PROJECT- 2

MICROSOFT SQL SERVER

1 & 2.

```sql
-- ---------------------------------------------------
-- Table: ProductLines
-- ---------------------------------------------------
CREATE TABLE ProductLines (
    productLine VARCHAR(50) PRIMARY KEY,
    textDescription VARCHAR(4000),
    htmlDescription TEXT,
    image BLOB
);

-- ---------------------------------------------------
-- Table: Offices
-- ---------------------------------------------------
CREATE TABLE Offices (
    officeCode VARCHAR(10) PRIMARY KEY,
    city VARCHAR(50) NOT NULL,
    phone VARCHAR(50) NOT NULL,
    addressLine1 VARCHAR(50) NOT NULL,
    addressLine2 VARCHAR(50),
    state VARCHAR(50),
    country VARCHAR(50) NOT NULL,
    postalCode VARCHAR(15) NOT NULL,
    territory VARCHAR(10) NOT NULL
);
-- ---------------------------------------------------
-- Table: Employees
-- ---------------------------------------------------
CREATE TABLE Employees (
    employeeNumber INT PRIMARY KEY,
    lastName VARCHAR(50) NOT NULL,
    firstName VARCHAR(50) NOT NULL,
    extension VARCHAR(10) NOT NULL,
    email VARCHAR(100) NOT NULL UNIQUE,
    officeCode VARCHAR(10) NOT NULL,
    reportsTo INT,
```

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    jobTitle VARCHAR(50) NOT NULL,
    FOREIGN KEY (officeCode) REFERENCES Offices(officeCode),
    FOREIGN KEY (reportsTo) REFERENCES Employees(employeeNumber)
);
CREATE INDEX idx_employees_reportsTo ON Employees (reportsTo);

CREATE INDEX idx_employees_officeCode ON Employees (officeCode);

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

-- Table: Customers

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

CREATE TABLE Customers (
    customerNumber INT PRIMARY KEY,
    customerName VARCHAR(50) NOT NULL,
    contactLastName VARCHAR(50) NOT NULL,
    contactFirstName VARCHAR(50) NOT NULL,
    phone VARCHAR(50) NOT NULL,
    addressLine1 VARCHAR(50) NOT NULL,
    addressLine2 VARCHAR(50),
    city VARCHAR(50) NOT NULL,
    state VARCHAR(50),
    postalCode VARCHAR(15),
    country VARCHAR(50) NOT NULL,
    salesRepEmployeeNumber INT,
    creditLimit DECIMAL(12, 2),
    FOREIGN KEY (salesRepEmployeeNumber) REFERENCES Employees(employeeNumber)
);
-- ----------------------------------------------------

-- Table: Products

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

CREATE TABLE Products (
    productCode VARCHAR(15) PRIMARY KEY,
    productName VARCHAR(70) NOT NULL,
    productLine VARCHAR(50) NOT NULL,
    productScale VARCHAR(10),
    productVendor VARCHAR(50),
    productDescription TEXT,
    quantityInStock SMALLINT NOT NULL,
    buyPrice DECIMAL(10, 2) NOT NULL,
    MSRP DECIMAL(10, 2) NOT NULL,
    FOREIGN KEY (productLine) REFERENCES ProductLines(productLine)
);
CREATE INDEX idx_products_productLine ON Products (productLine);
```

```sql
-- ----------------------------------------------------

-- Table: Orders

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

CREATE TABLE Orders (

    orderNumber INT PRIMARY KEY,
    orderDate DATE NOT NULL,
    requiredDate DATE NOT NULL,
    shippedDate DATE,
    status VARCHAR(15) NOT NULL,
    comments TEXT,
    customerNumber INT NOT NULL,
    FOREIGN KEY (customerNumber) REFERENCES Customers(customerNumber)
);
CREATE INDEX idx_orders_customerNumber ON Orders (customerNumber);
-- ----------------------------------------------------

-- Table: Payments

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

CREATE TABLE Payments (
    customerNumber INT NOT NULL,
    checkNumber VARCHAR(50) NOT NULL,
    paymentDate DATE NOT NULL,
    amount DECIMAL(12, 2) NOT NULL,
    PRIMARY KEY (customerNumber, checkNumber),
    FOREIGN KEY (customerNumber) REFERENCES Customers(customerNumber)
);
-- ----------------------------------------------------

-- Table: OrderDetails

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

CREATE TABLE OrderDetails (
    orderNumber INT NOT NULL,
    productCode VARCHAR(15) NOT NULL,
    quantityOrdered INT NOT NULL,
    priceEach DECIMAL(10, 2) NOT NULL,
    orderLineNumber SMALLINT NOT NULL,
    PRIMARY KEY (orderNumber, productCode),
    FOREIGN KEY (orderNumber) REFERENCES Orders(orderNumber),
    FOREIGN KEY (productCode) REFERENCES Products(productCode)
);
CREATE INDEX idx_orderdetails_productCode ON OrderDetails (productCode);
-- ----------------------------------------------------
```

-- Data Insertion - ORDERED BY DEPENDENCY

-- --

-- Insert records into ProductLines

INSERT INTO ProductLines (productLine, textDescription, htmlDescription, image) VALUES
('Classic Cars','Attention car enthusiasts: Make your wildest car ownership dreams come true. Whether you are looking for classic muscle cars, dream sports cars or movie-inspired miniatures, you will find great choices in this category. These replicas feature superb attention to detail and craftsmanship and offer features such as working steering system, opening forward compartment, opening rear trunk with removable spare wheel, 4-wheel independent spring suspension, and so on. The models range in size from 1:10 to 1:24 scale and include numerous limited edition and several out-of-production vehicles. All models include a certificate of authenticity from their manufacturers and come fully assembled and ready for display in the home or office.',NULL,NULL),
('Motorcycles','Our motorcycles are state of the art replicas of classic as well as contemporary motorcycle legends such as Harley Davidson, Ducati and Vespa. Models contain stunning details such as official logos, rotating wheels, working kickstand, front suspension, gear-shift lever, footbrake lever, and drive chain. Materials used include diecast and plastic. The models range in size from 1:10 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. All models come fully assembled and ready for display in the home or office. Most include a certificate of authenticity.',NULL,NULL),
('Planes','Unique, diecast airplane and helicopter replicas suitable for collections, as well as home, office or classroom decorations. Models contain stunning details such as official logos and insignias, rotating jet engines and propellers, retractable wheels, and so on. Most come fully assembled and with a certificate of authenticity from their manufacturers.',NULL,NULL),
('Ships','The perfect holiday or anniversary gift for executives, clients, friends, and family. These handcrafted model ships are unique, stunning works of art that will be treasured for generations! They come fully assembled and ready for display in the home or office. We guarantee the highest quality, and best value.',NULL,NULL),
('Trains','Model trains are a rewarding hobby for enthusiasts of all ages. Whether you are looking for collectible wooden trains, electric streetcars or locomotives, you will find a number of great choices for any budget within this category. The interactive aspect of trains makes toy trains perfect for young children. The wooden train sets are ideal for children under the age of 5.',NULL,NULL),
('Trucks and Buses','The Truck and Bus models are realistic replicas of buses and specialized trucks produced from the early 1920s to present. The models range in size from 1:12 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. Materials used include tin, diecast and plastic. All models include a certificate of authenticity from their manufacturers and are a perfect ornament for the home and office.',NULL,NULL),
('Vintage Cars','Our Vintage Car models realistically portray automobiles produced from the early 1900s through the 1940s. Materials used include Bakelite, diecast, plastic and wood. Most of the replicas are in the 1:18 and 1:24 scale sizes, which provide the optimum in detail and accuracy. Prices range from $30.00 up to $180.00 for some special limited edition replicas.

All models include a certificate of authenticity from their manufacturers and come fully assembled and ready for display in the home or office.',NULL,NULL);

-- Validate ProductLines inserts
SELECT * FROM ProductLines;

-- Insert records into Offices
INSERT INTO Offices (officeCode, city, phone, addressLine1, addressLine2, state, country, postalCode, territory) VALUES
('1','San Francisco','+1 650 219 4782','100 Market Street','Suite 300','CA','USA','94080','NA'),
('2','Boston','+1 215 837 0825','1550 Court Place','Suite 102','MA','USA','02107','NA'),
('3','NYC','+1 212 555 3000','523 East 53rd Street','apt. 5A','NY','USA','10022','NA'),
('4','Paris','+33 14 723 4404','43 Rue Jouffroy Dabbans',NULL,NULL,'France','75017','EMEA'),
('5','Tokyo','+81 33 224 5000','4-1 Kioicho',NULL,'Chiyoda-Ku','Japan','102-8578','Japan'),
('6','Sydney','+61 2 9264 2451','5-11 Wentworth Avenue','Floor #2',NULL,'Australia','NSW 2010','APAC'),
('7','London','+44 20 7877 2041','25 Old Broad Street','Level 7',NULL,'UK','EC2N 1HN','EMEA');

-- Validate Offices inserts
SELECT * FROM Offices;

-- Insert records into Employees
INSERT INTO Employees (employeeNumber, lastName, firstName, extension, email, officeCode, reportsTo, jobTitle) VALUES
(1002,'Murphy','Diane','x5800','dmurphy@classicmodelcars.com','1',NULL,'President'),
(1056,'Patterson','Mary','x4611','mpatterso@classicmodelcars.com','1',1002,'VP Sales'),
(1076,'Firrelli','Jeff','x9273','jfirrelli@classicmodelcars.com','1',1002,'VP Marketing'),
(1088,'Patterson','William','x4871','wpatterson@classicmodelcars.com','6',1056,'Sales Manager (APAC)'),
(1102,'Bondur','Gerard','x5408','gbondur@classicmodelcars.com','4',1056,'Sale   Manager (EMEA)'),
(1143,'Bow','Anthony','x5428','abow@classicmodelcars.com','1',1056,'Sales Manager (NA)'),
(1165,'Jennings','Leslie','x3291','ljennings@classicmodelcars.com','1',1143,'Sales Rep'),
(1166,'Thompson','Leslie','x4065','lthompson@classicmodelcars.com','1',1143,'Sales Rep'),
(1188,'Firrelli','Julie','x2173','jfirrAelli@classicmodelcars.com','2',1143,'Sales Rep'),
(1216,'Patterson','Steve','x4334','spatterson@classicmodelcars.com','2',1143,'Sales Rep'),
(1286,'Tseng','Foon Yue','x2248','ftseng@classicmodelcars.com','3',1143,'Sales Rep'),
(1323,'Vanauf','George','x4102','gvanauf@classicmodelcars.com','3',1143,'Sales Rep'),
(1337,'Bondur','Loui','x6493','lbondur@classicmodelcars.com','4',1102,'Sales Rep'),
(1370,'Hernandez','Gerard','x2028','ghernande@classicmodelcars.com','4',1102,'Sales Rep'),
(1401,'Castillo','Pamela','x2759','pcastillo@classicmodelcars.com','4',1102,'Sales Rep'),
(1501,'Bott','Larry','x2311','lbott@classicmodelcars.com','7',1102,'Sales Rep'),
(1504,'Jones','Barry','x102','bjones@classicmodelcars.com','7',1102,'Sales Rep'),

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(1611,'Fixter','Andy','x101','afixter@classicmodelcars.com','6',1088,'Sales Rep'),
(1612,'Marsh','Peter','x102','pmarsh@classicmodelcars.com','6',1088,'Sales Rep'),
(1619,'King','Tom','x103','tking@classicmodelcars.com','6',1088,'Sales Rep');
-- Validate Employees inserts

SELECT * FROM Employees;

-- Insert records into Customers
-- Corrected salesRepEmployeeNumber for customer 148 from 1621 to 1612, as 1621 was not
in employees.
INSERT INTO Customers (customerNumber, customerName, contactLastName,
contactFirstName, phone, addressLine1, addressLine2, city, state, postalCode, country,
salesRepEmployeeNumber, creditLimit) VALUES
    (103,'Atelier                graphique','Schmitt','Carine              ','40.32.2555','54,              rue
Royale',NULL,'Nantes',NULL,'44000','France',1370,'21000.00'),
    (112,'Signal      Gift      Stores','King','Jean','7025551838','8489      Strong      St.',NULL,'Las
Vegas','NV','83030','USA',1166,'71800.00'),
    (114,'Australian Collectors, Co.','Ferguson','Peter','03 9520 4555','636 St Kilda Road','Level
3','Melbourne','Victoria','3004','Australia',1611,'117300.00'),
    (119,'La      Rochelle      Gifts','Labrune','Janine      ','40.67.8555','67,      rue      des      Cinquante
Otages',NULL,'Nantes',NULL,'44000','France',1370,'118200.00'),
    (121,'Baane      Mini      Imports','Bergulfsen','Jonas      ','07-98      9555','Erling      Skakkes      gate
78',NULL,'Stavern',NULL,'4110','Norway',1504,'81700.00'),
    (124,'Mini Gifts Distributors Ltd.','Nelson','Susan','4155551450','5677 Strong St.',NULL,'San
Rafael','CA','97562','USA',1165,'210500.00'),
    (125,'Havel      &      Zbyszek      Co','Piestrzeniewicz','Zbyszek      ','(26)      642-7555','ul.      Filtrowa
68',NULL,'Warszawa',NULL,'01-012','Poland',NULL,'0.00'),
    (128,'Blauer      See      Auto,      Co.','Keitel','Roland','+49      69      66      90      2555','Lyonerstr.
34',NULL,'Frankfurt',NULL,'60528','Germany',1504,'59700.00'),
    (129,'Mini      Wheels      Co.','Murphy','Julie','6505555787','5557      North      Pendale
Street',NULL,'San Francisco','CA','94217','USA',1165,'64600.00'),
    (131,'Land      of      Toys      Inc.','Lee','Kwai','2125557818','897      Long      Airport
Avenue',NULL,'NYC','NY','10022','USA',1323,'114900.00'),
    (141,'Euro+      Shopping      Channel','Freyre','Diego      ','(91)      555      94      44','C/      Moralzarzal,
86',NULL,'Madrid',NULL,'28034','Spain',1370,'227600.00'),
    (144,'Volvo      Model      Replicas,      Co','Berglund','Christina      ','0921-12      3555','Berguvsvägen
8',NULL,'Luleå',NULL,'S-958 22','Sweden',1504,'53100.00'),
    (145,'Danish      Wholesale      Imports','Petersen','Jytte      ','31      12      3555','Vinbæltet
34',NULL,'Kobenhavn',NULL,'1734','Denmark',1401,'83400.00'),
    (146,'Saveley      &      Henriot,      Co.','Saveley','Mary      ','78.32.5555','2,      rue      du
Commerce',NULL,'Lyon',NULL,'69004','France',1337,'123900.00'),
    (148,'Dragon Souveniers, Ltd.','Natividad','Eric','+65 221 7555','Bronz Sok.','Bronz Apt. 3/6
Tesvikiye','Singapore',NULL,'079903','Singapore',1612,'103800.00'),              --              Corrected
salesRepEmployeeNumber from 1621 to 1612
```

(151,'Muscle Machine Inc','Young','Jeff','2125557413','4092 Furth Circle','Suite 400','NYC','NY','10022','USA',1286,'138500.00'),
    (157,'Diecast Classics Inc.','Leong','Kelvin','2155551555','7586 Pompton St.',NULL,'Allentown','PA','70267','USA',1216,'100600.00'),
    (161,'Technics Stores Inc.','Hashimoto','Juri','6505556809','9408 Furth Circle',NULL,'Burlingame','CA','94217','USA',1165,'84600.00'),
    (166,'Handji Gifts& Co','Victorino','Wendy','+65 224 1555','106 Linden Road Sandown','2nd Floor','Singapore',NULL,'069045','Singapore',1612,'97900.00'),
    (167,'Herkku Gifts','Oeztan','Veysel','+47 2267 3215','Brehmen St. 121','PR 334 Sentrum','Bergen',NULL,'N 5804','Norway ',1504,'96800.00');

-- Validate Customers inserts

SELECT * FROM Customers;

-- Insert records into Products
INSERT INTO Products (productCode, productName, productLine, productScale, productVendor, productDescription, quantityInStock, buyPrice, MSRP) VALUES
('S10_1678','1969 Harley Davidson Ultimate Chopper','Motorcycles','1:10','Min Lin Diecast','This replica features working kickstand, front suspension, gear-shift lever, footbrake lever, drive chain, wheels and steering. All parts are particularly delicate due to their precise scale and require special care and attention.',7933,'48.81','95.70'),
('S10_1949','1952 Alpine Renault 1300','Classic Cars','1:10','Classic Metal Creations','Turnable front wheels; steering function; detailed interior; detailed engine; opening hood; opening trunk; opening doors; and detailed chassis.',7305,'98.58','214.30'),
('S10_2016','1996 Moto Guzzi 1100i','Motorcycles','1:10','Highway 66 Mini Classics','Official Moto Guzzi logos and insignias, saddle bags located on side of motorcycle, detailed engine, working steering, working suspension, two leather seats, luggage rack, dual exhaust pipes, small saddle bag located on handle bars, two-tone paint with chrome accents, superior die-cast detail , rotating wheels , working kick stand, diecast metal with plastic parts and baked enamel finish.',6625,'68.99','118.94'),
('S10_4698','2003 Harley-Davidson Eagle Drag Bike','Motorcycles','1:10','Red Start Diecast','Model features, official Harley Davidson logos and insignias, detachable rear wheelie bar, heavy diecast metal with resin parts, authentic multi-color tampo-printed graphics, separate engine drive belts, free-turning front fork, rotating tires and rear racing slick, certificate of authenticity, detailed engine, display stand\r\n, precision diecast replica, baked enamel finish, 1:10 scale model, removable fender, seat and tank cover piece for displaying the superior detail of the v-twin engine',5582,'91.02','193.66'),
('S10_4757','1972 Alfa Romeo GTA','Classic Cars','1:10','Motor City Art Classics','Features include: Turnable front wheels; steering function; detailed interior; detailed engine; opening hood; opening trunk; opening doors; and detailed chassis.',3252,'85.68','136.00'),
('S10_4962','1962 LanciaA Delta 16V','Classic Cars','1:10','Second Gear Diecast','Features include: Turnable front wheels; steering function; detailed interior; detailed engine; opening hood; opening trunk; opening doors; and detailed chassis.',6791,'103.42','147.74'),
('S12_1099','1968 Ford Mustang','Classic Cars','1:12','Autoart Studio Design','Hood, doors and trunk all open to reveal highly detailed interior features. Steering wheel actually turns the front wheels. Color dark green.',68,'95.34','194.57'),

('S12_1108','2001 Ferrari Enzo','Classic Cars','1:12','Second Gear Diecast','Turnable front wheels; steering function; detailed interior; detailed engine; opening hood; opening trunk; opening doors; and detailed chassis.',3619,'95.59','207.80'),
('S12_1666','1958 Setra Bus','Trucks and Buses','1:12','Welly Diecast Productions','Model features 30 windows, skylights & glare resistant glass, working steering system, original logos',1579,'77.90','136.67'),
('S12_2823','2002 Suzuki XREO','Motorcycles','1:12','Unimax Art Galleries','Official logos and insignias, saddle bags located on side of motorcycle, detailed engine, working steering, working suspension, two leather seats, luggage rack, dual exhaust pipes, small saddle bag located on handle bars, two-tone paint with chrome accents, superior die-cast detail , rotating wheels , working kick stand, diecast metal with plastic parts and baked enamel finish.',9997,'66.27','150.62'),
('S12_3148','1969 Corvair Monza','Classic Cars','1:18','Welly Diecast Productions','1:18 scale die-cast about 10\" long doors open, hood opens, trunk opens and wheels roll',6906,'89.14','151.08'),
('S12_3380','1968 Dodge Charger','Classic Cars','1:12','Welly Diecast Productions','1:12 scale model of a 1968 Dodge Charger. Hood, doors and trunk all open to reveal highly detailed interior features. Steering wheel actually turns the front wheels. Color black',9123,'75.16','117.44'),
('S12_3891','1969 Ford Falcon','Classic Cars','1:12','Second Gear Diecast','Turnable front wheels; steering function; detailed interior; detailed engine; opening hood; opening trunk; opening doors; and detailed chassis.',1049,'83.05','173.02'),
('S12_3990','1970 Plymouth Hemi Cuda','Classic Cars','1:12','Studio M Art Models','Very detailed 1970 Plymouth Cuda model in 1:12 scale. The Cuda is generally accepted as one of the fastest original muscle cars from the 1970s. This model is a reproduction of one of the orginal 652 cars built in 1970. Red color.',5663,'31.92','79.80'),
('S12_4473','1957 Chevy Pickup','Trucks and Buses','1:12','Exoto Designs','1:12 scale die-cast about 20\" long Hood opens, Rubber wheels',6125,'55.70','118.50'),
('S12_4675','1969 Dodge Charger','Classic Cars','1:12','Welly Diecast Productions','Detailed model of the 1969 Dodge Charger. This model includes finely detailed interior and exterior features. Painted in red and white.',7323,'58.73','115.16'),
('S18_1097','1940 Ford Pickup Truck','Trucks and Buses','1:18','Studio M Art Models','This model features soft rubber tires, working steering, rubber mud guards, authentic Ford logos, detailed undercarriage, opening doors and hood, removable split rear gate, full size spare mounted in bed, detailed interior with opening glove box',2613,'58.33','116.67'),
('S18_1129','1993 Mazda RX-7','Classic Cars','1:18','Highway 66 Mini Classics','This model features, opening hood, opening doors, detailed engine, rear spoiler, opening trunk, working steering, tinted windows, baked enamel finish. Color red.',3975,'83.51','141.54'),
('S18_1342','1937 Lincoln Berline','Vintage Cars','1:18','Motor City Art Classics','Features opening engine cover, doors, trunk, and fuel filler cap. Color black',8693,'60.62','102.74'),
('S18_1367','1936 Mercedes-Benz 500K Special Roadster','Vintage Cars','1:18','Studio M Art Models','This 1:18 scale replica is constructed of heavy die-cast metal and has all the features of the original: working doors and rumble seat, independent spring suspension, detailed interior, working steering system, and a bifold hood that reveals an engine so accurate that it

even includes the wiring. All this is topped off with a baked enamel finish. Color white.',8635,'24.26','53.91');

-- Validate Products inserts

SELECT * FROM Products;

-- Insert records into Orders

-- NOTE: Some customerNumbers in this block (e.g., 363, 181, 278, 385, 486, 187, 172, 424, 381, 216, 382)

-- are NOT present in the provided customers INSERT statements.

-- If these IDs are not inserted previously, these statements will cause foreign key errors.

```
INSERT INTO Orders (orderNumber, orderDate, requiredDate, shippedDate, status, comments, customerNumber) VALUES
(10100,'2003-01-06','2003-01-13','2003-01-10','Shipped',NULL,103),
(10101,'2003-01-09','2003-01-18','2003-01-11','Shipped','Check on availability.',112),
(10102,'2003-01-10','2003-01-18','2003-01-14','Shipped',NULL,114),
(10103,'2003-01-29','2003-02-07','2003-02-02','Shipped',NULL,119),
(10104,'2003-01-31','2003-02-09','2003-02-01','Shipped',NULL,121),
(10105,'2003-02-11','2003-02-21','2003-02-12','Shipped',NULL,124),
(10106,'2003-02-17','2003-02-24','2003-02-21','Shipped',NULL,125),
(10107,'2003-02-24','2003-03-03','2003-02-26','Shipped','Difficult to negotiate with customer. We need more marketing materials',128),
(10108,'2003-03-03','2003-03-12','2003-03-08','Shipped',NULL,129),
(10109,'2003-03-10','2003-03-19','2003-03-11','Shipped','Customer requested that FedEx Ground is used for this shipping',131),
(10110,'2003-03-18','2003-03-24','2003-03-20','Shipped',NULL,141),
(10111,'2003-03-25','2003-03-31','2003-03-30','Shipped',NULL,144),
(10112,'2003-03-24','2003-04-03','2003-03-29','Shipped','Customer requested that ad materials (such as posters, pamphlets) be included in the shippment',145),
(10113,'2003-03-26','2003-04-02','2003-03-27','Shipped',NULL,146),
(10114,'2003-04-01','2003-04-07','2003-04-02','Shipped',NULL,148),
(10115,'2003-04-04','2003-04-12','2003-04-07','Shipped',NULL,151),
(10116,'2003-04-11','2003-04-19','2003-04-13','Shipped',NULL,157),
(10117,'2003-04-16','2003-04-24','2003-04-17','Shipped',NULL,161),
(10118,'2003-04-21','2003-04-29','2003-04-26','Shipped','Customer has worked with some of our vendors in the past and is aware of their MSRP',166),
(10119,'2003-04-28','2003-05-05','2003-05-02','Shipped',NULL,167);
```

-- Validate Orders inserts

SELECT * FROM Orders;

```sql
INSERT INTO Payments (customerNumber, checkNumber, paymentDate, amount) VALUES
(103,'HQ336336','2004-10-19','6066.78'),
(112,'JM555205','2003-06-05','14571.44'),
(114,'OM314933','2004-12-18','1676.14'),
(119,'BO864823','2004-12-17','14191.12'),
(121,'HQ55022','2003-06-06','32641.98'),
(124,'ND748579','2004-08-20','33347.88'),
(125,'GG31455','2003-05-20','45864.03'),
(128,'MA765515','2004-12-15','82261.22'),
(129,'NP603840','2003-05-31','7565.08'),
(131,'NR27552','2004-03-10','44894.74'),
(141,'DB933704','2004-11-14','19501.82'),
(145,'LN373447','2004-08-08','47924.19'),
(145,'NG94694','2005-02-22','49523.67'),
(146,'DB889831','2003-02-16','50218.95'),
(148,'FD317790','2003-10-28','1491.38'),
(151,'KI831359','2004-11-04','17876.32'),
(157,'MA302151','2004-11-28','34638.14'),
(161,'AE215433','2005-03-05','101244.59'),
(166,'BG255406','2004-08-28','85410.87'),
(167,'CQ287967','2003-04-11','11044.30');

-- Validate Payments inserts
SELECT * FROM Payments;

-- Insert records into OrderDetails
-- NOTE: Several productCode values in this block (e.g., S18_1749, S18_2248, S18_4409, S24_3969, S18_2325,
-- S18_2795, S24_1937, S24_2022, S18_2432, S18_2949, S18_2957, S18_3136, S18_3320, S18_4600)
-- are NOT present in the provided products INSERT statements.
-- If these IDs are not inserted previously, these statements will cause foreign key errors.
INSERT INTO OrderDetails (orderNumber, productCode, quantityOrdered, priceEach, orderLineNumber) VALUES
  (10100,'S18_1749',30,'136.00',3),
  (10101,'S18_2248',50,'55.09',2),
  (10102,'S18_4409',22,'75.46',4),
  (10103,'S24_3969',49,'35.29',1),
  (10104,'S18_2325',25,'108.06',4),
  (10105,'S18_2795',26,'167.06',1),
  (10106,'S24_1937',45,'32.53',3),
  (10107,'S24_2022',46,'44.35',2),
  (10108,'S18_1342',39,'95.55',2),
  (10109,'S18_1367',41,'43.13',1),
```

```
(10110,'S10_1949',26,'214.30',11),
(10111,'S10_4962',42,'119.67',4),
(10112,'S12_1666',27,'121.64',8),
(10113,'S18_1097',35,'94.50',10),
(10114,'S18_2432',22,'58.34',2),
(10115,'S18_2949',27,'92.19',12),
(10116,'S18_2957',35,'61.84',14),
(10117,'S18_3136',25,'86.92',13),
(10118,'S18_3320',46,'86.31',16),
(10119,'S18_4600',36,'98.07',5);
```

-- Validate OrderDetails inserts
SELECT * FROM OrderDetails;

Results   Messages

productLine	textDescription	htmlDescription	image
Classic Cars	Attention car enthusiasts: Make your wildest car ownership dreams come true. Whether you are looking for classic muscle cars, dream sports cars or movie-inspired miniatures, you will find great choices in this category. These replicas feature superb attention to detail and craftsmanship and offer features such as working steering system, opening forward compartment, opening rear trunk with removable spare wheel, 4-wheel independent spring suspension, and so on. The models range in size from 1:10 to 1:24 scale and include numerous limited edition and several out-of-production vehicles. All models include a certificate of authenticity from their manufacturers and come fully assembled and ready for display in the home or office.	NULL	NULL
Motorcycles	Our motorcycles are state of the art replicas of classic as well as contemporary motorcycle legends such as Harley Davidson, Ducati and Vespa. Models contain stunning details such as official logos, rotating wheels, working kickstand, front suspension, gear-shift lever, footbrake lever, and drive chain. Materials used include diecast and plastic. The models range in size from 1:10 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. All models come fully assembled and ready for display in the home or office. Most include a certificate of authenticity.	NULL	NULL
Planes	Unique, diecast airplane and helicopter replicas suitable for collections, as well as home, office or classroom decorations. Models contain stunning details such as official logos and insignias, rotating jet engines and propellers, retractable wheels, and so on. Most come fully assembled and with a certificate of authenticity from their manufacturers.	NULL	NULL
Ships	The perfect holiday or anniversary gift for executives, clients, friends, and family. These handcrafted model ships are unique, stunning works of art that will be treasured for generations! They come fully assembled and ready for display in the home or office. We guarantee the highest quality, and best value.	NULL	NULL
Trains	Model trains are a rewarding hobby for enthusiasts of all ages. Whether you are looking for collectible wooden trains, electric streetcars or locomotives, you will find a number of great choices for any budget within this category. The interactive aspect of trains makes toy trains perfect for young children. The wooden train sets are ideal for children under the age of 5.	NULL	NULL
Trucks and Buses	The Truck and Bus models are realistic replicas of buses and specialized trucks produced from the early 1920s to present. The models range in size from 1:12 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. Materials used include tin, diecast and plastic. All models include a certificate of authenticity from their manufacturers and are a perfect ornament for the home and office.	NULL	NULL
Vintage Cars	Our Vintage Car models realistically portray automobiles produced from the early 1900s through the 1940s. Materials used include Bakelite, diecast, plastic and wood. Most of the replicas are in the 1:18 and 1:24 scale sizes, which provide the optimum in detail and accuracy. Prices range from $30.00 up to $180.00 for some special limited edition replicas. All models include a certificate of	NULL	NULL

officeCode	city	phone	addressLine1	addressLine2	state	country	postalCode	territory
1	San Francisco	+1 650 219 4782	100 Market Street	Suite 300	CA	USA	94080	NA
2	Boston	+1 215 837 0825	1550 Court Place	Suite 102	MA	USA	02107	NA
3	NYC	+1 212 555 3000	523 East 53rd Street	apt. 5A	NY	USA	10022	NA
4	Paris	+33 14 723 4404	43 Rue Jouffroy Dabbans	NULL	NULL	France	75017	EMEA
5	Tokyo	+81 33 224 5000	4-1 Kioicho	NULL	Chiyoda-Ku	Japan	102-8578	Japan
6	Sydney	+61 2 9264 2451	5-11 Wentworth Avenue	Floor #2	NULL	Australia	NSW 2010	APAC
7	London	+44 20 7877 2041	25 Old Broad Street	Level 7	NULL	UK	EC2N 1HN	EMEA

employeeNumber	lastName	firstName	extension	email	officeCode	reportsTo	jobTitle
1002	Murphy	Diane	x5800	dmurphy@classicmodelcars.com	1	NULL	President
1056	Patterson	Mary	x4611	mpatterso@classicmodelcars.com	1	1002	VP Sales
1076	Firrelli	Jeff	x9273	jfirrelli@classicmodelcars.com	1	1002	VP Marketing
1088	Patterson	William	x4871	wpatterson@classicmodelcars.com	6	1056	Sales Manager (APAC)
1102	Bondur	Gerard	x5408	gbondur@classicmodelcars.com	4	1056	Sale Manager (EMEA)
1143	Bow	Anthony	x5428	abow@classicmodelcars.com	1	1056	Sales Manager (NA)

1165	Jennings	Leslie	x3291	ljennings@classicmodelcars.com	1	1143	Sales Rep
1166	Thompson	Leslie	x4065	lthompson@classicmodelcars.com	1	1143	Sales Rep
1188	Firrelli	Julie	x2173	jfirrAelli@classicmodelcars.com	2	1143	Sales Rep
1216	Patterson	Steve	x4334	spatterson@classicmodelcars.com	2	1143	Sales Rep
1286	Tseng	Foon Yue	x2248	ftseng@classicmodelcars.com	3	1143	Sales Rep
1323	Vanauf	George	x4102	gvanauf@classicmodelcars.com	3	1143	Sales Rep

1337	Bondur	Loui	x6493	lbondur@classicmodelcars.com	4	1102	Sales Rep
1370	Hernandez	Gerard	x2028	ghernande@classicmodelcars.com	4	1102	Sales Rep
1401	Castillo	Pamela	x2759	pcastillo@classicmodelcars.com	4	1102	Sales Rep
1501	Bott	Larry	x2311	lbott@classicmodelcars.com	7	1102	Sales Rep
1504	Jones	Barry	x102	bjones@classicmodelcars.com	7	1102	Sales Rep
1611	Fixter	Andy	x101	afixter@classicmodelcars.com	6	1088	Sales Rep
1612	Marsh	Peter	x102	pmarsh@classicmodelcars.com	6	1088	Sales Rep

customerNumber	customerName	contactLastName	contactFirstName	phone	addressLine1	addressLine2	city	state	postalCode	country	salesRepEmployeeNumber	creditLimit
103	Atelier graphique	Schmitt	Carine	40.32.2555	54, rue Royale	NULL	Nantes	NULL	44000	France	1370	21000.00
112	Signal Gift Stores	King	Jean	7025551838	8489 Strong St.	NULL	Las Vegas	NV	83030	USA	1166	71800.00
114	Australian Collectors, Co.	Ferguson	Peter	03 9520 4555	636 St Kilda Road	Level 3	Melbourne	Victoria	3004	Australia	1611	117300.00
119	La Rochelle Gifts	Labrune	Janine	40.67.8555	67, rue des Cinquante Otages	NULL	Nantes	NULL	44000	France	1370	118200.00
121	Baane Mini Imports	Bergulfsen	Jonas	07-98 9555	Erling Skakkes gate 78	NULL	Stavern	NULL	4110	Norway	1504	81700.00
124	Mini Gifts Distributors Ltd.	Nelson	Susan	4155551450	5677 Strong St.	NULL	San Rafael	CA	97562	USA	1165	210500.00
125	Havel & Zbyszek Co	Piestrzeniewicz	Zbyszek	(26) 642-7555	ul. Filtrowa 68	NULL	Warszawa	NULL	01-012	Poland	NULL	0.00
128	Blauer See Auto, Co.	Keitel	Roland	+49 69 66 90 2555	Lyonerstr. 34	NULL	Frankfurt	NULL	60528	Germany	1504	59700.00
129	Mini Wheels Co.	Murphy	Julie	6505555787	5557 North Pendale Street	NULL	San Francisco	CA	94217	USA	1165	64600.00
131	Land of Toys	Lee	Kwai	2125557818	897 Long	NULL	NYC	NY	10022	USA	1323	114900.00
141	Euro+ Shopping Channel	Freyre	Diego	(91) 555 94 44	C/ Moralzarzal, 86	NULL	Madrid	NULL	28034	Spain	1370	227600.00
144	Volvo Model Replicas, Co	Berglund	Christina	0921-12 3555	Berguvsvägen 8	NULL	Luleå	NULL	S-958 22	Sweden	1504	53100.00
145	Danish Wholesale Imports	Petersen	Jytte	31 12 3555	Vinbæltet 34	NULL	Kobenhavn	NULL	1734	Denmark	1401	83400.00
146	Saveley & Henriot, Co.	Saveley	Mary	78.32.5555	2, rue du Commerce	NULL	Lyon	NULL	69004	France	1337	123900.00
148	Dragon Souveniers, Ltd.	Natividad	Eric	+65 221 7555	Bronz Sok.	Bronz Apt. 3/6 Tesvikiye	Singapore	NULL	079903	Singapore	1612	103800.00
151	Muscle Machine Inc	Young	Jeff	2125557413	4092 Furth Circle	Suite 400	NYC	NY	10022	USA	1286	138500.00
157	Diecast Classics Inc.	Leong	Kelvin	2155551555	7586 Pompton St.	NULL	Allentown	PA	70267	USA	1216	100600.00
161	Technics Stores Inc.	Hashimoto	Juri	6505556809	9408 Furth Circle	NULL	Burlingame	CA	94217	USA	1165	84600.00
166	Handji Gifts& Co	Victorino	Wendy	+65 224 1555	106 Linden Road Sandown	2nd Floor	Singapore	NULL	069045	Singapore	1612	97900.00
167	Herkku Gifts	Oeztan	Veysel	+47 2267 3215	Brehmen St. 121	PR 334 Sentrum	Bergen	NULL	N 5804	Norway	1504	96800.00

orderNumber	orderDate	requiredDate	shippedDate	status	comments	customerNumber
10100	2003-01-06	2003-01-13	2003-01-10	Shipped	NULL	103
10101	2003-01-09	2003-01-18	2003-01-11	Shipped	Check on availability.	112
10102	2003-01-10	2003-01-18	2003-01-14	Shipped	NULL	114
10103	2003-01-29	2003-02-07	2003-02-02	Shipped	NULL	119
10104	2003-01-31	2003-02-09	2003-02-01	Shipped	NULL	121
10105	2003-02-11	2003-02-21	2003-02-12	Shipped	NULL	124
10106	2003-02-17	2003-02-24	2003-02-21	Shipped	NULL	125
10107	2003-02-24	2003-03-03	2003-02-26	Shipped	Difficult to negotiate with customer. We need more marketing materials	128

10108	2003-03-03	2003-03-12	2003-03-08	Shipped	NULL	129
10109	2003-03-10	2003-03-19	2003-03-11	Shipped	Customer requested that FedEx Ground is used for this shipping	131
10110	2003-03-18	2003-03-24	2003-03-20	Shipped	NULL	141
10111	2003-03-25	2003-03-31	2003-03-30	Shipped	NULL	144
10112	2003-03-24	2003-04-03	2003-03-29	Shipped	Customer requested that ad materials (such as posters, pamphlets) be included in the shippment	145
10113	2003-03-26	2003-04-02	2003-03-27	Shipped	NULL	146
10108	2003-03-03	2003-03-12	2003-03-08	Shipped	NULL	129
10109	2003-03-10	2003-03-19	2003-03-11	Shipped	Customer requested that FedEx Ground is used for this shipping	131
10110	2003-03-18	2003-03-24	2003-03-20	Shipped	NULL	141
10111	2003-03-25	2003-03-31	2003-03-30	Shipped	NULL	144
10112	2003-03-24	2003-04-03	2003-03-29	Shipped	Customer requested that ad materials (such as posters, pamphlets) be included in the shippment	145
10113	2003-03-26	2003-04-02	2003-03-27	Shipped	NULL	146

10114	2003-04-01	2003-04-07	2003-04-02	Shipped	NULL	148
10115	2003-04-04	2003-04-12	2003-04-07	Shipped	NULL	151
10116	2003-04-11	2003-04-19	2003-04-13	Shipped	NULL	157
10117	2003-04-16	2003-04-24	2003-04-17	Shipped	NULL	161
10118	2003-04-21	2003-04-29	2003-04-26	Shipped	Customer has worked with some of our vendors in the past and is aware of their MSRP	166
10119	2003-04-28	2003-05-05	2003-05-02	Shipped	NULL	167

3. ER diagram
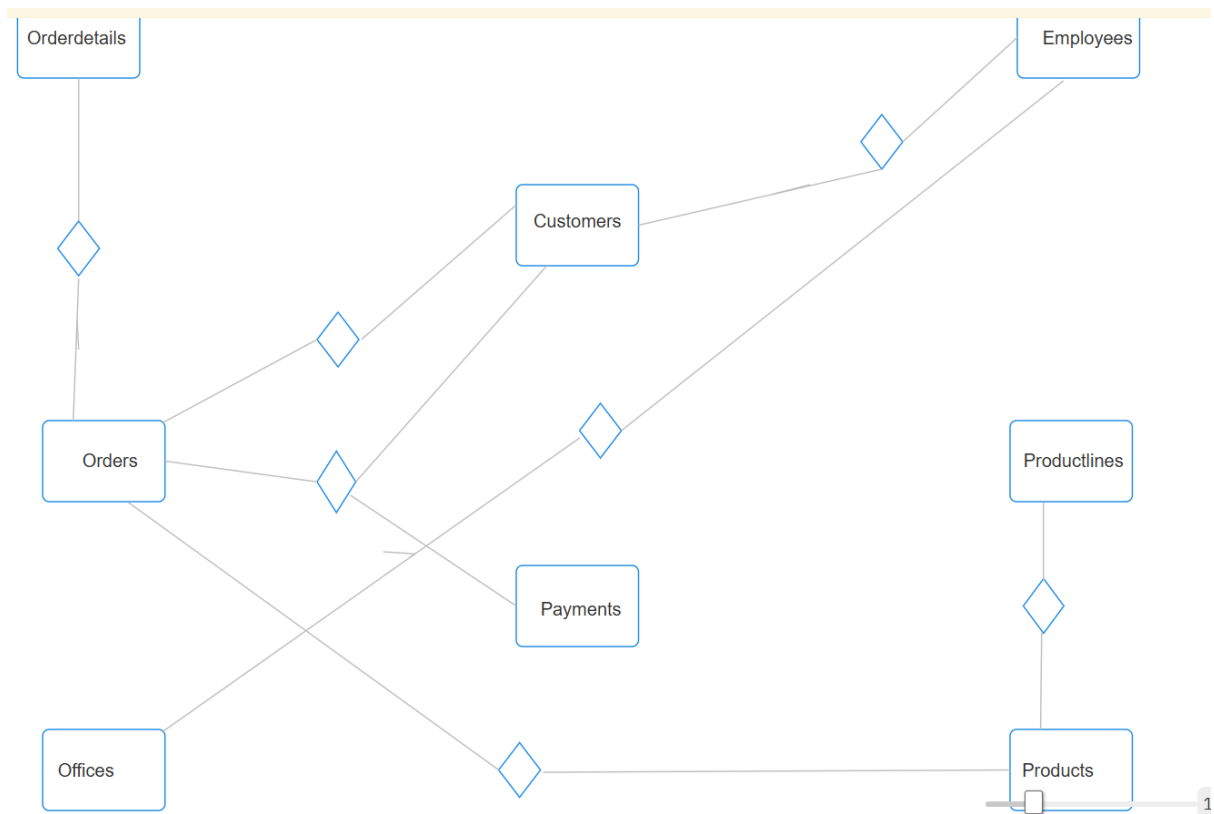
4.

```
CREATE TABLE productlines (
    productLine VARCHAR(50) PRIMARY KEY,
    textDescription VARCHAR(4000),
    htmlDescription TEXT,
    image BLOB
);
```

INSERT INTO ProductLines (productLine, textDescription, htmlDescription, image) VALUES

('Classic Cars','Attention car enthusiasts: Make your wildest car ownership dreams come true. Whether you are looking for classic muscle cars, dream sports cars or movie-inspired miniatures, you will find great choices in this category. These replicas feature superb attention to detail and craftsmanship and offer features such as working steering system, opening forward compartment, opening rear trunk with removable spare wheel, 4-wheel independent spring suspension, and so on. The models range in size from 1:10 to 1:24 scale and include numerous limited edition and several out-of-production vehicles. All models include a certificate of authenticity from their manufacturers and come fully assembled and ready for display in the home or office.',NULL,NULL),

('Motorcycles','Our motorcycles are state of the art replicas of classic as well as contemporary motorcycle legends such as Harley Davidson, Ducati and Vespa. Models contain stunning details such as official logos, rotating wheels, working kickstand, front suspension, gear-shift lever, footbrake lever, and drive chain. Materials used include diecast and plastic. The models range in size from 1:10 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. All models come fully assembled and ready for display in the home or office. Most include a certificate of authenticity.',NULL,NULL),

('Planes','Unique, diecast airplane and helicopter replicas suitable for collections, as well as home, office or classroom decorations. Models contain stunning details such as official logos and insignias, rotating jet engines and propellers, retractable wheels, and so on. Most come fully assembled and with a certificate of authenticity from their manufacturers.',NULL,NULL),

('Ships','The perfect holiday or anniversary gift for executives, clients, friends, and family. These handcrafted model ships are unique, stunning works of art that will be treasured for generations! They come fully assembled and ready for display in the home or office. We guarantee the highest quality, and best value.',NULL,NULL),

('Trains','Model trains are a rewarding hobby for enthusiasts of all ages. Whether you are looking for collectible wooden trains, electric streetcars or locomotives, you will find a number of great choices for any budget within this category. The interactive aspect of trains makes toy trains perfect for young children. The wooden train sets are ideal for children under the age of 5.',NULL,NULL),

('Trucks and Buses','The Truck and Bus models are realistic replicas of buses and specialized trucks produced from the early 1920s to present. The models range in size from 1:12 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. Materials used include tin, diecast and plastic. All models include a certificate of authenticity from their manufacturers and are a perfect ornament for the home and office.',NULL,NULL),

('Vintage Cars','Our Vintage Car models realistically portray automobiles produced from the early 1900s through the 1940s. Materials used include Bakelite, diecast, plastic and wood. Most of the replicas are in the 1:18 and 1:24 scale sizes, which provide the optimum in detail and accuracy. Prices range from $30.00 up to $180.00 for some special limited edition replicas. All models include a certificate of authenticity from their manufacturers and come fully assembled and ready for display in the home or office.',NULL,NULL);

-- Validate ProductLines inserts

```
SELECT * FROM ProductLines;
ALTER TABLE productlines
DROP COLUMN htmlDescription,
DROP COLUMN image;
DESCRIBE productlines;
```

Results | Messages

productLine	textDescription	htmlDescription	image
Classic Cars	Attention car enthusiasts: Make your wildest car ownership dreams come true. Whether you are looking for classic muscle cars, dream sports cars or movie-inspired miniatures, you will find great choices in this category. These replicas feature superb attention to detail and craftsmanship and offer features such as working steering system, opening forward compartment, opening rear trunk with removable spare wheel, 4-wheel independent spring suspension, and so on. The models range in size from 1:10 to 1:24 scale and include numerous limited edition and several out-of-production vehicles. All models include a certificate of authenticity from their manufacturers and come fully assembled and ready for display in the home or office.	NULL	NULL
Motorcycles	Our motorcycles are state of the art replicas of classic as well as contemporary motorcycle legends such as Harley Davidson, Ducati and Vespa. Models contain stunning details such as official logos, rotating wheels, working kickstand, front suspension, gear-shift lever, footbrake lever, and drive chain. Materials used include diecast and plastic. The models range in size from 1:10 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. All models come fully assembled and ready for display in the home or office. Most include a certificate of authenticity.	NULL	NULL
Planes	Unique, diecast airplane and helicopter replicas suitable for collections, as well as home, office or classroom decorations. Models contain stunning details such as official logos and insignias, rotating jet engines and propellers, retractable wheels, and so on. Most come fully assembled and with a certificate of authenticity from their manufacturers.	NULL	NULL
Ships	The perfect holiday or anniversary gift for executives, clients, friends, and family. These handcrafted model ships are unique, stunning works of art that will be treasured for generations! They come fully assembled and ready for display in the home or office. We guarantee the highest quality, and best value.	NULL	NULL
Trains	Model trains are a rewarding hobby for enthusiasts of all ages. Whether you are looking for collectible wooden trains, electric streetcars or locomotives, you will find a number of great choices for any budget within this category. The interactive aspect of trains makes toy trains perfect for young children. The wooden train sets are ideal for children under the age of 5.	NULL	NULL
Trucks and Buses	The Truck and Bus models are realistic replicas of buses and specialized trucks produced from the early 1920s to present. The models range in size from 1:12 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. Materials used include tin, diecast and plastic. All models include a certificate of authenticity from their manufacturers and are a perfect ornament for the home and office.	NULL	NULL
Vintage Cars	Our Vintage Car models realistically portray automobiles produced from the early 1900s through the 1940s. Materials used include Bakelite, diecast, plastic and wood. Most of the replicas are in the 1:18 and 1:24 scale sizes, which provide the optimum in detail and accuracy. Prices range from $30.00 up to $180.00 for some special limited edition replicas. All models include a certificate of	NULL	NULL

Field	Type	Null	Key	Default	Extra
productLine	varchar(50)	NO	PRI	NULL	
textDescription	varchar(4000)	YES		NULL	

5

```
SELECT * FROM productlines;
```

productLine	textDescription
Classic Cars	Attention car enthusiasts: Make your wildest car ownership dreams come true. Whether you are looking for classic muscle cars, dream sports cars or movie-inspired miniatures, you will find great choices in this category. These replicas feature superb attention to detail and craftsmanship and offer features such as working steering system, opening forward compartment, opening rear trunk with removable spare wheel, 4-wheel independent spring suspension, and so on. The models range in size from 1:10 to 1:24 scale and include numerous limited edition and several out-of-production vehicles. All models include a certificate of authenticity from their manufacturers and come fully assembled and ready for display in the home or office.
Motorcycles	Our motorcycles are state of the art replicas of classic as well as contemporary motorcycle legends such as Harley Davidson, Ducati and Vespa. Models contain stunning details such as official logos, rotating wheels, working kickstand, front suspension, gear-shift lever, and drive chain. Materials used include diecast and plastic. The models range in size from 1:10 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. All models come fully assembled and ready for display in the home or office. Most include a certificate of authenticity.
Planes	Unique, diecast airplane and helicopter replicas suitable for collections, as well as home, office or classroom decorations. Models contain stunning details such as official logos and insignias, rotating jet engines and propellers, retractable wheels, and so on. Most come fully assembled and with a certificate of authenticity from their manufacturers.
Trains	Model trains are a rewarding hobby for enthusiasts of all ages. Whether you are looking for collectible wooden trains, electric streetcars or locomotives, you will find a number of great choices for any budget within this category. The interactive aspect of trains makes toy trains perfect for young children. The wooden train sets are ideal for children under the age of 5.
Trucks and Buses	The Truck and Bus models are realistic replicas of buses and specialized trucks produced from the early 1920s to present. The models range in size from 1:12 to 1:50 scale and include numerous limited edition and several out-of-production vehicles. Materials used include tin, diecast and plastic. All models include a certificate of authenticity from their manufacturers and are a perfect ornament for the home and office.
Vintage Cars	Our Vintage Car models realistically portray automobiles produced from the early 1900s through the 1940s. Materials used include Bakelite, diecast, plastic and wood. Most of the replicas are in the 1:18 and 1:24 scale sizes, which provide the optimum in detail and accuracy. Prices range from $30.00 up to $180.00 for some special limited edition replicas. All models include a certificate of authenticity from their manufacturers and come fully assembled and ready for display in the home or office.

6. Max amount

-- Validate Payments inserts
SELECT * FROM Payments;
SELECT
    MAX(amount) AS HighestAmount,
    MIN(amount) AS LowestAmount
FROM Payments;

HighestAmount	LowestAmount
101245	1491.38

7. Give the unique count of customerName from customers.
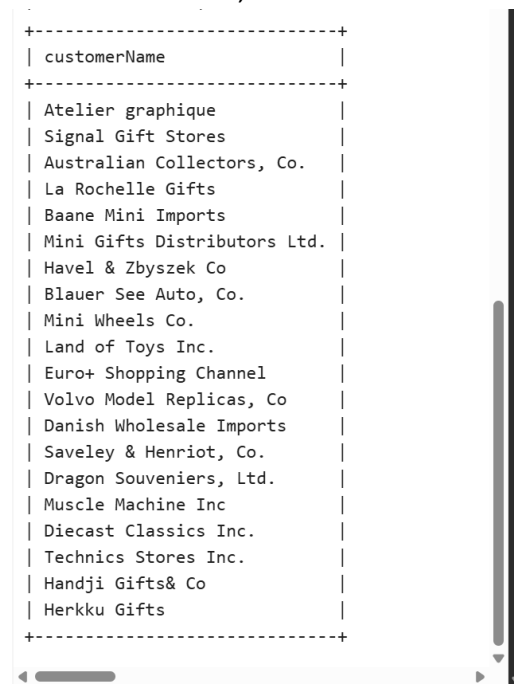
CREATE TABLE AND INSERT THE CUSTOMER DETAILS then
-- Validate Customers inserts
SELECT * FROM Customers;
SELECT DISTINCT customerName
FROM Customers;

```
+-----------------------------+
| customerName                |
+-----------------------------+
| Atelier graphique           |
| Signal Gift Stores          |
| Australian Collectors, Co.  |
| La Rochelle Gifts           |
| Baane Mini Imports          |
| Mini Gifts Distributors Ltd.|
| Havel & Zbyszek Co          |
| Blauer See Auto, Co.        |
| Mini Wheels Co.             |
| Land of Toys Inc.           |
| Euro+ Shopping Channel      |
| Volvo Model Replicas, Co    |
| Danish Wholesale Imports    |
| Saveley & Henriot, Co.      |
| Dragon Souveniers, Ltd.     |
| Muscle Machine Inc          |
| Diecast Classics Inc.       |
| Technics Stores Inc.        |
| Handji Gifts& Co            |
| Herkku Gifts                |
+-----------------------------+
```

8. Create a view from customers and payments named cust_payment and select customerName, amount, contactLastName, contactFirstName who have paid. Truncate and Drop the view after operation.

FIRST CREATE THE TABLE OF CUSTOMOR AND PAYMENTS

THEN INSERT THE DETAILS now type the given below queries
-- Step 1: Create the view
CREATE VIEW cust_payment AS
SELECT
   c.customerName,
   p.amount,
   c.contactLastName,
   c.contactFirstName
FROM
   Customers c
JOIN
   Payments p
ON
   c.customerNumber = p.customerNumber;
-- Step 2: Select data from the view
SELECT *
FROM cust_payment;
-- Step 3: Drop the view
DROP VIEW IF EXISTS cust_payment;

```
+----------------------------+-----------+----------------+------------------+
| customerName               | amount    | contactLastName | contactFirstName |
+----------------------------+-----------+----------------+------------------+
| Atelier graphique          |   6066.78 | Schmitt        | Carine           |
| Signal Gift Stores         |  14571.44 | King           | Jean             |
| Australian Collectors, Co. |   1676.14 | Ferguson       | Peter            |
| La Rochelle Gifts          |  14191.12 | Labrune        | Janine           |
| Baane Mini Imports         |  32641.98 | Bergulfsen     | Jonas            |
| Mini Gifts Distributors Ltd.| 33347.88 | Nelson         | Susan            |
| Havel & Zbyszek Co         |  45864.03 | Piestrzeniewicz | Zbyszek         |
| Blauer See Auto, Co.       |  82261.22 | Keitel         | Roland           |
| Mini Wheels Co.            |   7565.08 | Murphy         | Julie            |
| Land of Toys Inc.          |  44894.74 | Lee            | Kwai             |
| Euro+ Shopping Channel     |  19501.82 | Freyre         | Diego            |
| Danish Wholesale Imports   |  47924.19 | Petersen       | Jytte            |
| Danish Wholesale Imports   |  49523.67 | Petersen       | Jytte            |
| Saveley & Henriot, Co.     |  50218.95 | Saveley        | Mary             |
| Dragon Souveniers, Ltd.    |   1491.38 | Natividad      | Eric             |
| Muscle Machine Inc         |  17876.32 | Young          | Jeff             |
| Diecast Classics Inc.      |  34638.14 | Leong          | Kelvin           |
| Technics Stores Inc.       | 101244.59 | Hashimoto      | Juri             |
| Handji Gifts& Co           |  85410.87 | Victorino      | Wendy            |
| Herkku Gifts               |  11044.30 | Oeztan         | Veysel           |
+----------------------------+-----------+----------------+------------------+
```

9. Create a stored procedure on products which displays productLine for Classic Cars.

CREATE AND INSERT THE DETAILS OF THE TABLES
PRODUCTLINE, PRODUCTS , CUSTOMERS then type this query
DELIMITER $$
CREATE PROCEDURE GetProductLine(IN lineName VARCHAR(50))
BEGIN
   SELECT productLine

```
    FROM Products
    WHERE productLine = lineName;
END$$
DELIMITER ;
CALL GetProductLine('Classic Cars');
+--------------+
| productLine  |
+--------------+
| Classic Cars |
| Classic Cars |
| Classic Cars |
| Classic Cars |
| Classic Cars |
| Classic Cars |
| Classic Cars |
| Classic Cars |
| Classic Cars |
| Classic Cars |
| Classic Cars |
+--------------+
```

10. .Create a function to get the creditLimit of customers less than 96800.

CREATE AND INSERT THE CUSTOMER DETAILS THEN TYPE THIS QUERIES

```
DELIMITER $$
CREATE PROCEDURE GetLowCreditCustomers()
BEGIN
  SELECT
    customerName,
    contactLastName,
    contactFirstName,
    creditLimit
  FROM
    Customers
  WHERE
    creditLimit < 96800;
END$$
DELIMITER ;
CALL GetLowCreditCustomers();
```

Output:

```
+--------------------------+-----------------+-----------------+-------------+
| customerName             | contactLastName | contactFirstName | creditLimit |
+--------------------------+-----------------+-----------------+-------------+
| Atelier graphique        | Schmitt         | Carine          |       21000 |
| Signal Gift Stores       | King            | Jean            |       71800 |
| Baane Mini Imports       | Bergulfsen      | Jonas           |       81700 |
| Havel & Zbyszek Co       | Piestrzeniewicz | Zbyszek         |           0 |
| Blauer See Auto, Co.     | Keitel          | Roland          |       59700 |
| Mini Wheels Co.          | Murphy          | Julie           |       64600 |
| Volvo Model Replicas, Co | Berglund        | Christina       |       53100 |
| Danish Wholesale Imports | Petersen        | Jytte           |       83400 |
| Technics Stores Inc.     | Hashimoto       | Juri            |       84600 |
+--------------------------+-----------------+-----------------+-------------+
```

11.

```sql
CREATE TABLE Employees (
    employeeNumber INT PRIMARY KEY,
    lastName VARCHAR(50),
    firstName VARCHAR(50),
    officeCode VARCHAR(10)
);
CREATE TABLE EmployeeTransactionLog (
    logID INT AUTO_INCREMENT PRIMARY KEY,
    employeeNumber INT,
    lastName VARCHAR(50),
    firstName VARCHAR(50),
    officeCode VARCHAR(10),
    transactionDateTime DATETIME DEFAULT CURRENT_TIMESTAMP
);
DELIMITER $$
CREATE PROCEDURE InsertEmployeeAndLog(
    IN empNumber INT,
    IN empLastName VARCHAR(50),

    IN empFirstName VARCHAR(50),

    IN empOfficeCode VARCHAR(10)
)
BEGIN
    -- Insert the new employee into the Employees table
```

```sql
    INSERT INTO Employees (employeeNumber, lastName, firstName, officeCode)
    VALUES (empNumber, empLastName, empFirstName, empOfficeCode);
    -- Log the transaction in the EmployeeTransactionLog table
    INSERT INTO EmployeeTransactionLog (employeeNumber, lastName, firstName,
officeCode)
    VALUES (empNumber, empLastName, empFirstName, empOfficeCode);
END$$

DELIMITER ;
CALL InsertEmployeeAndLog(1002, 'Murphy', 'Diane', '1');
CALL InsertEmployeeAndLog(1056, 'Patterson', 'Mary', '1');
CALL InsertEmployeeAndLog(1076, 'Firrelli', 'Jeff', '1');
CALL InsertEmployeeAndLog(1088, 'Patterson', 'William', '6');
CALL InsertEmployeeAndLog(1102, 'Bondur', 'Gerard', '4');
CALL InsertEmployeeAndLog(1143, 'Bow', 'Anthony', '1');
CALL InsertEmployeeAndLog(1165, 'Jennings', 'Leslie', '1');
CALL InsertEmployeeAndLog(1166, 'Thompson', 'Leslie', '1');
CALL InsertEmployeeAndLog(1188, 'Firrelli', 'Julie', '2');
CALL InsertEmployeeAndLog(1216, 'Patterson', 'Steve', '2');
CALL InsertEmployeeAndLog(1286, 'Tseng', 'Foon Yue', '3');
CALL InsertEmployeeAndLog(1323, 'Vanauf', 'George', '3');
CALL InsertEmployeeAndLog(1337, 'Bondur', 'Loui', '4');
CALL InsertEmployeeAndLog(1370, 'Hernandez', 'Gerard', '4');
CALL InsertEmployeeAndLog(1401, 'Castillo', 'Pamela', '4');
CALL InsertEmployeeAndLog(1501, 'Bott', 'Larry', '7');
CALL InsertEmployeeAndLog(1504, 'Jones', 'Barry', '7');
CALL InsertEmployeeAndLog(1611, 'Fixter', 'Andy', '6');
CALL InsertEmployeeAndLog(1612, 'Marsh', 'Peter', '6');
CALL InsertEmployeeAndLog(1619, 'King', 'Tom', '6');
SELECT * FROM Employees;
SELECT * FROM EmployeeTransactionlog;
```

Output:

```
+----------------+-----------+-----------+------------+
| employeeNumber | lastName  | firstName | officeCode |
+----------------+-----------+-----------+------------+
|           1002 | Murphy    | Diane     | 1          |
|           1056 | Patterson | Mary      | 1          |
|           1076 | Firrelli  | Jeff      | 1          |
|           1088 | Patterson | William   | 6          |
|           1102 | Bondur    | Gerard    | 4          |
|           1143 | Bow       | Anthony   | 1          |
|           1165 | Jennings  | Leslie    | 1          |
|           1166 | Thompson  | Leslie    | 1          |
|           1188 | Firrelli  | Julie     | 2          |
|           1216 | Patterson | Steve     | 2          |
|           1286 | Tseng     | Foon Yue  | 3          |
|           1323 | Vanauf    | George    | 3          |
|           1337 | Bondur    | Loui      | 4          |
|           1370 | Hernandez | Gerard    | 4          |
|           1401 | Castillo  | Pamela    | 4          |
|           1501 | Bott      | Larry     | 7          |
|           1504 | Jones     | Barry     | 7          |
|           1611 | Fixter    | Andy      | 6          |
|           1612 | Marsh     | Peter     | 6          |
|           1619 | King      | Tom       | 6          |
+----------------+-----------+-----------+------------+
```

```
+-------+----------------+----------+-----------+------------+---------------------+
| logID | employeeNumber | lastName | firstName | officeCode | transactionDateTime |
+-------+----------------+----------+-----------+------------+---------------------+
|     1 |           1002 | Murphy   | Diane     | 1          | 2025-05-24 13:04:12 |
|     2 |           1056 | Patterson| Mary      | 1          | 2025-05-24 13:04:12 |
|     3 |           1076 | Firrelli | Jeff      | 1          | 2025-05-24 13:04:12 |
|     4 |           1088 | Patterson| William   | 6          | 2025-05-24 13:04:12 |
|     5 |           1102 | Bondur   | Gerard    | 4          | 2025-05-24 13:04:12 |
|     6 |           1143 | Bow      | Anthony   | 1          | 2025-05-24 13:04:12 |
|     7 |           1165 | Jennings | Leslie    | 1          | 2025-05-24 13:04:12 |
|     8 |           1166 | Thompson | Leslie    | 1          | 2025-05-24 13:04:12 |
|     9 |           1188 | Firrelli | Julie     | 2          | 2025-05-24 13:04:12 |
|    10 |           1216 | Patterson| Steve     | 2          | 2025-05-24 13:04:12 |
|    11 |           1286 | Tseng    | Foon Yue  | 3          | 2025-05-24 13:04:12 |
|    12 |           1323 | Vanauf   | George    | 3          | 2025-05-24 13:04:12 |
|    13 |           1337 | Bondur   | Loui      | 4          | 2025-05-24 13:04:12 |
|    14 |           1370 | Hernandez| Gerard    | 4          | 2025-05-24 13:04:12 |
|    15 |           1401 | Castillo | Pamela    | 4          | 2025-05-24 13:04:12 |
|    16 |           1501 | Bott     | Larry     | 7          | 2025-05-24 13:04:12 |
|    17 |           1504 | Jones    | Barry     | 7          | 2025-05-24 13:04:12 |
|    18 |           1611 | Fixter   | Andy      | 6          | 2025-05-24 13:04:12 |
|    19 |           1612 | Marsh    | Peter     | 6          | 2025-05-24 13:04:12 |
|    20 |           1619 | King     | Tom       | 6          | 2025-05-24 13:04:12 |
+-------+----------------+----------+-----------+------------+---------------------+
```

12. Customer number if the amount is greater than 10,000

CREATE AND INSERT THE PAYMENTS DETAILS
THEN
-- Verify Payments Table
SELECT * FROM Payments;
SELECT customerNumber
FROM Payments
WHERE amount > 10000;

```
+----------------+--------
+----------------+
| customerNumber |
+----------------+
|            112 |
|            119 |
|            121 |
|            124 |
|            125 |
|            128 |
|            131 |
|            141 |
|            145 |
|            145 |
|            146 |
|            151 |
|            157 |
|            161 |
|            166 |
|            167 |
+----------------+
```

13. .Create Users, Roles and Logins according to 3 Roles: Admin, HR, and Employee. Admin can view full database and has full access, HR can view and access only employee and offices table. Employee can

view all tables only. Note: work from Admin role for any changes to be made for database.

```
-- Step 1: Create Tables to Simulate Roles
-- Create a table for AdminRole
CREATE TABLE AdminRole (
    roleName VARCHAR(50),
    privileges TEXT
);
-- Create a table for HRRole
CREATE TABLE HRRole (
    roleName VARCHAR(50),
    tableAccess VARCHAR(100)
);
-- Create a table for EmployeeRole
CREATE TABLE EmployeeRole (
    roleName VARCHAR(50),
    accessLevel VARCHAR(50)
);

-- Step 2: Insert Data into Role Tables
-- Insert Admin Permissions
INSERT INTO AdminRole (roleName, privileges)
VALUES
('Admin', 'Full access to all tables and database operations.');
-- Insert HR Permissions
INSERT INTO HRRole (roleName, tableAccess)
VALUES
('HR', 'Read and write access to Employees and Offices tables.');
-- Insert Employee Permissions
INSERT INTO EmployeeRole (roleName, accessLevel)
VALUES
('Employee', 'Read-only access to all tables.');
-- Step 3: Create a Sample Employees Table
-- Simulate the Employees table
CREATE TABLE Employees (
    employeeNumber INT PRIMARY KEY,
    lastName VARCHAR(50),
    firstName VARCHAR(50),
    officeCode VARCHAR(10)
);
-- Insert Sample Data into Employees Table
-- Insert Sample Data into Employees Table
INSERT INTO Employees (employeeNumber, lastName, firstName, officeCode)
```

```sql
VALUES
(1002, 'Murphy', 'Diane', '1'),
(1056, 'Patterson', 'Mary', '1'),
(1076, 'Firrelli', 'Jeff', '1'),
(1088, 'Patterson', 'William', '6'),
(1102, 'Bondur', 'Gerard', '4'),
(1143, 'Bow', 'Anthony', '1'),
(1165, 'Jennings', 'Leslie', '1'),
(1166, 'Thompson', 'Leslie', '1'),
(1188, 'Firrelli', 'Julie', '2'),
(1216, 'Patterson', 'Steve', '2'),
(1286, 'Tseng', 'Foon Yue', '3'),
(1323, 'Vanauf', 'George', '3'),
(1337, 'Bondur', 'Loui', '4'),
(1370, 'Hernandez', 'Gerard', '4'),
(1401, 'Castillo', 'Pamela', '4'),
(1501, 'Bott', 'Larry', '7'),
(1504, 'Jones', 'Barry', '7'),
(1611, 'Fixter', 'Andy', '6'),
(1612, 'Marsh', 'Peter', '6'),
(1619, 'King', 'Tom', '6');
-- Step 4: Simulate Role-Based Access
-- Admin Access Simulation
SELECT * FROM AdminRole;
-- HR Access Simulation
SELECT * FROM HRRole;
-- Employee Access Simulation
SELECT * FROM EmployeeRole;
-- Step 5: Role-Based Query Examples
-- HR Accesses Employees Table
SELECT * FROM Employees WHERE officeCode IN ('1', '2');
-- Employee Read-Only Access to All Tables
SELECT * FROM Employees;
-- Display Role-Based Privileges
SELECT
    roleName,
    CASE
        WHEN roleName = 'Admin' THEN 'Full Access'
        WHEN roleName = 'HR' THEN 'Employees and Offices Access Only'
        WHEN roleName = 'Employee' THEN 'Read-Only Access'
        ELSE 'No Access'
    END AS AccessLevel
FROM (
    SELECT roleName FROM AdminRole
```

```
    UNION
    SELECT roleName FROM HRRole
    UNION
    SELECT roleName FROM EmployeeRole
) Roles;
```

```
+----------+------------------------------------------------------+
| roleName | privileges                                           |
+----------+------------------------------------------------------+
| Admin    | Full access to all tables and database operations.   |
+----------+------------------------------------------------------+

+----------+-------------------------------------------------------+
| roleName | tableAccess                                           |
+----------+-------------------------------------------------------+
| HR       | Read and write access to Employees and Offices tables.|
+----------+-------------------------------------------------------+

+----------+--------------------------------+
| roleName | accessLevel                    |
+----------+--------------------------------+
| Employee | Read-only access to all tables.|
+----------+--------------------------------+

+----------------+-----------+-----------+------------+
| employeeNumber | lastName  | firstName | officeCode |
+----------------+-----------+-----------+------------+
|           1002 | Murphy    | Diane     | 1          |
|           1056 | Patterson | Mary      | 1          |
|           1076 | Firrelli  | Jeff      | 1          |
|           1143 | Bow       | Anthony   | 1          |
|           1165 | Jennings  | Leslie    | 1          |
|           1166 | Thompson  | Leslie    | 1          |
|           1188 | Firrelli  | Julie     | 2          |
|           1216 | Patterson | Steve     | 2          |
+----------------+-----------+-----------+------------+
```

```
+----------------+------------+------------+------------+
| employeeNumber | lastName   | firstName  | officeCode |
+----------------+------------+------------+------------+
|           1002 | Murphy     | Diane      | 1          |
|           1056 | Patterson  | Mary       | 1          |
|           1076 | Firrelli   | Jeff       | 1          |
|           1088 | Patterson  | William    | 6          |
|           1102 | Bondur     | Gerard     | 4          |
|           1143 | Bow        | Anthony    | 1          |
|           1165 | Jennings   | Leslie     | 1          |
|           1166 | Thompson   | Leslie     | 1          |
|           1188 | Firrelli   | Julie      | 2          |
|           1216 | Patterson  | Steve      | 2          |
|           1286 | Tseng      | Foon Yue   | 3          |
|           1323 | Vanauf     | George     | 3          |
|           1337 | Bondur     | Loui       | 4          |
|           1370 | Hernandez  | Gerard     | 4          |
|           1401 | Castillo   | Pamela     | 4          |
|           1501 | Bott       | Larry      | 7          |
|           1504 | Jones      | Barry      | 7          |
|           1611 | Fixter     | Andy       | 6          |
|           1612 | Marsh      | Peter      | 6          |
|           1619 | King       | Tom        | 6          |
+----------------+------------+------------+------------+

+----------+-----------------------------------+
| roleName | AccessLevel                       |
+----------+-----------------------------------+
| Admin    | Full Access                       |
| HR       | Employees and Offices Access Only |
| Employee | Read-Only Access                  |
+----------+-----------------------------------+
```