--/\*

--Use Master;

--GO

--Alter database FanshaweDroneShare set single\_user with rollback immediate;

--GO

--DROP Database FanshaweDroneShare;

--GO

CREATE DATABASE FanshaweDroneShare;

GO

USE FanshaweDroneShare;

GO

-- Station

CREATE TABLE dbo.Station (

StationID INT IDENTITY CONSTRAINT PK\_Station PRIMARY KEY,

StationName NVARCHAR(50) NOT NULL,

MaxCapacity INT NOT NULL

-- NOTE: Current count should not be included. Violates 3NF.

CONSTRAINT CK\_Station CHECK (MaxCapacity >=0),

);

CREATE INDEX IX\_Station\_StationName ON dbo.Station (StationName);

-- Pilot

CREATE TABLE dbo.Pilot (

PilotID INT IDENTITY CONSTRAINT PK\_Pilot PRIMARY KEY,

FirstName NVARCHAR(50) NOT NULL,

LastName NVARCHAR(50) NOT NULL,

TransportCanadaCertNumber NVARCHAR(80) NOT NULL,

PilotSIN CHAR(9) NOT NULL,

DateOfBirth DATE NOT NULL

CONSTRAINT AK\_Pilot\_TransportCanadaCertNumber UNIQUE (TransportCanadaCertNumber)

);

-- EquipmentType

CREATE TABLE dbo.EquipmentType (

EquipmentTypeID INT IDENTITY CONSTRAINT PK\_EquipmentType PRIMARY KEY,

EquipmentTypeName NVARCHAR(50) NOT NULL

);

-- Manufacturer

CREATE TABLE dbo.Manufacturer (

ManufacturerID INT IDENTITY CONSTRAINT PK\_Manufacturer PRIMARY KEY,

ManufacturerName NVARCHAR(80) NOT NULL

);

-- Model

CREATE TABLE dbo.Model (

ModelID INT IDENTITY CONSTRAINT PK\_Model PRIMARY KEY,

ModelName NVARCHAR(80) NOT NULL,

ManufacturerID INT NULL CONSTRAINT FK\_Manufacturer REFERENCES dbo.Manufacturer (ManufacturerID ),

);

-- DroneEquipment

CREATE TABLE dbo.DroneEquipment (

DroneEquipmentID INT IDENTITY CONSTRAINT PK\_DroneEquipment PRIMARY KEY,

HomeStationID INT NOT NULL CONSTRAINT FK\_DroneEquipment\_Station\_Home REFERENCES dbo.Station ( StationID ),

CurrentStationID INT NOT NULL CONSTRAINT FK\_DroneEquipment\_Station\_Current REFERENCES dbo.Station ( StationID ),

PilotID INT NULL CONSTRAINT FK\_DroneEquipment\_Pilot REFERENCES dbo.Pilot ( PilotID ),

EquipmentTypeID INT NULL CONSTRAINT FK\_DroneEquipment\_EquipmentTypeID REFERENCES dbo.EquipmentType ( EquipmentTypeID ),

TransportCanadaIdentMarking NVARCHAR(80) NULL, -- Accessory equipment does not have to have this marking, so can be NULL...

ModelID INT NULL CONSTRAINT FK\_DroneEquipment\_Model REFERENCES dbo.Model ( ModelID ),

Weight INT NOT NULL,

SerialNumber NVARCHAR(50) NOT NULL,

ManufacturedDate DATETIME NULL

CONSTRAINT CK\_DroneEquipment CHECK (Weight >=0),

CONSTRAINT CK\_DroneEquipment CHECK (ManufacturedDate <= GETDATE())

);

-- Account

CREATE TABLE dbo.Account (

AccountID INT IDENTITY CONSTRAINT PK\_Accounts PRIMARY KEY,

PrimaryPilotID INT NOT NULL CONSTRAINT FK\_Account\_Pilot REFERENCES dbo.Pilot ( PilotID ),

AccountNumber CHAR(20) NOT NULL,

CurrentBalance MONEY NOT NULL,

AccountOpenDate DATE NOT NULL

CONSTRAINT CK\_Account CHECK (AccountOpenDate <= GETDATE()),

CONSTRAINT DF\_Account\_CurrentBalance DEFAULT 0 for currentBalance,

CONSTRAINT DF\_Account\_AccountOpenDate DEFAULT GETDATE() FOR AccountOpenDate

);

CREATE UNIQUE INDEX IDX\_Account\_AccountNumber ON dbo.Account (AccountNumber);

CREATE INDEX IDX\_Account\_PrimaryPilotID ON dbo.Account (PrimaryPilotID);

-- PilotAccount

CREATE TABLE dbo.PilotAccount (

PilotAccountID INT IDENTITY,

PilotID INT NOT NULL,

AccountID INT NOT NULL,

PilotAccountStartDate DATE NOT NULL,

-- Just an example of a different syntax for creating constraints – consistency is KEY (Remember to NAME all Constraints)

CONSTRAINT PK\_PilotAccount PRIMARY KEY ( PilotAccountID ),

CONSTRAINT FK\_PilotAccount\_Pilot FOREIGN KEY ( PilotID ) REFERENCES dbo.Pilot ( PilotID ),

CONSTRAINT FK\_PilotAccount\_Account FOREIGN KEY ( AccountID ) REFERENCES dbo.Account ( AccountID )

);

CREATE INDEX IDX\_PilotAccount\_PilotID ON dbo.PilotAccount (PilotID);

CREATE INDEX IDX\_PilotAccount\_AccountID ON dbo.PilotAccount (AccountID);

-- Address

CREATE TABLE dbo.Address (

AddressID INT IDENTITY CONSTRAINT PK\_Address PRIMARY KEY,

Street NVARCHAR(50),

City NVARCHAR(50),

Province NVARCHAR(50),

PostalCode CHAR(6),

CONSTRAINT DF\_Address\_Province DEFAULT 'Ontario' for Province,

CONSTRAINT DF\_Address\_City DEFAULT 'London' for City,

CONSTRAINT DF\_Address\_PostalCode DEFAULT 'N5Y5R6' for PostalCode

);

CREATE INDEX IDX\_Address\_Province\_City ON dbo.Address (Province, City);

CREATE INDEX IDX\_Address\_Province ON dbo.Address (Province);

CREATE INDEX IDX\_Address\_City ON dbo.Address (City);

-- PilotAddress

CREATE TABLE dbo.PilotAddress (

PilotAddressID INT IDENTITY,

PilotID INT NOT NULL,

AddressID INT NOT NULL,

PilotAddressStartDate DATE NOT NULL,

-- Notice Junction tables should always have a surrogate PrimaryKey (same as Name of table..ID, PLUS the 2 ForeignKeys from the 2 tables being joined – we will see why this is important when creating Indexes.. vs using a composite of the 2 ForeignKeys as the PrimaryKey..)

CONSTRAINT PK\_PilotAddress PRIMARY KEY ( PilotAddressID ),

CONSTRAINT FK\_PilotAddress\_Pilot FOREIGN KEY ( PilotID ) REFERENCES dbo.Pilot ( PilotID ),

CONSTRAINT FK\_PilotAddress\_Address FOREIGN KEY ( AddressID ) REFERENCES dbo.Address ( AddressID )

);

CREATE INDEX IDX\_PilotAddress\_PilotID ON dbo.PilotAddress (PilotID);

CREATE INDEX IDX\_PilotAddress\_AddressID ON dbo.PilotAddress (AddressID);

GO