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-- CREATE SCHEMA sag_webapp;
SET search_path TO sag_webapp;

DROP TABLE IF EXISTS Make CASCADE;
DROP TABLE IF EXISTS Model CASCADE;
DROP TABLE IF EXISTS Salesperson CASCADE;
DROP TABLE IF EXISTS Customer CASCADE;
DROP TABLE IF EXISTS CarSales CASCADE;

CREATE TABLE Salesperson (
    UserName VARCHAR(10) PRIMARY KEY,
    Password VARCHAR(20) NOT NULL,
    FirstName VARCHAR(50) NOT NULL,
    LastName VARCHAR(50) NOT NULL,
    UNIQUE(FirstName, LastName)
);

INSERT INTO Salesperson VALUES
('jdoe', 'Pass1234', 'John', 'Doe'),
('brown', 'Passwxyz', 'Bob', 'Brown'),
('ksmith1', 'Pass5566', 'Karen', 'Smith');

CREATE TABLE Customer (
    CustomerID VARCHAR(10) PRIMARY KEY,
    FirstName VARCHAR(50) NOT NULL,
    LastName VARCHAR(50) NOT NULL,
    Mobile VARCHAR(20) NOT NULL
);

INSERT INTO Customer VALUES
('c001', 'David', 'Wilson', '4455667788'),
('c899', 'Eva', 'Taylor', '5566778899'),
('c199', 'Frank', 'Anderson', '6677889900'),
('c910', 'Grace', 'Thomas', '7788990011'),
('c002', 'Stan', 'Martinez', '8899001122'),
('c233', 'Laura', 'Roberts', '9900112233'),
('c123', 'Charlie', 'Davis', '7712340011'),
('c321', 'Jane', 'Smith', '9988990011'),
('c211', 'Alice', 'Johnson', '7712222221');

CREATE TABLE Make (
    MakeCode VARCHAR(5) PRIMARY KEY,
    MakeName VARCHAR(20) UNIQUE NOT NULL
);

INSERT INTO Make VALUES ('MB', 'Mercedes Benz');
INSERT INTO Make VALUES ('TOY', 'Toyota');
INSERT INTO Make VALUES ('VW', 'Volkswagen');
INSERT INTO Make VALUES ('LEX', 'Lexus');
INSERT INTO Make VALUES ('LR', 'Land Rover');

CREATE TABLE Model (
    ModelCode VARCHAR(10) PRIMARY KEY,
    ModelName VARCHAR(20) UNIQUE NOT NULL,
    MakeCode VARCHAR(10) NOT NULL,
    FOREIGN KEY (MakeCode) REFERENCES Make(MakeCode)
);

INSERT INTO Model (ModelCode, ModelName, MakeCode) VALUES

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('aclass', 'A Class', 'MB'),
('cclass', 'C Class', 'MB'),
('eclass', 'E Class', 'MB'),
('camry', 'Camry', 'TOY'),
('corolla', 'Corolla', 'TOY'),
('rav4', 'RAV4', 'TOY'),
('defender', 'Defender', 'LR'),
('rangerover', 'Range Rover', 'LR'),
('discosport', 'Discovery Sport', 'LR'),
('golf', 'Golf', 'VW'),
('passat', 'Passat', 'VW'),
('troc', 'T Roc', 'VW'),
('ux', 'UX', 'LEX'),
('gx', 'GX', 'LEX'),
('nx', 'NX', 'LEX');

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SET datestyle = 'ISO, DMY';
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CREATE TABLE CarSales (
    CarSaleID SERIAL primary key,
    MakeCode VARCHAR(10) NOT NULL REFERENCES Make(MakeCode),
    ModelCode VARCHAR(10) NOT NULL REFERENCES Model(ModelCode),
    BuiltYear INTEGER NOT NULL CHECK (BuiltYear BETWEEN 1950 AND EXTRACT(YEAR FROM
CURRENT_DATE)),
    Odometer INTEGER NOT NULL,
    Price Decimal(10,2) NOT NULL,
    IsSold Boolean NOT NULL,
    BuyerID VARCHAR(10) REFERENCES Customer,
    SalespersonID VARCHAR(10) REFERENCES Salesperson,
    SaleDate Date
);

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INSERT INTO CarSales (MakeCode, ModelCode, BuiltYear, Odometer, Price, IsSold,
BuyerID, SalespersonID, SaleDate) VALUES
('MB', 'cclass', 2020, 64210, 72000.00, TRUE, 'c001', 'jdoe', '01/03/2024'),
('MB', 'eclass', 2019, 31210, 89000.00, FALSE, NULL, NULL, NULL),
('TOY', 'camry', 2021, 98200, 37200.00, TRUE, 'c123', 'brown', '07/12/2023'),
('TOY', 'corolla', 2022, 65000, 35000.00, TRUE, 'c910', 'jdoe', '21/09/2024'),
('LR', 'defender', 2018, 115000, 97000.00, FALSE, NULL, NULL, NULL),
('VW', 'golf', 2023, 22000, 33000.00, TRUE, 'c233', 'jdoe', '06/11/2023'),
('LEX', 'nx', 2020, 67000, 79000.00, TRUE, 'c321', 'brown', '01/01/2025'),
('LR', 'discosport', 2021, 43080, 85000.00, TRUE, 'c211', 'ksmith1', '27/01/2021'),
('TOY', 'rav4', 2019, 92900, 48000.00, FALSE, NULL, NULL, NULL),
('MB', 'aclass', 2022, 47000, 57000.00, TRUE, 'c199', 'jdoe', '01/03/2025'),
('LEX', 'ux', 2023, 23000, 70000.00, TRUE, 'c899', 'brown', '01/01/2023'),
('VW', 'passat', 2020, 63720, 42000.00, FALSE, NULL, NULL, NULL),
('MB', 'eclass', 2021, 12000, 155000.00, TRUE, 'c002', 'ksmith1', '01/10/2024'),
('LR', 'rangerover', 2017, 60000, 128000.00, FALSE, NULL, NULL, NULL),
('TOY', 'camry', 2025, 10, 49995.00, FALSE, NULL, NULL, NULL),
('LR', 'discosport', 2022, 53000, 89900.00, FALSE, NULL, NULL, NULL),
('MB', 'cclass', 2023, 55000, 82100.00, FALSE, NULL, NULL, NULL),
('MB', 'aclass', 2025, 5, 78000.00, FALSE, NULL, NULL, NULL),
('MB', 'aclass', 2015, 8912, 12000.00, TRUE, 'c199', 'jdoe', '11/03/2020'),
('TOY', 'camry', 2024, 21000, 42000.00, FALSE, NULL, NULL, NULL),
('LEX', 'gx', 2025, 6, 128085.00, FALSE, NULL, NULL, NULL),
('MB', 'eclass', 2019, 99220, 105000.00, FALSE, NULL, NULL, NULL),
('VW', 'golf', 2023, 53849, 43000.00, FALSE, NULL, NULL, NULL),
('MB', 'cclass', 2022, 89200, 62000.00, FALSE, NULL, NULL, NULL);

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CREATE OR REPLACE FUNCTION validate_login(p_username VARCHAR, p_password VARCHAR)
RETURNS TABLE(first_name VARCHAR, last_name VARCHAR) AS $$
BEGIN
    RETURN QUERY
    SELECT s.FirstName, s.LastName
    FROM Salesperson s
    WHERE s.UserName ILIKE p_username AND s.Password = p_password;
END;
$$ LANGUAGE plpgsql;

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CREATE OR REPLACE FUNCTION get_car_sales_summary()
RETURNS TABLE(
    make_name VARCHAR,
    model_name VARCHAR,
    available_units BIGINT,
    sold_units BIGINT,
    total_sales TEXT,
    last_purchased_at TEXT
) AS $$
BEGIN
    RETURN QUERY
    SELECT
        mk.MakeName,
        md.ModelName,
        COUNT(CASE WHEN cs.IsSold = FALSE THEN 1 END)::BIGINT,
        COUNT(CASE WHEN cs.IsSold = TRUE THEN 1 END)::BIGINT,
        CAST(SUM(CASE WHEN cs.IsSold=TRUE THEN cs.Price ELSE 0 END) AS TEXT),
        TO_CHAR(MAX(cs.SaleDate), 'DD-MM-YYYY')
    FROM CarSales cs
    JOIN Model md ON cs.ModelCode = md.ModelCode
    JOIN Make mk ON cs.MakeCode = mk.MakeCode
    GROUP BY mk.MakeName, md.ModelName
    ORDER BY mk.MakeName, md.ModelName;
END;
$$ LANGUAGE plpgsql;

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