Create database northwind;

CREATE TABLE Customers (

`CustomerID` VARCHAR(5) NOT NULL,

-- First 5 letters of CompanyName

-- Probably better to use an UNSIGNED INT

`CompanyName` VARCHAR(40) NOT NULL,

`ContactName` VARCHAR(30),

`ContactTitle` VARCHAR(30),

`Address` VARCHAR(60),

`City` VARCHAR(15),

`Region` VARCHAR(15),

`PostalCode` VARCHAR(10),

`Country` VARCHAR(15),

`Phone` VARCHAR(24),

`Fax` VARCHAR(24),

PRIMARY KEY (`CustomerID`),

INDEX (`City`),

INDEX (`CompanyName`),

INDEX (`PostalCode`),

INDEX (`Region`)

-- Build indexes on these columns for fast search

);

CREATE TABLE `Employees` (

`EmployeeID` MEDIUMINT UNSIGNED NOT NULL AUTO\_INCREMENT,

`LastName` VARCHAR(20) NOT NULL,

`FirstName` VARCHAR(10) NOT NULL,

`Title` VARCHAR(30), -- e.g., &#39;Sales Coordinator&#39;

`TitleOfCourtesy` VARCHAR(25), -- e.g., &#39;Mr.&#39; &#39;Ms.&#39; (ENUM??)

`BirthDate` DATE, -- &#39;YYYY-MM-DD&#39;

`HireDate` DATE,

`Address` VARCHAR(60),

`City` VARCHAR(15),

`Region` VARCHAR(15),

`PostalCode` VARCHAR(10),

`Country` VARCHAR(15),

`HomePhone` VARCHAR(24),

`Extension` VARCHAR(4),

`Photo` BLOB, -- 64KB

`Notes` TEXT NOT NULL, -- 64KB

`ReportsTo` MEDIUMINT UNSIGNED NULL, -- Manager&#39;s ID

-- Allow NULL for boss

`PhotoPath` VARCHAR(255),

`Salary` INT,

INDEX (`LastName`),

INDEX (`PostalCode`),

PRIMARY KEY (`EmployeeID`),

FOREIGN KEY (`ReportsTo`) REFERENCES `Employees` (`EmployeeID`)

);

CREATE TABLE `Region` (

`RegionID` TINYINT UNSIGNED NOT NULL AUTO\_INCREMENT,

-- [0,255]

`RegionDescription` VARCHAR(50) NOT NULL,

-- e.g., &#39;Eastern&#39;,&#39;Western&#39;,&#39;Northern&#39;,&#39;Southern&#39;

-- Could use an ENUM and eliminate this table

PRIMARY KEY (`RegionID`)

);

CREATE TABLE `Territories` (

`TerritoryID` VARCHAR(20) NOT NULL, -- ZIP code

`TerritoryDescription` VARCHAR(50) NOT NULL, -- Name

`RegionID` TINYINT UNSIGNED NOT NULL,

-- Could use an ENUM to eliminate `Region` table

PRIMARY KEY (`TerritoryID`),

FOREIGN KEY (`RegionID`) REFERENCES `Region` (`RegionID`)

);

-- Many-to-many Junction table between Employee and Territory

CREATE TABLE `EmployeeTerritories` (

`EmployeeID` MEDIUMINT UNSIGNED NOT NULL,

`TerritoryID` VARCHAR(20) NOT NULL,

PRIMARY KEY (`EmployeeID`, `TerritoryID`),

FOREIGN KEY (`EmployeeID`) REFERENCES `Employees` (`EmployeeID`),

FOREIGN KEY (`TerritoryID`) REFERENCES `Territories` (`TerritoryID`)

);

CREATE TABLE `Categories` (

`CategoryID` TINYINT UNSIGNED NOT NULL AUTO\_INCREMENT,

-- [0, 255], not expected to be large

`CategoryName` VARCHAR(30) NOT NULL,

-- e.g., &#39;Beverages&#39;,&#39;Condiments&#39;,etc

`Description` TEXT, -- up to 64KB characters

`Picture` BLOB, -- up to 64KB binary

PRIMARY KEY (`CategoryID`),

UNIQUE INDEX (`CategoryName`)

-- Build index on this unique-value column for fast search

);

CREATE TABLE `Suppliers` (

`SupplierID` SMALLINT UNSIGNED NOT NULL AUTO\_INCREMENT,

-- [0, 65535]

`CompanyName` VARCHAR(40) NOT NULL,

`ContactName` VARCHAR(30),

`ContactTitle` VARCHAR(30),

`Address` VARCHAR(60),

`City` VARCHAR(15),

`Region` VARCHAR(15),

`PostalCode` VARCHAR(10),

`Country` VARCHAR(15),

`Phone` VARCHAR(24),

`Fax` VARCHAR(24),

`HomePage` TEXT, -- 64KB?? VARCHAR(255)?

PRIMARY KEY (`SupplierID`),

INDEX (`CompanyName`), -- UNIQUE?

INDEX (`PostalCode`)

);

CREATE TABLE `Products` (

`ProductID` SMALLINT UNSIGNED NOT NULL AUTO\_INCREMENT,

`ProductName` VARCHAR(40) NOT NULL,

`SupplierID` SMALLINT UNSIGNED NOT NULL, -- one supplier only

`CategoryID` TINYINT UNSIGNED NOT NULL,

`QuantityPerUnit` VARCHAR(20), -- e.g., &#39;10 boxes x 20 bags&#39;

`UnitPrice` DECIMAL(10,2) UNSIGNED DEFAULT 0,

`UnitsInStock` SMALLINT DEFAULT 0, -- Negative??

`UnitsOnOrder` SMALLINT UNSIGNED DEFAULT 0,

`ReorderLevel` SMALLINT UNSIGNED DEFAULT 0,

`Discontinued` BOOLEAN NOT NULL DEFAULT FALSE,

PRIMARY KEY (`ProductID`),

INDEX (`ProductName`),

FOREIGN KEY (`CategoryID`) REFERENCES `Categories` (`CategoryID`),

FOREIGN KEY (`SupplierID`) REFERENCES `Suppliers` (`SupplierID`)

);

CREATE TABLE `Shippers` (

`ShipperID` TINYINT UNSIGNED NOT NULL AUTO\_INCREMENT,

`CompanyName` VARCHAR(40) NOT NULL,

`Phone` VARCHAR(24),

PRIMARY KEY (`ShipperID`)

);

CREATE TABLE `Orders` (

`OrderID` INT UNSIGNED NOT NULL AUTO\_INCREMENT,

-- Use UNSIGNED INT to avoid run-over

`CustomerID` VARCHAR(5),

`EmployeeID` MEDIUMINT UNSIGNED NOT NULL,

`OrderDate` DATE,

`RequiredDate` DATE,

`ShippedDate` DATE,

`ShipVia` TINYINT UNSIGNED,

`Freight` DECIMAL(10,2) UNSIGNED DEFAULT 0,

`ShipName` VARCHAR(40),

`ShipAddress` VARCHAR(60),

`ShipCity` VARCHAR(15),

`ShipRegion` VARCHAR(15),

`ShipPostalCode` VARCHAR(10),

`ShipCountry` VARCHAR(15),

PRIMARY KEY (`OrderID`),

INDEX (`OrderDate`),

INDEX (`ShippedDate`),

INDEX (`ShipPostalCode`),

FOREIGN KEY (`CustomerID`) REFERENCES `Customers` (`CustomerID`),

FOREIGN KEY (`EmployeeID`) REFERENCES `Employees` (`EmployeeID`),

FOREIGN KEY (`ShipVia`) REFERENCES `Shippers` (`ShipperID`)

);

CREATE TABLE OrderDetails (

`OrderID` INT UNSIGNED NOT NULL,

`ProductID` SMALLINT UNSIGNED NOT NULL,

`UnitPrice` DECIMAL(8,2) UNSIGNED NOT NULL DEFAULT 999999.99,

-- max value as default

`Quantity` SMALLINT(2) UNSIGNED NOT NULL DEFAULT 1,

`Discount` DOUBLE(8,0) NOT NULL DEFAULT 0, -- e.g., 0.15

PRIMARY KEY (`OrderID`, `ProductID`),

FOREIGN KEY (`OrderID`) REFERENCES `Orders` (`OrderID`),

FOREIGN KEY (`ProductID`) REFERENCES `Products` (`ProductID`)

);