Kamran Shaikh
Lab8

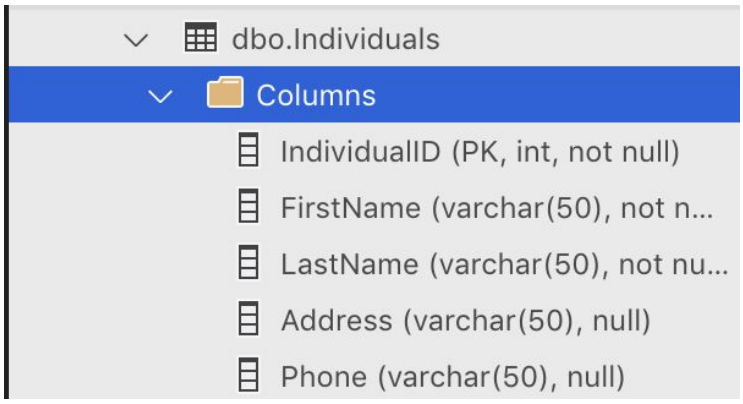
1)
Code)

```
CREATE DATABASE Membership;
GO
```

2)

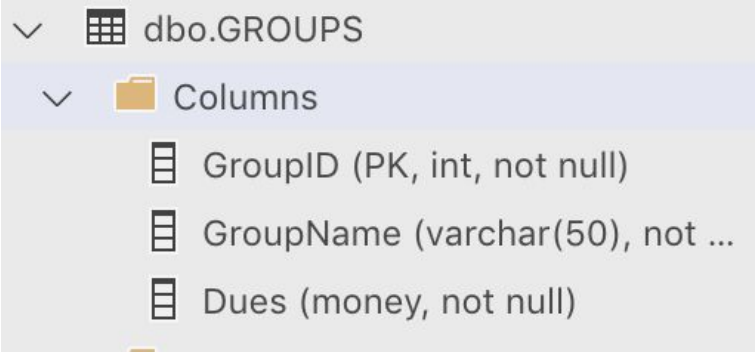
Code Individuals)

```
CREATE TABLE Individuals (IndividualID INT NOT NULL PRIMARY KEY IDENTITY, FirstName VARCHAR(50) NOT NULL, LastName VARCHAR(50) NOT NULL, Address VARCHAR(50) NULL, Phone VARCHAR(50) NULL)
```



Code Groups)

```
CREATE TABLE GROUPS (GroupID INT NOT NULL IDENTITY PRIMARY KEY, GroupName VARCHAR(50) NOT NULL, Dues MONEY NOT NULL DEFAULT 0 CHECK (Dues >= 0))
```



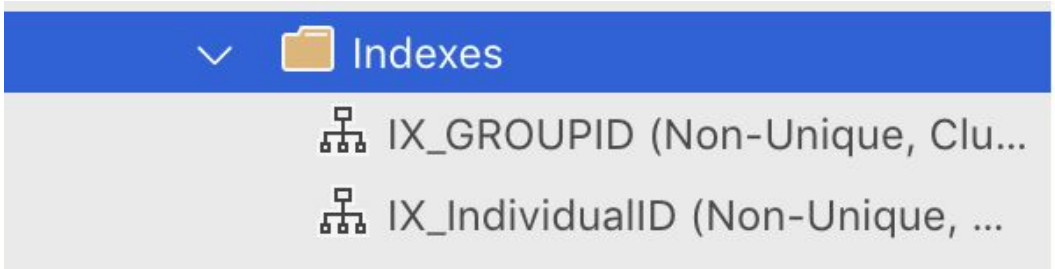
Code Memberships)

```
CREATE TABLE GroupsMembership (GroupID INT REFERENCES GROUPS(GroupID), IndividualID INT REFERENCES Individuals(IndividualID))
```

Individuals and Groups have a many to many relationships. Individuals can be in multiple groups and groups can have multiple individuals.

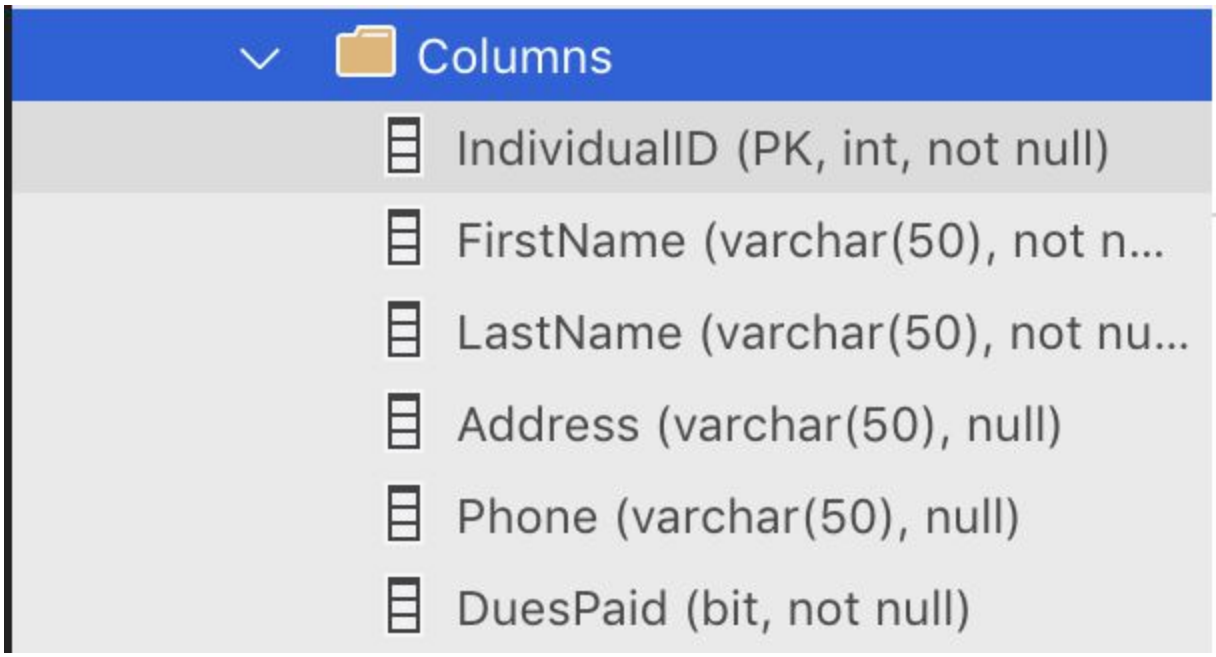
3)
Code)

```
CREATE CLUSTERED INDEX IX_GROUPID ON GroupsMembership(GroupID)
CREATE NONCLUSTERED INDEX IX_IndividualID ON GroupsMembership(IndividualID)
```



4)
Code)

```
ALTER TABLE Individuals ADD DuesPaid BIT NOT NULL DEFAULT 0
```



5)

```
ALTER TABLE Invoices ADD CHECK ((PaymentDate IS NULL AND PaymentTotal = 0) OR
(PaymentDate IS NOT NULL AND PaymentTotal > 0)), CHECK ((PaymentTotal + CreditTotal)
<= InvoiceTotal)
```

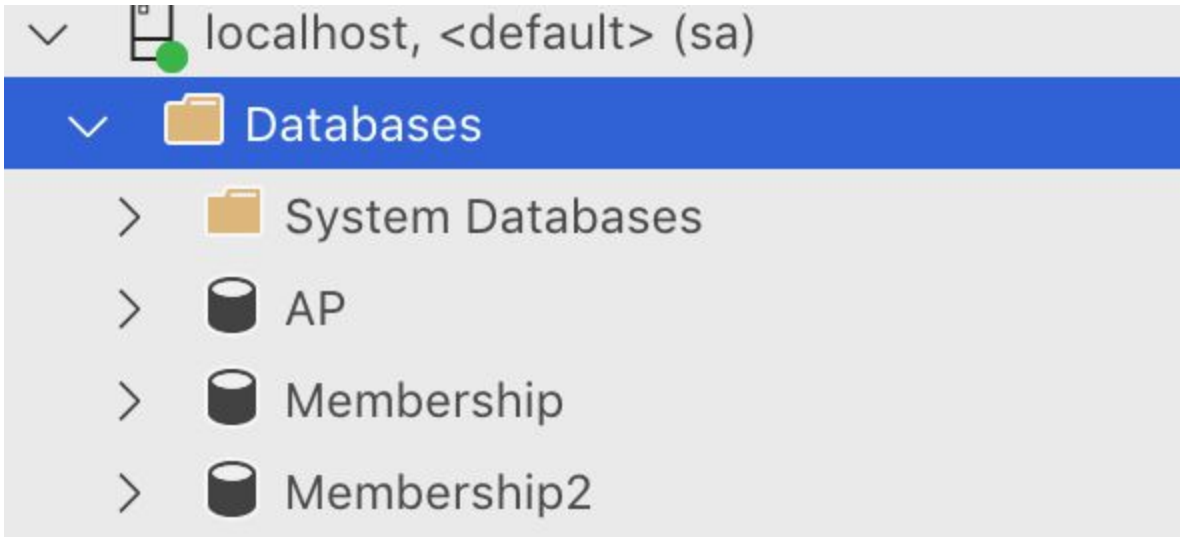
6)

Code)

```
DROP TABLE GroupMembership
CREATE TABLE GroupMembership(GROUPID INT REFERENCES GROUPS(GROUPID), IndividualID INT
REFERENCES Individuals(IndividualID), UNIQUE(GROUPID,IndividualID))
```

7)
Code)

```
CREATE DATABASE Membership2
GO
```



Remarks)
I really enjoyed this lab. It was a great way to learn how to create and alter databases and columns. I had some trouble with task 3 but after reviewing the notes I was able to figure it out. Overall these labs have really helped me learn about database implementation throughout the course.