

CSx265 A simple database supporting an online book seller

Tables about Books and Authors

```
CREATE TABLE Book (
  Isbn          INTEGER,
  Title         CHAR[120] NOT NULL,
  Synopsis      CHAR[500],
  ListPrice     CURRENCY NOT NULL,
  AmazonPrice  CURRENCY NOT NULL,
  SavingsInPrice CURRENCY NOT NULL, /* redundant
  AveShipLag    INTEGER,
  AveCustRating REAL,
  SalesRank     INTEGER,
  CoverArt      FILE,
  Format         CHAR[4] NOT NULL,
  CopiesInStock INTEGER,
  PublisherName CHAR[120] NOT NULL, /*Remove NOT NULL if you want 0 or 1
  PublicationDate DATE NOT NULL,
  PublisherComment CHAR[500],
  PublicationCommentDate DATE,
  PRIMARY KEY (Isbn),
  CHECK (Format = 'hard' OR Format = 'soft' OR Format = 'audi'
        OR Format = 'cd' OR Format = 'digital')
        /* alternatively, CHECK (Format IN ('hard', 'soft', 'audi', 'cd', 'digital'))
  CHECK (AmazonPrice + SavingsInPrice = ListPrice)
)
```

```
CREATE TABLE Author (
  AuthorName CHAR[120],
  AuthorBirthDate DATE,
  AuthorAddress ADDRESS,
  AuthorBiography FILE,
  PRIMARY KEY (AuthorName, AuthorBirthDate)
)
```

```
CREATE TABLE WrittenBy (/*Books are written by authors
  Isbn INTEGER,
  AuthorName CHAR[120],
  AuthorBirthDate DATE,
  OrderOfAuthorship INTEGER NOT NULL,
  AuthorComment FILE,
  AuthorCommentDate DATE,
  PRIMARY KEY (Isbn, AuthorName, AuthorBirthDate)
)
```

```
CREATE TABLE Publisher (
  PublisherName CHAR[120],
  PublisherAddress ADDRESS,
  PRIMARY KEY (PublisherName)
)
```

Tables about Customers and Customer Service

```
CREATE TABLE Customer (/* Customers identified by email address
  CustEmailAddr CHAR[120],
  CustName CHAR[120] NOT NULL,
  CustPassword CHAR[20] NOT NULL,
  PRIMARY KEY (CustEmailAddr)
)
```

```
//Customers can request notification about new books by an author
CREATE TABLE AlertTo (
  CustEmailAddress CHAR[120],
  DateOfAlertRequest DATE NOT NULL,
  AuthorName CHAR[120],
  AuthorBirthDate DATE,
  PRIMARY KEY (UserEmailAddr, AuthorName, AuthorBirthDate)
)
```

```
CREATE TABLE Account (/* Customers can have zero or more accounts
  CustEmailAddr CHAR[120],
  CreditCardNumber INTEGER,
  ShippingAddr ADDRESS NOT NULL,
  DateOpened DATE NOT NULL,
  PRIMARY KEY (CustEmailAddr, CreditCardNumber)
)
```

Tables about Purchases and Shipments

```
//Transaction (purchases) are made on a customer account
CREATE TABLE Transaction (
  TransNumber INTEGER,
  OrderDate DATE,
  PaymentClearanceDate DATE, /* if NULL, then payment has not cleared */
  CustEmailAddr CHAR[120] NOT NULL,
  CreditCardNo INTEGER NOT NULL,
  PRIMARY KEY (TransNum)
)
```

```
CREATE TABLE Shipment (/* A record of purchases awaiting or when shipment
  ShipId INTEGER,
  ShipCost CURRENCY,
  ShipDate DATE,          /* if this is NULL, then not shipped yet */
  TransNumber INTEGER NOT NULL,
  PRIMARY KEY (ShipId)
)
```

```
CREATE TABLE BookShipment (/* A quantity of book associated with a shipment and
                             /* therefore transaction
  Quantity      INTEGER,
  ShipId        INTEGER,
  Isbn          INTEGER,
  PRIMARY KEY (ShipId, Isbn)
)
```