'Active'),

(14, 'Active'),

(15, 'Active'),

(16, 'Active'),

(17, 'Active'),

(18, 'Active'),

(19, 'Active'),

(20, 'Active');

SELECT \* FROM FuelPump;

SELECT FuelPump.Pump\_ID, FuelType.Fuel\_Name, FuelPump.Status

FROM FuelPump

JOIN FuelType ON FuelPump.Fuel\_ID = FuelType.Fuel\_ID;

CREATE TABLE FuelSales (

sales\_id SERIAL PRIMARY KEY,

fuel\_id INT NOT NULL,

quantity DECIMAL(10, 2) NOT NULL,

total\_price DECIMAL(10, 2),

sale\_date VARCHAR(100) NOT NULL,

FOREIGN KEY (fuel\_id) REFERENCES FuelType (fuel\_id)

);

INSERT INTO FuelSales(fuel\_id, quantity, sale\_date)

VALUES(1, 50, '01/04/2023'),

(2, 30, '02/04/2023'),

(3, 20, '03/04/2023'),

(4, 40, '04/04/2023'),

(5, 25, '05/04/2023'),

(6, 35, '06/04/2023'),

(7, 15, '07/04/2023'),

(8, 45, '08/04/2023'),

(9, 55, '09/04/2023'),

(10, 50, '10/04/2023'),

(11, 20, '11/04/2023'),

(12, 30, '12/04/2023'),

(13, 40, '13/04/2023'),

(14, 25, '14/04/2023'),

(15, 35, '15/04/2023'),

(16, 15, '16/04/2023'),

(17, 45, '17/04/2023'),

(18, 55, '18/04/2023'),

(19, 50, '19/04/2023'),

(20, 20, '20/04/2023');

SELECT\* FROM FuelSales;

-- trigger function to calculate the total price

CREATE OR REPLACE FUNCTION update\_total\_price()

RETURNS TRIGGER AS $$

BEGIN

NEW.total\_price := (

SELECT price\_per\_litre \* NEW.quantity

FROM FuelType

WHERE FuelType.fuel\_id = NEW.fuel\_id

);

RETURN NEW;

END;

$$ LANGUAGE plpgsql;

CREATE TRIGGER fuel\_sales\_trigger

BEFORE INSERT ON FuelSales

FOR EACH ROW

EXECUTE PROCEDURE update\_total\_price();

SELECT \* FROM FuelSales;

INSERT INTO FuelSales(fuel\_id, quantity, sale\_date)

VALUES(1, 39, '17/03/2023');

--join statement betwee the FuelSales table and the FuelType table

SELECT FuelSales.sales\_id, FuelSales.fuel\_id, FuelType.fuel\_name, FuelType.price\_per\_litre, FuelSales.quantity, FuelSales.total\_price, FuelSales.sale\_date

FROM FuelSales

JOIN FuelType ON FuelSales.fuel\_id = FuelType.fuel\_id;

--creating PaymentMethod table

CREATE TABLE PaymentMethod (

payment\_id SERIAL PRIMARY KEY,

payment\_name VARCHAR(200) NOT NULL,

payment\_type VARCHAR(100) NOT NULL,

Customer\_ID INT NOT NULL,

FOREIGN KEY (Customer\_ID) REFERENCES Customer(Customer\_ID)

);

SELECT \* FROM paymentmethod;

INSERT INTO PaymentMethod (payment\_name, payment\_type, Customer\_ID)

VALUES

('Credit Card', 'Card Payment', 1),

('PayPal', 'Online Payment', 2),

('Cash', 'Cash Payment', 3),

('Bank Transfer', 'Bank Payment', 4),

('Mobile Wallet', 'Digital Payment', 5),

('Cheque', 'Paper Payment', 6),

('Cryptocurrency', 'Digital Payment', 7),

('Gift Card', 'Prepaid Payment', 8),

('Money Order', 'Secure Payment', 9),

('Direct Debit', 'Automatic Payment', 10),

('Google Pay', 'Digital Payment', 11),

('Apple Pay', 'Mobile Payment', 12),

('Venmo', 'Peer-to-Peer Payment', 13),

('Stripe', 'Online Payment', 14),

('Square', 'Card Payment', 15),

('Zelle', 'Bank Transfer', 16),

('Western Union', 'Money Transfer', 17),

('Amazon Pay', 'Digital Wallet', 18),

('Alipay', 'Mobile Payment', 19),

('Samsung Pay', 'Mobile Payment', 20);

--join statement between the Customer table and the PaymentMethod Table

SELECT Customer.customer\_name, Customer.customer\_ID, Customer.customer\_contact, PaymentMethod.payment\_name, PaymentMethod.payment\_type

FROM Customer

JOIN PaymentMethod ON Customer.Customer\_ID = PaymentMethod.Customer\_ID;

SELECT Customer.customer\_name, Customer.customer\_ID, Customer.customer\_contact, Vehicle.Vehicle\_ID, Vehicle.Car\_Brand,PaymentMethod.payment\_name, PaymentMethod.payment\_type

FROM Customer

JOIN Vehicle ON Customer.Customer\_ID = Vehicle.Customer\_ID

JOIN PaymentMethod ON Customer.Customer\_ID = PaymentMethod.Customer\_ID;

--JOIN STATEMENT BETWEEN THE CUSTOMER TABLE, VEHICLE TABLE, PAYMENT METHOD TABLE AND FUEL TYPE TABLE

SELECT

Customer.customer\_ID,

customer.customer\_name,

Customer.customer\_contact,

Vehicle.Car\_Brand,

PaymentMethod.payment\_name,

PaymentMethod.payment\_type,

FuelType.fuel\_name,

FuelType.price\_per\_litre

FROM

Customer

JOIN Vehicle ON Customer.Customer\_ID = Vehicle.Customer\_ID

JOIN PaymentMethod ON Customer.Customer\_ID = PaymentMethod.Customer\_ID

JOIN FuelType ON Customer.Customer\_ID = FuelType.Customer\_ID;

SELECT \* FROM FuelSales;