Database Design Project

CSCI 210

# Introduction

The business we have chosen is a spaceship dealership called Aurora Voyagers. The business sells luxury class spaceships. The business also offers maintenance and repair services, along with replacement parts for the spaceships it sells. The customers of the business are most often those with a higher income, typically defined as upper-middle class or upper-class citizens, due to the high cost of the spaceships being sold. The business currently uses Microsoft Excel files to keep track of its customer information, along with the sales and inventory data. Each department of the business keeps their files in separate network drives, which are maintained by an internal IT department.

One challenge the business faces due to the current system is duplicated data since each department does not have access to records created by the other departments. Another challenge the current system creates is an inability to easily track sales and inventory data, causing delays or lack of inventory. A third challenge the business faces is reports and spreadsheets all need to be manually updated, leading to reduced efficiency during busy periods or when staffing is reduced.

The database will be created will have the following entities: Customer, Spaceship, Orders, OrderParts, Part, Payment, Employee, MaintenanceRequest, FinanceRequest, Invoice, and Vendor.

# **Business Rules**

1. A single customer can have many spaceships. Each sale record is tied to exactly one spaceship.
2. A customer can make many purchases, orders, and financing requests.
3. Every spaceship must have exactly one intake inspection and one inventory entry.
4. Each spaceship has an individual price based on its attributes and market conditions.
5. Each sale must be reviewed by exactly one manager/auditor.
6. Each inspection must be reviewed by exactly one manager/auditor.
7. Multiple service requests can be logged for each customer in a single database.
8. Every order must have at least one part but may have many.
9. Every order can have multiple payments applied until the order is paid off.
10. Every invoice can have multiple payments applied until the order is paid off.
11. Every employee can have only one manager.
12. Each customer can be associated with a vendor but is not required to be.
13. Every spaceship has both a unique identifier and manufacturer serial number.
14. Payments can be made by both customers and vendors.
15. Maintenance and Finance requests are always submitted by employees.

# **Entity Relationship Diagram**

A diagram of a company

AI-generated content may be incorrect.

# **Primary Key Table**

|  |  |
| --- | --- |
| Entity | Primary Key |
| Customer | CustomerID |
| Spaceship | SpaceshipID |
| Orders | OrderID |
| OrderParts | (OrderID, PartID) |
| Part | PartID |
| Payment | PaymentID |
| Employee | Employee |
| MaintenanceRequest | MaintenanceRequestID |
| FinanceRequest | FinanceRequestID |
| Invoice | InvoiceID |
| Vendor | VendorID |

# **Integrity Rules**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity | Entity Integrity | Referential Integrity | Comments |
| Customer | This entity has entity integrity because the primary key has a constraint that requires the CustomerID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| Spaceship | This entity has entity integrity because the primary key has a constraint that requires the SpaceshipID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| Orders | This entity has entity integrity because the primary key has a constraint that requires the OrderID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| OrderParts | This entity has entity integrity because the primary key has a constraint that requires the OrderPartsID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| Part | This entity has entity integrity because the primary key has a constraint that requires the PartID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| Payment | This entity has entity integrity because the primary key has a constraint that requires the PaymentID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| Employee | This entity has entity integrity because the primary key has a constraint that requires the EmployeeID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| MaintenanceRequest | This entity has entity integrity because the primary key has a constraint that requires the MaintenanceRequest ID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| FinanceRequest | This entity has entity integrity because the primary key has a constraint that requires the FinanceRequest ID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| Invoice | This entity has entity integrity because the primary key has a constraint that requires the InvoiceID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |
| Vendor | This entity has entity integrity because the primary key has a constraint that requires the VendorID to be unique and not NULL | This entity has referential integrity because it has all foreign keys identified in this entity and also has them declared as the primary key in their respective parent tables. In their parent table they are set to be both unique and not NULL | Since the primary key is set as an integer value, it could also be set to auto-increment if desired. |

# **Relationships**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity 1 | Entity 2 | Relationship | Cardinality |
| CUSTOMER | VENDOR | Customer purchases from Vendors | ONE TO MANY |
| CUSTOMER | INVOICE | Customer generates Invoices | ONE TO MANY |
| CUSTOMER | FINANCE REQUEST | Customer begins Finance Requests | ONE TO MANY |
| EMPLOYEE | FINANCE REQUEST | Employee creates Finance Requests | ONE TO MANY |
| EMPLOYEE | MAINTENANCE REQUEST | Employee creates Maintenance Requests | ONE TO MANY |
| EMPLOYEE | INVOICE | Employee reviews Invoices | ONE TO MANY |
| VENDOR | PAYMENT | Vendor makes Payments | ONE TO MANY |
| VENDOR | INVOICE | Vendor begins Invoices | ONE TO MANY |
| SPACESHIP | VENDOR | Spaceships are sold to Vendors | ONE TO MANY |
| SPACESHIP | PARTS | Spaceship contain Parts | ONE TO MANY |
| SPACESHIP | ORDERS | Spaceship is referenced for Orders | ONE TO MANY |
| SPACESHIP | MAINTENANCE REQUEST | Spaceship is serviced with Maintenance Requests | ONE TO MANY |
| ORDERS | PAYMENT | Order has Payments | ONE TO MANY |
| ORDERS | INVOICE | Order has Invoices | ONE TO MANY |
| ORDERPARTS | ORDERS | OrderParts has Orders | ONE TO MANY |
| ORDERPARTS | PART | OrderParts has Orders | ONE TO MANY |

# **SQL Statements to create tables (Primary Keys highlighted in Yellow, Foreign keys highlighted in Green)**

--SQLITE

--Start new transaction

BEGIN TRANSACTION;

--Create all tables needed for the database

CREATE TABLE Customer(CustomerID INTEGER NOT NULL UNIQUE

, CustomerFirstName VARCHAR(35)

, CustomerLastName VARCHAR(35)

, CompanyName VARCHAR(35)

, PhoneNumber VARCHAR(10)

, Email VARCHAR(35)

, Address VARCHAR(35)

, DateOfBirth DATE

, IdentityVerified VARCHAR(3)

, VendorID INTEGER

, PRIMARY KEY (CustomerID)

, FOREIGN KEY (VendorID) REFERENCES Vendor(VendorID) ON UPDATE CASCADE);

CREATE TABLE Spaceship(SpaceshipID INTEGER NOT NULL UNIQUE

, SerialNumber VARCHAR(35)

, VendorID INTEGER

, InvoiceID INTEGER

, Make VARCHAR(35)

, Model VARCHAR(35)

, ShipName VARCHAR(35)

, ModelYear INTEGER

, Condition VARCHAR(35)

, Modifications VARCHAR(35)

, SalePrice DECIMAL

, LastMaintenanceDate DATE

, PRIMARY KEY (SpaceshipID)

, FOREIGN KEY (VendorID) REFERENCES Vendor(VendorID) ON UPDATE CASCADE

, FOREIGN KEY (InvoiceID) REFERENCES Invoice(InvoiceID) ON UPDATE CASCADE);

CREATE TABLE Orders(OrderID INTEGER NOT NULL UNIQUE

, InvoiceID INTEGER

, CustomerID INTEGER

, SpaceshipID INTEGER

, OrderDateTime DATE

, Destination VARCHAR(35)

, OrderStatus VARCHAR(35)

, DiscountApplied DECIMAL

, OrderTotal DECIMAL

, PRIMARY KEY (OrderID)

, FOREIGN KEY (InvoiceID) REFERENCES Invoice(InvoiceID) ON UPDATE CASCADE

, FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON UPDATE CASCADE

, FOREIGN KEY (SpaceshipID) REFERENCES Spaceship(SpaceshipID) ON UPDATE CASCADE);

CREATE TABLE OrderParts(OrderID INTEGER

, PartID INTEGER

, QuantityUsed INTEGER

, PRIMARY KEY(OrderID, PartID)

, FOREIGN KEY (OrderID) REFERENCES Orders(OrderID) ON UPDATE CASCADE

, FOREIGN KEY (PartID) REFERENCES Part(PartID) ON UPDATE CASCADE);

CREATE TABLE Part(PartID INTEGER NOT NULL UNIQUE

, SpaceshipID INTEGER

, QuantityInStock INTEGER

, UnitPrice DECIMAL

, PartName VARCHAR(35)

, PartDescription VARCHAR(35)

, Manufacturer VARCHAR(35)

, WarrantyExpirationDate DATE

, PartNumber VARCHAR(35)

, PartStatus VARCHAR(35)

, PRIMARY KEY (PartID)

, FOREIGN KEY (SpaceshipID) REFERENCES Spaceship(SpaceshipID) ON UPDATE CASCADE);

CREATE TABLE Payment(PaymentID INTEGER

NOT NULL UNIQUE, InvoiceID INTEGER

, VendorID INTEGER

, OrderID INTEGER

, CustomerID INTEGER

, PaymentMethod VARCHAR(35)

, PaymentAmount DECIMAL

, PaymentDateTime DATE

, TransactionID INTEGER

, PaymentStatus VARCHAR(35)

, Currency VARCHAR(35)

, PRIMARY KEY (PaymentID)

, FOREIGN KEY (InvoiceID) REFERENCES Invoice(InvoiceID) ON UPDATE CASCADE

, FOREIGN KEY (VendorID) REFERENCES Vendor(VendorID) ON UPDATE CASCADE

, FOREIGN KEY (OrderID) REFERENCES Orders(OrderID) ON UPDATE CASCADE

, FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON UPDATE CASCADE);

CREATE TABLE Employee(EmployeeID INTEGER NOT NULL UNIQUE

, EmployeeFirstName VARCHAR(35)

, EmployeeLastName VARCHAR(35)

, Role VARCHAR(35)

, HireDate DATE

, Department VARCHAR(35)

, SupervisorID INTEGER

, EmploymentStatus VARCHAR(35)

, Salary DECIMAL

, PRIMARY KEY (EmployeeID)

, FOREIGN KEY (SupervisorID) REFERENCES Employee(EmployeeID) ON UPDATE CASCADE);

CREATE TABLE MaintenanceRequest(MaintenanceRequestID INTEGER NOT NULL UNIQUE

, SpaceshipID INTEGER

, PartID INTEGER

, RequestedBy INTEGER

, RequestDate DATE

, RequestType VARCHAR(35)

, RequestDescription VARCHAR(35)

, PriorityLevel VARCHAR(35)

, RequestStatus VARCHAR(35)

, CompletionDate DATE

, PRIMARY KEY (MaintenanceRequestID)

, FOREIGN KEY (RequestedBy) REFERENCES Employee(EmployeeID) ON UPDATE CASCADE

, FOREIGN KEY (SpaceshipID) REFERENCES Spaceship(SpaceshipID) ON UPDATE CASCADE

, FOREIGN KEY (PartID) REFERENCES Part(PartID) ON UPDATE CASCADE);

CREATE TABLE FinanceRequest(FinanceRequestID INTEGER NOT NULL UNIQUE

, SpaceshipID INTEGER

, RequestedBy INTEGER

, ReviewedBy INTEGER

, RequestDate DATE

, RequestType VARCHAR(35)

, FinancedAmount DECIMAL

, DateReviewed DATE

, ApprovalStatus VARCHAR(35)

, RequestNotes VARCHAR(35)

, PRIMARY KEY (FinanceRequestID)

, FOREIGN KEY (SpaceshipID) REFERENCES Spaceship(SpaceshipID) ON UPDATE CASCADE

, FOREIGN KEY (RequestedBy) REFERENCES Employee(EmployeeID) ON UPDATE CASCADE

, FOREIGN KEY (ReviewedBy) REFERENCES Employee(EmployeeID) ON UPDATE CASCADE);

CREATE TABLE Invoice(InvoiceID INTEGER NOT NULL UNIQUE, InvoiceDateTime DATE, InvoiceAmount DECIMAL

, TaxAmount DECIMAL

, Currency VARCHAR(35)

, VendorID INTEGER

, CustomerID INTEGER

, OrderID INTEGER

, PaymentID INTEGER

, DueDate DATE

, DateReceived DATE

, ReviewedBy INTEGER

, InvoiceNumber INTEGER

, PRIMARY KEY (InvoiceID)

, FOREIGN KEY (VendorID) REFERENCES Vendor(VendorID) ON UPDATE CASCADE

, FOREIGN KEY (CustomerID) REFERENCES Customer(CustomerID) ON UPDATE CASCADE

, FOREIGN KEY (OrderID) REFERENCES Orders(OrderID) ON UPDATE CASCADE

, FOREIGN KEY (PaymentID) REFERENCES Payment(PaymentID) ON UPDATE CASCADE

, FOREIGN KEY (ReviewedBy) REFERENCES Employee(EmployeeID) ON UPDATE CASCADE);

CREATE TABLE Vendor(VendorID INTEGER NOT NULL UNIQUE

, VendorName VARCHAR(35)

, VendorContact VARCHAR(35)

, PhoneNumber VARCHAR(10)

, Address VARCHAR(35)

, VendorType VARCHAR(35)

, VendorStatus VARCHAR(35)

, VendorRating DECIMAL

, ContractStartDate DATE

, ContractEndDate DATE

, PRIMARY KEY (VendorID));

--Save preceding steps to disk

COMMIT;

--end of tables.sql

# **SQL Statements to insert records**

--SQLITE

--Start new transaction

BEGIN TRANSACTION;

--Insert sample data into tables needed for the database

INSERT INTO Customer(CustomerID, CustomerFirstName, CustomerLastName, CompanyName, PhoneNumber, Email, Address, DateOfBirth, IdentityVerified, VendorID) VALUES

(1, 'John', 'Smith', 'Galactic Supplies Co.', '555-1111', 'john.smith@galacticsupply.com', '1 Alpha Way', '1980-05-10', 'Yes', 1),

(2, 'Emily', 'Johnson', 'Starlight Engineering', '555-2222', 'emily.j@starlightengineer.com', '200 Nova Lane', '1990-07-15', 'Yes', 2),

(3, 'Carlos', 'Ruiz', 'Hyperdrive Mechanics', '555-3333', 'c.ruiz@hyperdrivemechanics.com', '300 Warp Dr', '1985-03-20', 'Yes', 3),

(4, 'Sophia', 'Martinez', 'Quantum Fuel Ltd.', '555-4444', 's.martinez@quantumfuel.com', '4 Delta Dr', '1992-12-01', 'Yes', 4),

(5, 'Ethan', 'Ford', 'Nebula Tech', '555-5555', 'e.ford@nebulatech.com', '5 Epsilon Ct', '1988-06-30', 'Yes', 5),

(6, 'Fiona', 'Garcia', 'Zeta Enterprises', '555-6666', 'f.garcia@zeta.com', '600 Stellar St', '1995-09-05', 'Yes', 6),

(7, 'James', 'Wilson', 'Lunar Logistics', '555-7777', 'j.wilson@lunarlogistics.com', '700 Orbit Ave', '1983-11-11', 'Yes', 7),

(8, 'Isabella', 'Lopez', 'Asteroid Industries', '555-8888', 'isa.lopez@asteroidindustries.com', '800 Comet Cir', '1991-04-18', 'Yes', 8),

(9, 'William', 'Clark', 'Iota Group', '555-9999', 'w.clark@iota.com', '900 Eclipse Pkwy', '1987-02-23', 'Yes', 9),

(10, 'Jade', 'Adams', 'Solar Systems Inc.', '555-1010', 'jade.adams@solarsystems.com', '1000 Rainbow Rd', '1993-08-12', 'Yes', 10),

(11, 'Lucas', 'Bennett', 'Lambda Corp', '555-1112', 'lucas.b@lambda.com', '11 Lambda Way', '1984-10-09', 'Yes', NULL),

(12, 'Ava', 'Carter', 'Mu Enterprises', '555-2223', 'ava.c@mu.com', '12 Mu St', '1996-02-14', 'Yes', NULL),

(13, 'Noah', 'Evans', 'Nu Systems', '555-3334', 'noah.e@nu.com', '13 Nu Blvd', '1989-07-25', 'Yes', NULL),

(14, 'Charlotte', 'Flores', 'Xi Technologies', '555-4445', 'charlotte.f@xi.com', '14 Xi Dr', '1994-01-30', 'Yes', NULL),

(15, 'Elijah', 'Green', 'Omicron Solutions', '555-5556', 'elijah.g@omicron.com', '15 Omicron Ave', '1992-05-12', 'Yes', NULL);

INSERT INTO Spaceship(SpaceshipID, SerialNumber, VendorID, InvoiceID, Make, Model, ShipName, ModelYear, Condition, Modifications, SalePrice, LastMaintenanceDate) VALUES

(1, 'SN1001', 11, 16, 'Orion Shipyards', 'T-65', 'X-Wing', 2024, 'New', 'None', 1200000, '2024-06-12'),

(2, 'SN1002', 11, 17, 'Orion Shipyards', 'BTL-A4', 'Y-Wing', 2021, 'Used', 'Upgraded engines', 950000, '2024-04-15'),

(3, 'SN1003', 11, 18, 'Orion Shipyards', 'RZ-1', 'A-Wing', 2020, 'Refurbished', 'New avionics', 800000, '2024-06-14'),

(4, 'SN1004', 14, 19, 'Stellar Forge Industries', 'LN', 'TIE Fighter', 2019, 'Used', 'Custom paint', 700000, '2024-02-18'),

(5, 'SN1005', 12, 20, 'NovaStar Manufacturing', 'YT-1300', 'Millennium Falcon', 2024, 'New', 'Smuggling compartments', 5000000, '2024-06-16'),

(6, 'SN1006', 14, 21, 'Stellar Forge Industries', 'Firespray-31', 'Slave I', 2021, 'Used', 'Modified weapons', 2200000, '2024-01-25'),

(7, 'SN1007', 15, 22, 'Cosmos Shipbuilders', 'Imperial I', 'Star Destroyer', 2018, 'Used', 'Reinforced shields', 75000000, '2024-06-18'),

(8, 'SN1008', 14, 23, 'Stellar Forge Industries', 'IN', 'TIE Interceptor', 2020, 'Refurbished', 'Upgraded targeting', 1100000, '2024-04-05'),

(9, 'SN1009', 13, 24, 'Pulsar Dynamics', 'ASF-01', 'B-Wing', 2024, 'New', 'Enhanced armor', 1300000, '2024-06-20'),

(10, 'SN1010', 15, 25, 'Cosmos Shipbuilders', 'Tydirium', 'Shuttle', 2021, 'Used', 'None', 600000, '2024-03-30'),

(11, 'SN1011', 14, 26, 'Stellar Forge Industries', 'DX-1', 'Defender', 2024, 'New', 'None', 1400000, '2024-07-01'),

(12, 'SN1012', 14, 27, 'Stellar Forge Industries', 'IX-5', 'Interceptor', 2022, 'Used', 'Reinforced armor', 1000000, '2024-06-28'),

(13, 'SN1013', 12, 28, 'NovaStar Manufacturing', 'FX-7', 'Freighter', 2021, 'Refurbished', 'Expanded cargo bay', 1800000, '2024-06-05'),

(14, 'SN1014', 15, 29, 'Cosmos Shipbuilders', 'CX-9', 'Cruiser', 2024, 'New', 'Custom bridge', 2200000, '2024-07-10'),

(15, 'SN1015', 13, 30, 'Pulsar Dynamics', 'SX-3', 'Scout', 2022, 'Used', 'Stealth plating', 900000, '2024-06-12');

INSERT INTO Orders(OrderID, InvoiceID, CustomerID, SpaceshipID, OrderDateTime, Destination, OrderStatus, DiscountApplied, OrderTotal) VALUES

(1, 1, 1, NULL, '2023-06-01 09:30:00', 'Mars Base Alpha', 'Completed', 0, 123750),

(2, 2, 2, NULL, '2023-06-02 10:30:00', 'Lunar Outpost', 'Completed', 4000, 99000),

(3, 3, 3, NULL, '2023-06-03 11:30:00', 'Europa Station', 'Completed', 0, 37125),

(4, 4, 4, NULL, '2023-06-04 12:30:00', 'Titan Colony', 'Pending', 800, 19800),

(5, 5, 5, NULL, '2023-06-05 13:30:00', 'Alpha Centauri', 'Completed', 0, 495000),

(6, 6, 6, NULL, '2023-06-06 14:30:00', 'Andromeda Outpost', 'Shipped', 3000, 74250),

(7, 7, 7, NULL, '2023-06-07 15:30:00', 'Orion Belt', 'Pending', 0, 1237500),

(8, 8, 8, NULL, '2023-06-08 16:30:00', 'Proxima Colony', 'Shipped', 3000, 74250),

(9, 9, 9, NULL, '2023-06-09 17:30:00', 'Neptune Base', 'Completed', 0, 24750),

(10, 10, 10, NULL, '2023-06-10 18:30:00', 'Pluto Station', 'Completed', 0, 37125),

(11, 11, 11, NULL, '2023-07-01 09:50:00', 'Ceres Colony', 'Completed', 0, 61875),

(12, 12, 12, NULL, '2023-07-02 10:20:00', 'Venus Station', 'Completed', 3000, 74250),

(13, 13, 13, NULL, '2023-07-03 11:10:00', 'Callisto Outpost', 'Completed', 0, 74250),

(14, 14, 14, NULL, '2023-07-04 13:25:00', 'Europa Hub', 'Pending Payment Processing', 5000, 185625),

(15, 15, 15, NULL, '2023-07-05 14:40:00', 'Io Base', 'Completed', 0, 29700),

(16, 16, 1, 1, '2024-06-22 09:30:00', 'Mars Base Alpha', 'Completed', 0, 1320000),

(17, 17, 2, 2, '2024-06-23 09:30:00', 'Lunar Outpost', 'Completed', 40000, 1045000),

(18, 18, 3, 3, '2024-06-24 09:30:00', 'Europa Station', 'Completed', 0, 880000),

(19, 19, 4, 4, '2024-06-25 09:30:00', 'Titan Colony', 'Completed', 80000, 770000),

(20, 20, 5, 5, '2024-06-26 09:30:00', 'Alpha Centauri', 'Completed', 0, 5500000),

(21, 21, 6, 6, '2024-06-27 09:30:00', 'Andromeda Outpost', 'Pending Finance Approval', 30000, 2420000),

(22, 22, 7, 7, '2024-06-28 09:30:00', 'Orion Belt', 'Completed', 0, 82500000),

(23, 23, 8, 8, '2024-06-29 09:30:00', 'Proxima Colony', 'Shipped', 30000, 1210000),

(24, 24, 9, 9, '2024-06-30 09:30:00', 'Neptune Base', 'Completed', 0, 1430000),

(25, 25, 10, 10, '2024-07-01 09:30:00', 'Pluto Station', 'Completed', 0, 660000),

(26, 26, 11, 11, '2024-07-02 09:30:00', 'Vega Orbital Dock', 'Completed', 0, 1540000),

(27, 27, 12, 12, '2024-07-03 09:30:00', 'Kepler-442b Settlement', 'Completed', 30000, 1100000),

(28, 28, 13, 13, '2024-07-04 09:30:00', 'Sagittarius Observation Post', 'Completed', 0, 1980000),

(29, 29, 14, 14, '2024-07-05 09:30:00', 'Trappist-1e Frontier Post', 'Completed', 50000, 2420000),

(30, 30, 15, 15, '2024-07-06 09:30:00', 'Neptune Shipyard Ring', 'Pending Finance Approval', 0, 990000);

INSERT INTO OrderParts(OrderID, PartID, QuantityUsed) VALUES

(1, 1, 1),

(2, 2, 2),

(3, 3, 1),

(4, 4, 1),

(5, 5, 2),

(6, 6, 1),

(7, 7, 1),

(8, 8, 3),

(9, 9, 2),

(10, 10, 1),

(11, 11, 1),

(12, 12, 2),

(13, 13, 1),

(14, 14, 1),

(15, 15, 1);

INSERT INTO Part(PartID, SpaceshipID, QuantityInStock, UnitPrice, PartName, PartDescription, Manufacturer, WarrantyExpirationDate, PartNumber, PartStatus) VALUES

(1, 1, 10, 50000, 'Hyperdrive', 'FTL Drive', 'Hyperdrive Mechanics', '2025-01-01', 'HD-1001', 'Available'),

(2, 2, 20, 20000, 'Laser Cannon', 'Weapon system', 'Nebula Tech', '2025-06-01', 'LC-2001', 'Available'),

(3, 3, 15, 15000, 'Shield Generator', 'Defensive system', 'Asteroid Industries', '2025-03-01', 'SG-3001', 'Available'),

(4, 4, 8, 8000, 'Navigation Computer', 'Nav system', 'Iota Group', '2024-12-01', 'NC-4001', 'Available'),

(5, 5, 5, 100000, 'Cargo Hold', 'Large storage', 'Lunar Logistics', '2026-01-01', 'CH-5001', 'Available'),

(6, 6, 12, 30000, 'Targeting System', 'Weapons guidance', 'Nebula Tech', '2025-02-01', 'TS-6001', 'Available'),

(7, 7, 2, 500000, 'Bridge Module', 'Control center', 'Solar Systems Inc.', '2027-05-01', 'BM-7001', 'Available'),

(8, 8, 25, 10000, 'Sensor Array', 'Detection system', 'Asteroid Industries', '2026-11-01', 'SA-8001', 'Available'),

(9, 9, 30, 5000, 'Hull Plating', 'Armor plates', 'Galactic Supplies Co.', '2025-09-01', 'HP-9001', 'Available'),

(10, 10, 18, 15000, 'Life Support', 'Atmosphere control', 'Solar Systems Inc.', '2026-03-01', 'LS-10001', 'Available'),

(11, 11, 12, 25000, 'Stabilizer', 'Flight control stabilizer', 'Galactic Supplies Co.', '2026-01-01', 'ST-1101', 'Available'),

(12, 12, 20, 15000, 'Laser Turret', 'Secondary weapon system', 'Nebula Tech', '2025-07-01', 'LT-1201', 'Available'),

(13, 13, 10, 30000, 'Cargo Frame', 'Reinforced cargo structure', 'Galactic Supplies Co.', '2026-02-01', 'CF-1301', 'Available'),

(14, 14, 5, 75000, 'Command Module', 'Bridge operations module', 'Solar Systems Inc.', '2027-01-01', 'CM-1401', 'Available'),

(15, 15, 18, 12000, 'Stealth Sensor', 'Low-profile detection unit', 'Starlight Engineering', '2025-11-01', 'SS-1501', 'Available');

INSERT INTO Payment(PaymentID, InvoiceID, VendorID, OrderID, CustomerID, PaymentMethod, PaymentAmount, PaymentDateTime, TransactionID, PaymentStatus, Currency) VALUES

(1, 1, 3, 1, 1, 'Credit Card', 123750, '2023-06-01 12:00:00', 'TX-001', 'Completed', 'Republic Credits'),

(2, 2, 5, 2, 2, 'Wire Transfer', 99000, '2023-06-02 13:00:00', 'TX-002', 'Completed', 'Republic Credits'),

(3, 3, 8, 3, 3, 'Credit Card', 37125, '2023-06-03 14:00:00', 'TX-003', 'Completed', 'Republic Credits'),

(4, 4, 9, 4, 4, 'Wire Transfer', 19800, '2023-06-04 15:00:00', 'TX-004', 'Pending', 'Republic Credits'),

(5, 5, 7, 5, 5, 'Credit Card', 495000, '2023-06-05 16:00:00', 'TX-005', 'Completed', 'Republic Credits'),

(6, 6, 5, 6, 6, 'Wire Transfer', 74250, '2023-06-06 17:00:00', 'TX-006', 'Completed', 'Republic Credits'),

(7, 7, 10, 7, 7, 'Credit Card', 1237500, '2023-06-07 18:00:00', 'TX-007', 'Pending', 'Republic Credits'),

(8, 8, 8, 8, 8, 'Wire Transfer', 74250, '2023-06-08 19:00:00', 'TX-008', 'Completed', 'Republic Credits'),

(9, 9, 1, 9, 9, 'Credit Card', 24750, '2023-06-09 20:00:00', 'TX-009', 'Completed', 'Republic Credits'),

(10, 10, 10, 10, 10, 'Wire Transfer', 37125, '2023-06-10 21:00:00', 'TX-010', 'Completed', 'Republic Credits'),

(11, 11, NULL, 11, 11, 'Credit Card', 154687.50, '2023-07-01 16:00:00', 'TX-011', 'Completed', 'USD'),

(12, 12, NULL, 12, 12, 'Wire Transfer', 168750, '2023-07-02 17:00:00', 'TX-012', 'Completed', 'USD'),

(13, 13, NULL, 13, 13, 'Credit Card', 168750, '2023-07-03 18:00:00', 'TX-013', 'Completed', 'USD'),

(14, 14, NULL, 14, 14, 'Wire Transfer', 421875, '2023-07-04 19:00:00', 'TX-014', 'Pending', 'USD'),

(15, 15, NULL, 15, 15, 'Credit Card', 67500, '2023-07-05 20:00:00', 'TX-015', 'Completed', 'USD'),

(16, 16, 3, 1, 1, 'Financed/Credit Card', 1320000, '2024-06-22 14:00:00', 'TX-016', 'Completed', 'Republic Credits'),

(17, 17, 5, 2, 2, 'Financed/Credit Card', 1045000, '2024-06-23 14:00:00', 'TX-017', 'Completed', 'Republic Credits'),

(18, 18, 8, 3, 3, 'Credit Card', 880000, '2024-06-24 14:00:00', 'TX-018', 'Completed', 'Republic Credits'),

(19, 19, 9, 4, 4, 'Financed/Credit Card', 770000, '2024-06-25 14:00:00', 'TX-019', 'Pending', 'Republic Credits'),

(20, 20, 7, 5, 5, 'Financed/Credit Card', 5500000, '2024-06-26 14:00:00', 'TX-020', 'Completed', 'Republic Credits'),

(21, 22, 10, 7, 7, 'Financed/Credit Card', 2420000, '2024-06-28 14:00:00', 'TX-021', 'Pending', 'Republic Credits'),

(22, 23, 8, 8, 8, 'Wire Transfer', 1210000, '2024-06-29 14:00:00', 'TX-022', 'Completed', 'Republic Credits'),

(23, 24, 1, 9, 9, 'Financed/Credit Card', 1430000, '2024-06-30 14:00:00', 'TX-023', 'Completed', 'Republic Credits'),

(24, 26, NULL, 11, 11, 'Credit Card', 3850000, '2024-07-02 14:00:00', 'TX-024', 'Completed', 'USD'),

(25, 27, NULL, 12, 12, 'Wire Transfer', 2500000, '2024-07-03 14:00:00', 'TX-025', 'Completed', 'USD'),

(26, 28, NULL, 13, 13, 'Credit Card', 4500000, '2024-07-04 14:00:00', 'TX-026', 'Completed', 'USD'),

(27, 29, NULL, 14, 14, 'Wire Transfer', 5500000, '2024-07-05 14:00:00', 'TX-027', 'Pending', 'USD'),

(28, 30, NULL, 15, 15, 'Credit Card', 2250000, '2024-07-06 14:00:00', 'TX-028', 'Completed', 'USD');

INSERT INTO Employee(EmployeeID, EmployeeFirstName, EmployeeLastName, Role, HireDate, Department, SupervisorID, EmploymentStatus, Salary) VALUES

(1, 'Alan', 'Reed', 'Engineer', '2020-01-10', 'Engineering', NULL, 'Active', 85000),

(2, 'Brenda', 'Nguyen', 'Technician', '2019-05-12', 'Maintenance', 1, 'Active', 60000),

(3, 'Charles', 'Patel', 'Manager', '2018-09-20', 'Operations', NULL, 'Active', 95000),

(4, 'Diana', 'Wong', 'Pilot', '2021-03-15', 'Flight', 3, 'Active', 120000),

(5, 'Ethan', 'Garcia', 'Analyst', '2022-06-01', 'Finance', 3, 'Active', 70000),

(6, 'Fiona', 'Olsen', 'Clerk', '2020-11-10', 'Administration', 3, 'Active', 50000),

(7, 'George', 'Brown', 'Engineer', '2017-08-25', 'Engineering', 1, 'Inactive', 80000),

(8, 'Holly', 'Chen', 'Technician', '2021-12-05', 'Maintenance', 1, 'Active', 62000),

(9, 'Isaac', 'Lopez', 'Pilot', '2019-04-14', 'Flight', 3, 'Active', 125000),

(10, 'Julia', 'Martinez', 'Manager', '2018-07-07', 'Finance', NULL, 'Active', 98000);

INSERT INTO MaintenanceRequest(MaintenanceRequestID, SpaceshipID, PartID, RequestedBy, RequestDate, RequestType, RequestDescription, PriorityLevel, RequestStatus, CompletionDate) VALUES

(1, 1, 1, 2, '2024-06-11', 'Repair', 'Hyperdrive malfunction', 'High', 'Completed', '2024-06-12'),

(2, 2, 2, 8, '2024-06-12', 'Replace', 'Laser cannon overheating', 'Medium', 'Pending Manager Review', NULL),

(3, 3, 3, 2, '2024-06-13', 'Inspection', 'Shield generator check', 'Low', 'Completed', '2024-06-14'),

(4, 4, 4, 8, '2024-06-14', 'Repair', 'Navigation error', 'High', 'In Progress', NULL),

(5, 5, 5, 2, '2024-06-15', 'Upgrade', 'Cargo hold expansion', 'Medium', 'Completed', '2024-06-16'),

(6, 6, 6, 8, '2024-06-16', 'Repair', 'Targeting system failure', 'High', 'Pending Manager Review', NULL),

(7, 7, 7, 2, '2024-06-17', 'Inspection', 'Bridge systems check', 'Low', 'Completed', '2024-06-18'),

(8, 8, 8, 8, '2024-06-18', 'Replace', 'Sensor array damaged', 'High', 'In Progress', NULL),

(9, 9, 9, 2, '2024-06-19', 'Repair', 'Hull plating cracks', 'Medium', 'Completed', '2024-06-20'),

(10, 10, 10, 8, '2024-06-20', 'Inspection', 'Life support system', 'High', 'Pending Manager Review', NULL);

INSERT INTO FinanceRequest(FinanceRequestID, SpaceshipID, RequestedBy, ReviewedBy, RequestDate, RequestType, FinancedAmount, DateReviewed, ApprovalStatus, RequestNotes) VALUES

(1, 1, 5, 3, '2024-06-22', 'Lease', 1200000, '2024-06-22', 'Approved', 'For Alpha project'),

(2, 2, 5, 3, '2024-06-23', 'Loan', 950000, '2024-06-23', 'Approved', 'For Beta expansion'),

(3, 3, 5, 3, '2024-06-24', 'Lease', 800000, '2024-06-24', 'Denied', 'Budget exceeded'),

(4, 4, 5, 3, '2024-06-25', 'Loan', 700000, '2024-06-25', 'Approved', 'Urgent need'),

(5, 5, 5, 3, '2024-06-26', 'Lease', 5000000, '2024-06-26', 'Approved', 'Cargo upgrade'),

(6, 6, 5, 3, '2024-06-27', 'Loan', 750000, NULL, 'Pending', 'Awaiting docs'),

(7, 7, 5, 3, '2024-06-28', 'Lease', 75000000, '2024-06-28', 'Approved', 'Military use'),

(8, 8, 5, 3, '2024-06-29', 'Loan', 1100000, '2024-06-29', 'Denied', 'Too risky'),

(9, 9, 5, 3, '2024-06-30', 'Lease', 1300000, '2024-06-30', 'Approved', 'Armor upgrade'),

(10, 10, 5, 3, '2024-07-01', 'Loan', 250000, NULL, 'Pending', 'Needs review');

INSERT INTO Invoice(InvoiceID, InvoiceDateTime, InvoiceAmount, TaxAmount, Currency, VendorID, CustomerID, OrderID, PaymentID, DueDate, DateReceived, ReviewedBy, InvoiceNumber) VALUES

(1, '2023-06-01 10:00:00', 112500, 11250, 'Republic Credits', 3, 1, 1, 1, '2023-07-01', '2023-06-01', '1', '10000001'),

(2, '2023-06-02 11:00:00', 90000, 9000, 'Republic Credits', 5, 2, 2, 2, '2023-07-02', '2023-06-02', '3', '10000002'),

(3, '2023-06-03 12:00:00', 33750, 3375, 'Republic Credits', 8, 3, 3, 3, '2023-07-03', '2023-06-03', '3', '10000003'),

(4, '2023-06-04 13:00:00', 18000, 1800, 'Republic Credits', 9, 4, 4, 4, '2023-07-04', '2023-06-04', '1', '10000004'),

(5, '2023-06-05 14:00:00', 450000, 45000, 'Republic Credits', 7, 5, 5, 5, '2023-07-05', '2023-06-05', '3', '10000005'),

(6, '2023-06-06 15:00:00', 67500, 6750, 'Republic Credits', 5, 6, 6, 6, '2023-07-06', '2023-06-06', '3', '10000006'),

(7, '2023-06-07 16:00:00', 1125000, 112500, 'Republic Credits', 10, 7, 7, 7, '2023-07-07', '2023-06-07', '10', '10000007'),

(8, '2023-06-08 17:00:00', 67500, 6750, 'Republic Credits', 8, 8, 8, 8, '2023-07-08', '2023-06-08', '3', '10000008'),

(9, '2023-06-09 18:00:00', 22500, 2250, 'Republic Credits', 1, 9, 9, 9, '2023-07-09', '2023-06-09', '3', '10000009'),

(10, '2023-06-10 19:00:00', 33750, 3375, 'Republic Credits', 10, 10, 10, 10, '2023-07-10', '2023-06-10', '1', '10000010'),

(11, '2023-07-01 10:15:00', 56250, 5625, 'Republic Credits', NULL, 11, 11, 11, '2023-08-01', '2023-07-01', '3', '10000011'),

(12, '2023-07-02 11:45:00', 67500, 6750, 'Republic Credits', NULL, 12, 12, 12, '2023-08-02', '2023-07-02', '3', '10000012'),

(13, '2023-07-03 12:30:00', 67500, 6750, 'Republic Credits', NULL, 13, 13, 13, '2023-08-03', '2023-07-03', '3', '10000013'),

(14, '2023-07-04 14:00:00', 168750, 16875, 'Republic Credits', NULL, 14, 14, 14, '2023-08-04', '2023-07-04', '10', '10000014'),

(15, '2023-07-05 15:30:00', 27000, 29700, 'Republic Credits', NULL, 15, 15, 15, '2023-08-05', '2023-07-05', '1', '10000015'),

(16, '2024-06-22 10:30:00', 1200000, 120000, 'Republic Credits', 1, 1, 1, 16, '2024-07-22', '2024-06-22', '3', '10000016'),

(17, '2024-06-23 10:30:00', 950000, 95000, 'Republic Credits', 2, 2, 2, 17, '2024-07-23', '2024-06-23', '3', '10000017'),

(18, '2024-06-24 10:30:00', 800000, 80000, 'Republic Credits', 3, 3, 3, 18, '2024-07-24', '2024-06-24', '3', '10000018'),

(19, '2024-06-25 10:30:00', 700000, 70000, 'Republic Credits', 4, 4, 4, 19, '2024-07-25', '2024-06-25', '3', '10000019'),

(20, '2024-06-26 10:30:00', 5000000, 500000, 'Republic Credits', 5, 5, 5, 20, '2024-07-26', '2024-06-26', '3', '10000020'),

(21, '2024-06-28 10:30:00', 75000000, 7500000, 'Republic Credits', 7, 7, 7, 21, '2024-07-28', '2024-06-28', '3', '10000021'),

(22, '2024-06-29 10:30:00', 1100000, 110000, 'Republic Credits', 8, 8, 8, 22, '2024-07-29', '2024-06-29', '3', '10000022'),

(23, '2024-06-30 10:30:00', 1300000, 130000, 'Republic Credits', 9, 9, 9, 23, '2024-07-30', '2024-06-30', '3', '10000023'),

(24, '2024-07-02 10:30:00', 1400000, 140000, 'Republic Credits', NULL, 11, 11, 24, '2024-08-02', '2024-07-02', '3', '10000024'),

(25, '2024-07-03 10:30:00', 1000000, 100000, 'Republic Credits', NULL, 12, 12, 25, '2024-08-03', '2024-07-03', '3', '10000025'),

(26, '2024-07-04 10:30:00', 1800000, 180000, 'Republic Credits', NULL, 13, 13, 26, '2024-08-04', '2024-07-04', '3', '10000026'),

(27, '2024-07-05 10:30:00', 2200000, 220000, 'Republic Credits', NULL, 14, 14, 27, '2024-08-05', '2024-07-05', '3', '10000027'),

(28, '2024-07-06 10:30:00', 900000, 90000, 'Republic Credits', NULL, 15, 15, 28, '2024-08-06', '2024-07-06', '3', '10000028');

INSERT INTO Vendor(VendorID, VendorName, VendorContact, PhoneNumber, Address, VendorType, VendorStatus, VendorRating, ContractStartDate, ContractEndDate) VALUES

(1, 'Galactic Supplies Co.', 'John Smith', '555-1111', '1 Alpha Way', 'Parts', 'Active', 5, '2020-01-01', '2030-01-01'),

(2, 'Starlight Engineering', 'Emily Johnson', '555-2222', '200 Nova Lane', 'Engineering', 'Active', 4, '2019-03-15', '2029-03-15'),

(3, 'Hyperdrive Mechanics', 'Carlos Ruiz', '555-3333', '300 Warp Dr', 'Navigation', 'Active', 5, '2021-06-10', '2031-06-10'),

(4, 'Quantum Fuel Ltd.', 'Sophia Martinez', '555-4444', '4 Delta Dr', 'Fuel', 'Active', 3, '2018-09-01', '2028-09-01'),

(5, 'Nebula Tech', 'Ethan Ford', '555-5555', '5 Epsilon Ct', 'Tech Systems', 'Active', 5, '2022-02-01', '2032-02-01'),

(6, 'Zeta Enterprises', 'Fiona Garcia', '555-6666', '600 Stellar St', 'Parts', 'Inactive', 1, '2017-04-10', '2022-04-10'),

(7, 'Lunar Logistics', 'James Wilson', '555-7777', '700 Orbit Ave', 'Logistics', 'Active', 4, '2020-05-05', '2030-05-05'),

(8, 'Asteroid Industries', 'Isabella Lopez', '555-8888', '800 Comet Cir', 'Shield Systems', 'Active', 5, '2021-11-11', '2031-11-11'),

(9, 'Iota Group', 'William Clark', '555-9999', '900 Eclipse Pkwy', 'Navigation', 'Active', 3, '2019-12-20', '2029-12-20'),

(10, 'Solar Systems Inc.', 'Jade Adams', '555-1010', '1000 Rainbow Rd', 'Power Systems', 'Active', 5, '2023-01-01', '2033-01-01'),

(11, 'Orion Shipyards', 'Karen Miles', '555-1113', '1100 Orion Dock Rd', 'Manufacturer', 'Active', 5, '2020-02-01', '2033-02-01'),

(12, 'NovaStar Manufacturing', 'Leo Turner', '555-2224', '1200 NovaStar Way', 'Manufacturer', 'Active', 4, '2020-08-15', '2032-08-15'),

(13, 'Pulsar Dynamics', 'Megan Hayes', '555-3335', '1300 Pulsar Blvd', 'Manufacturer', 'Active', 5, '2020-04-10', '2031-04-10'),

(14, 'Stellar Forge Industries', 'Nathan Cruz', '555-4446', '1400 Stellar Forge Dr', 'Manufacturer', 'Active', 5, '2020-06-20', '2030-06-20'),

(15, 'Cosmos Shipbuilders', 'Olivia Bennett', '555-5557', '1500 Cosmos Cir', 'Manufacturer', 'Active', 4, '2020-01-05', '2033-01-05');

--Save preceding steps to disk

COMMIT;

--end of inserts.sql

# **Database in SQLite -- Don't forget to submit your .db file along with the document.**