Richard Patrick
A10
310-01
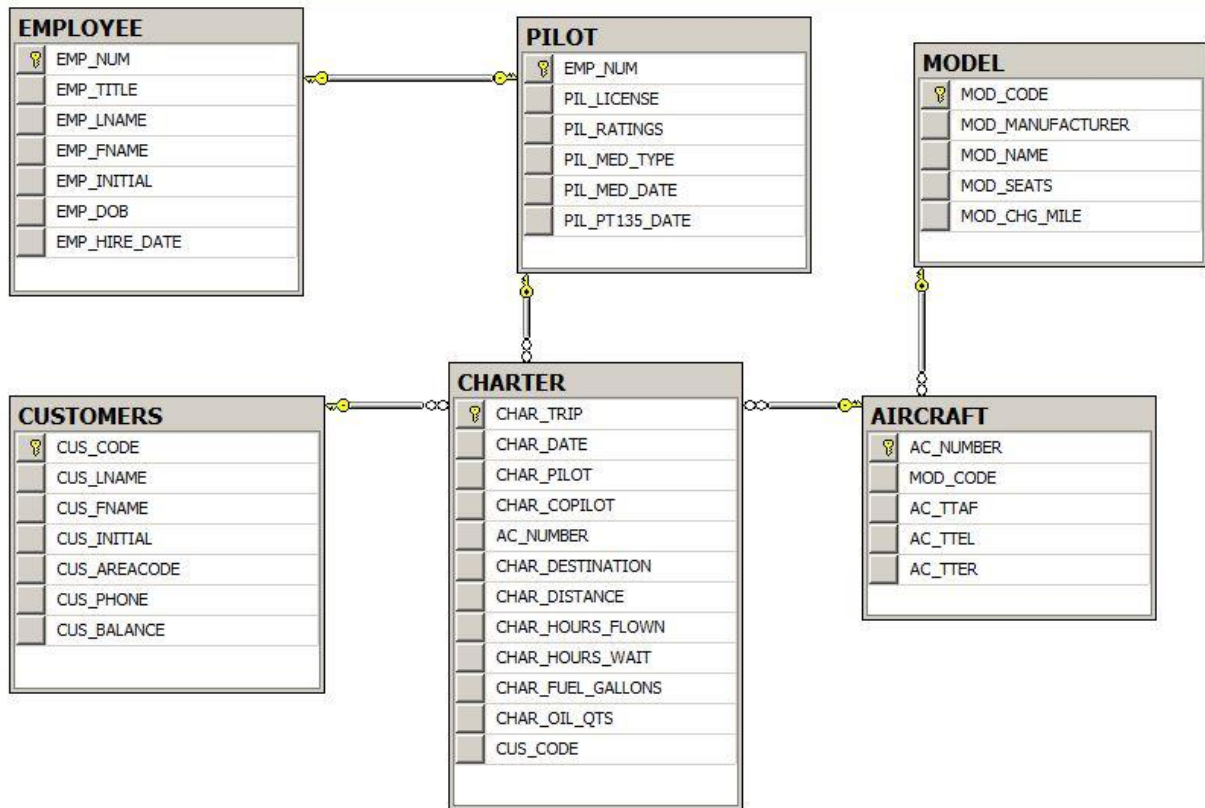
TIMEDIM

PK	TIMEID

CHAR_DATE

CHAR_DAY

CHAR_MONTH

CHAR_YEAR

CHAR_QUARTER

TYPEDIM

PK	TYPEID

MOD_CODE

MOD_NAME

MOD_MANUFACTURER

MOD_SEATS

FACT

PK	FK	TIMEID
PK	FK	TYPEID
PK	FK	PILOTID

CHAR_DISTANCE

CHAR_FUEL_GALLONS

REVENUE

PILOTDIM

PK	PILOTID

EMP_NUM

EMP_LNAME

EMP_FNAME

PIL_LICENSE

PIL_RATINGS

PIL_MED_TYPE
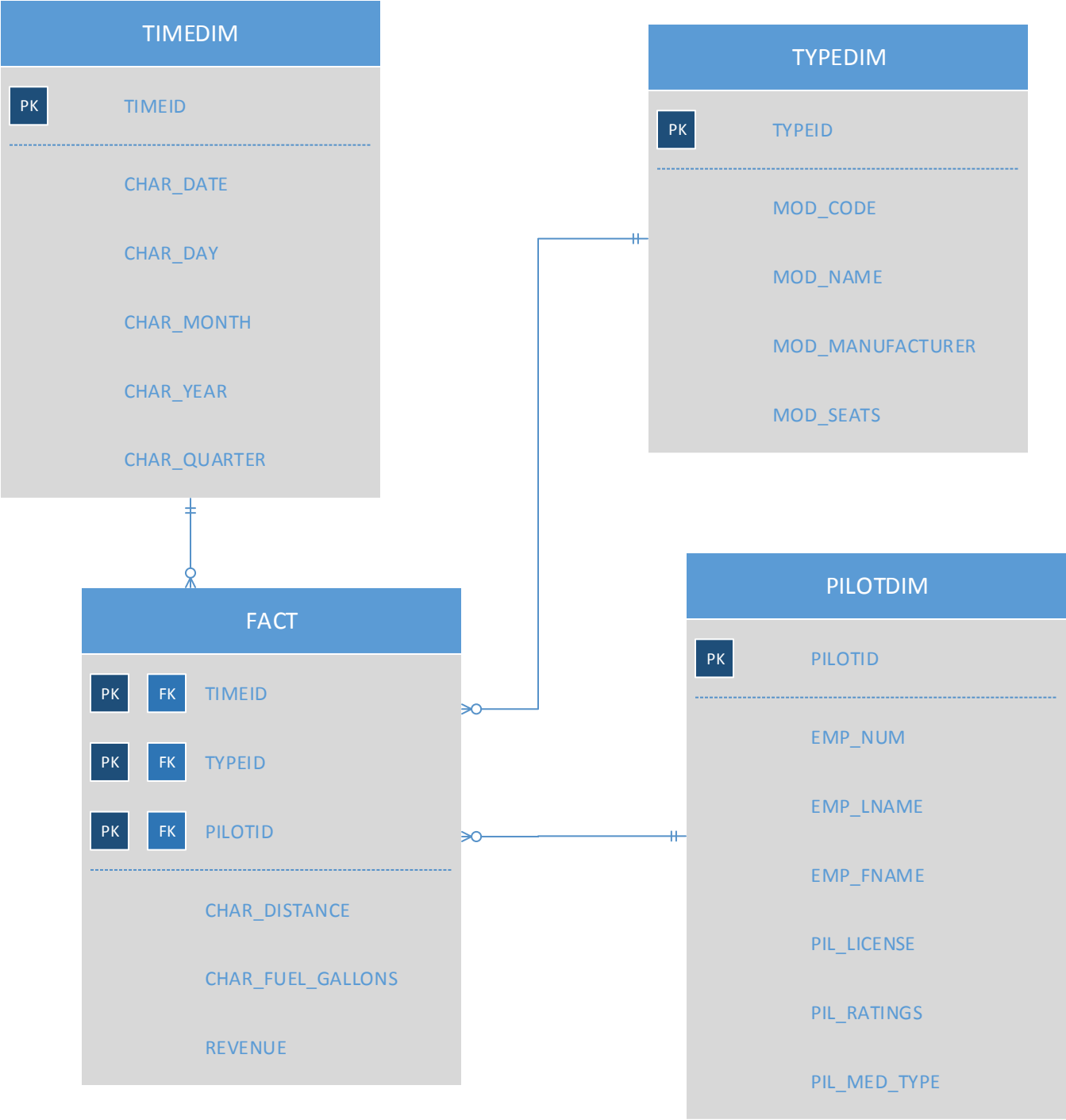
Richard Patrick

310-01

Due: 12/5/16

A10

Part 0

EMPLOYEE
🔑	EMP_NUM
	EMP_TITLE
	EMP_LNAME
	EMP_FNAME
	EMP_INITIAL
	EMP_DOB
	EMP_HIRE_DATE

PILOT
🔑	EMP_NUM
	PIL_LICENSE
	PIL_RATINGS
	PIL_MED_TYPE
	PIL_MED_DATE
	PIL_PT135_DATE

MODEL
🔑	MOD_CODE
	MOD_MANUFACTURER
	MOD_NAME
	MOD_SEATS
	MOD_CHG_MILE

CUSTOMERS
🔑	CUS_CODE
	CUS_LNAME
	CUS_FNAME
	CUS_INITIAL
	CUS_AREACODE
	CUS_PHONE
	CUS_BALANCE

CHARTER
🔑	CHAR_TRIP
	CHAR_DATE
	CHAR_PILOT
	CHAR_COPILOT
	AC_NUMBER
	CHAR_DESTINATION
	CHAR_DISTANCE
	CHAR_HOURS_FLOWN
	CHAR_HOURS_WAIT
	CHAR_FUEL_GALLONS
	CHAR_OIL_QTS
	CUS_CODE

AIRCRAFT
🔑	AC_NUMBER
	MOD_CODE
	AC_TTAF
	AC_TTEL
	AC_TTER

Part 2

```sql
--PART 2
--Richard Patrick
--If there is a mistake in create table statements, uncomment to drop tables and run
query again
--DROP TABLE FACT
--DROP TABLE STAGING
--DROP TABLE TIMEDIM
--DROP TABLE PILOTDIM
--DROP TABLE TYPEDIM

CREATE TABLE TIMEDIM
(
        TIMEID INT IDENTITY NOT NULL,
        CHAR_DATE DATETIME,
        CHAR_DAY INT,
        CHAR_MONTH INT,
        CHAR_YEAR INT,
        CHAR_QUARTER INT
);
CREATE TABLE PILOTDIM
(
        PILOTID INT IDENTITY NOT NULL,
        EMP_NUM INT,
        EMP_LNAME VARCHAR(15),
        EMP_FNAME VARCHAR(15),
        PIL_LICENSE VARCHAR (25),
        PIL_RATINGS VARCHAR (30),
        PIL_MED_TYPE VARCHAR(1)
);

CREATE TABLE TYPEDIM
(
        TYPEID INT IDENTITY NOT NULL,
        MOD_CODE CHAR(10),
        MOD_NAME CHAR(20),
        MOD_MANUFACTURER CHAR(15),
        MOD_SEATS FLOAT
);
CREATE TABLE STAGING
(
        TIMEID INT,
        PILOTID INT,
        TYPEID INT,
        EMP_NUM INT,
        MOD_CODE CHAR(15),
        CHAR_DATE DATETIME,
        CHAR_DISTANCE REAL,
        CHAR_FUEL_GALLONS FLOAT,
        REVENUE REAL
);
```

```sql
CREATE TABLE FACT
(
        TIMEID INT NOT NULL,
        PILOTID INT NOT NULL,
        TYPEID INT NOT NULL,
        CHAR_DISTANCE REAL,
        CHAR_FUEL_GALLONS FLOAT,
        REVENUE REAL
);

ALTER TABLE TIMEDIM
ADD CONSTRAINT PK_TIMEDIM PRIMARY KEY (TIMEID)

ALTER TABLE PILOTDIM
ADD CONSTRAINT PK_PILOTDIM PRIMARY KEY (PILOTID)

ALTER TABLE TYPEDIM
ADD CONSTRAINT PK_TYPEDIM PRIMARY KEY (TYPEID)

ALTER TABLE FACT
ADD CONSTRAINT PK_FACT PRIMARY KEY (TIMEID, PILOTID, TYPEID),
        CONSTRAINT FK_FACT_TIME FOREIGN KEY (TIMEID) REFERENCES TIMEDIM,
        CONSTRAINT FK_FACT_PILOT FOREIGN KEY (PILOTID) REFERENCES PILOTDIM,
        CONSTRAINT FK_FACT_TYPE FOREIGN KEY (TYPEID) REFERENCES TYPEDIM
EXEC PROCEDURE1
```

Part 3

```sql
USE [CIS31038]
GO
/****** Object:  StoredProcedure [dbo].[PROCEDURE1]    Script Date: 12/2/2016 9:50:07 PM
******/
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
--PART 3
--Richard Patrick
ALTER PROCEDURE [dbo].[PROCEDURE1]
AS
BEGIN
ALTER TABLE FACT
DROP CONSTRAINT PK_FACT,
        CONSTRAINT FK_FACT_TIME,
        CONSTRAINT FK_FACT_PILOT,
        CONSTRAINT FK_FACT_TYPE

ALTER TABLE TIMEDIM
DROP CONSTRAINT PK_TIMEDIM

ALTER TABLE PILOTDIM
DROP CONSTRAINT PK_PILOTDIM

ALTER TABLE TYPEDIM
DROP CONSTRAINT PK_TYPEDIM
```

```sql
TRUNCATE TABLE TIMEDIM
TRUNCATE TABLE PILOTDIM
TRUNCATE TABLE TYPEDIM
TRUNCATE TABLE STAGING
TRUNCATE TABLE FACT

ALTER TABLE TIMEDIM
ADD CONSTRAINT PK_TIMEDIM PRIMARY KEY (TIMEID)

ALTER TABLE PILOTDIM
ADD CONSTRAINT PK_PILOTDIM PRIMARY KEY (PILOTID)

ALTER TABLE TYPEDIM
ADD CONSTRAINT PK_TYPEDIM PRIMARY KEY (TYPEID)


ALTER TABLE FACT
ADD CONSTRAINT PK_FACT PRIMARY KEY (TIMEID, PILOTID, TYPEID),
      CONSTRAINT FK_FACT_TIME FOREIGN KEY (TIMEID) REFERENCES TIMEDIM,
      CONSTRAINT FK_FACT_PILOT FOREIGN KEY (PILOTID) REFERENCES PILOTDIM,
      CONSTRAINT FK_FACT_TYPE FOREIGN KEY (TYPEID) REFERENCES TYPEDIM


INSERT INTO TIMEDIM
SELECT DISTINCT CHAR_DATE, DAY(CHAR_DATE) AS [DAY],MONTH(CHAR_DATE) AS
[MONTH],YEAR(CHAR_DATE) AS [YEAR], DATEPART(QUARTER, CHAR_DATE)AS [QUARTER]
FROM CHARTER

INSERT INTO PILOTDIM
SELECT P.EMP_NUM, EMP_LNAME, EMP_FNAME, P.PIL_LICENSE, P.PIL_RATINGS, P.PIL_MED_TYPE
FROM PILOT P INNER JOIN EMPLOYEE E ON P.EMP_NUM=E.EMP_NUM

INSERT INTO TYPEDIM
SELECT MOD_CODE, MOD_NAME, MOD_MANUFACTURER, MOD_SEATS
FROM MODEL

INSERT INTO STAGING (EMP_NUM,MOD_CODE,CHAR_DATE,CHAR_DISTANCE,CHAR_FUEL_GALLONS, REVENUE)
SELECT P.EMP_NUM, M.MOD_CODE, C.CHAR_DATE, C.CHAR_DISTANCE, C.CHAR_FUEL_GALLONS,
(C.CHAR_FUEL_GALLONS * M.MOD_CHG_MILE) AS [REVENUE]
FROM PILOT P INNER JOIN CHARTER C ON P.EMP_NUM=C.CHAR_PILOT
INNER JOIN AIRCRAFT A ON C.AC_NUMBER=A.AC_NUMBER
INNER JOIN MODEL M ON A.MOD_CODE=M.MOD_CODE

UPDATE STAGING
SET TIMEID = T.TIMEID
FROM STAGING S INNER JOIN TIMEDIM T ON S.CHAR_DATE=T.CHAR_DATE

UPDATE STAGING
SET PILOTID = P.PILOTID
FROM STAGING S INNER JOIN PILOTDIM P ON S.EMP_NUM=P.EMP_NUM

UPDATE STAGING
SET TYPEID = TY.TYPEID
FROM STAGING S INNER JOIN TYPEDIM TY ON S.MOD_CODE=TY.MOD_CODE
```

```sql
INSERT INTO FACT
SELECT TIMEID, PILOTID, TYPEID, CHAR_DISTANCE, CHAR_FUEL_GALLONS, REVENUE
FROM STAGING
END
```

Part 4

```sql
--1
SELECT P.EMP_LNAME, P.EMP_FNAME
FROM PILOTDIM P INNER JOIN FACT F ON P.PILOTID=F.PILOTID
GROUP BY P.EMP_LNAME, P.EMP_FNAME
HAVING SUM(CHAR_DISTANCE)=(SELECT TOP 1 SUM(CHAR_DISTANCE)
FROM PILOTDIM P INNER JOIN FACT F ON P.PILOTID=F.PILOTID
GROUP BY P.EMP_LNAME, P.EMP_FNAME
ORDER BY SUM(CHAR_DISTANCE) DESC)
--2
SELECT MOD_NAME, CHAR_MONTH, SUM(REVENUE) AS TOTALREVENUE
FROM TYPEDIM TY INNER JOIN FACT F ON TY.TYPEID=F.TYPEID
INNER JOIN TIMEDIM T ON F.TIMEID=T.TIMEID
GROUP BY MOD_NAME, CHAR_MONTH
ORDER BY SUM(REVENUE)
```