LESLIE DAWSON

CIS 310-01

DATABASE DESIGN

ASSIGNMENT 11

DUE 4/29/2011

--A11A

--CREATE DIMENSION TABLES

USE CIS31007

CREATE TABLE CUSTOMER\_DIM

(

CUSTOMERID INT IDENTITY(1,1) NOT NULL,

CUS\_CODE INT NOT NULL,

CUS\_LNAME VARCHAR(25),

CUS\_FNAME VARCHAR(25)

)

CREATE TABLE PILOT\_DIM

(

PILOTID INT IDENTITY(1,1) NOT NULL,

EMP\_NUM INT NOT NULL,

EMP\_TITLE VARCHAR(5),

EMP\_LNAME VARCHAR(25),

PIL\_LICENSE VARCHAR(5),

PIL\_RATINGS VARCHAR(25)

)

CREATE TABLE MODEL\_DIM

(

MODELID INT IDENTITY(1,1) NOT NULL,

MOD\_CODE VARCHAR(10) NOT NULL,

MOD\_MANUFACTURER VARCHAR(15),

MOD\_NAME VARCHAR(25),

MOD\_SEATS INT,

MOD\_CHG\_MILE REAL

)

CREATE TABLE TIME\_DIM

(

TIMEID INT IDENTITY(1,1) NOT NULL,

CHARTER\_DATE DATETIME,

DAY\_NUM INT,

WEEK\_NUM INT,

MONTH\_NUM INT,

QUARTER\_NUM INT,

YEAR\_NUM INT

)

--ADDING CONSTRAINTS TO DIMENSION TABLES

ALTER TABLE PILOT\_DIM

ADD CONSTRAINT [PK\_PILOT\_DIM] PRIMARY KEY (PILOTID)

ALTER TABLE CUSTOMER\_DIM

ADD CONSTRAINT [PK\_CUSTOMER\_DIM] PRIMARY KEY (CUSTOMERID)

ALTER TABLE TIME\_DIM

ADD CONSTRAINT [PK\_TIME\_DIM] PRIMARY KEY (TIMEID)

ALTER TABLE MODEL\_DIM

ADD CONSTRAINT [PK\_MODEL\_DIM] PRIMARY KEY (MODELID)

--CREATE FACT TABLE

CREATE TABLE FACT\_TABLE

(

CUSTOMERID INT NOT NULL,

PILOTID INT NOT NULL,

MODELID INT NOT NULL,

TIMEID INT NOT NULL,

DISTANCE FLOAT,

HOURS\_FLOWN FLOAT,

FUEL\_GALLONS FLOAT,

OIL\_QTS FLOAT,

COST REAL

)

--ADDING CONSTRAINTS TO FACT TABLE

ALTER TABLE FACT\_TABLE

ADD CONSTRAINT FK\_CUSTOMER FOREIGN KEY (CUSTOMERID) REFERENCES CUSTOMER\_DIM,

CONSTRAINT FK\_PILOT FOREIGN KEY (PILOTID) REFERENCES PILOT\_DIM,

CONSTRAINT FK\_MODEL FOREIGN KEY (MODELID) REFERENCES MODEL\_DIM,

CONSTRAINT FK\_TIME FOREIGN KEY (TIMEID) REFERENCES TIME\_DIM

ALTER TABLE FACT\_TABLE

ADD PRIMARY KEY (CUSTOMERID, PILOTID, MODELID, TIMEID)

--CREATE STAGING TABLE

CREATE TABLE STAGING

(

CUSTOMERID INT,

PILOTID INT,

MODELID INT,

TIMEID INT,

CUS\_CODE INT,

EMP\_NUM INT,

MOD\_CODE VARCHAR(10),

CHARTER\_DATE DATETIME,

DISTANCE FLOAT,

HOURS\_FLOWN FLOAT,

FUEL\_GALLONS FLOAT,

OIL\_QTS FLOAT,

MOD\_CHG\_MILE FLOAT

)

-- =============================================

-- Author: LESLIE DAWSON

-- Create date: 4/20/2011

-- Description: A11 STORED PROCEDURE

-- =============================================

ALTER PROCEDURE A11

AS

BEGIN

-- SET NOCOUNT ON added to prevent extra result sets from

-- interfering with SELECT statements.

SET NOCOUNT ON;

--TURN OFF TABLE CONSTRAINTS FOR DELETION PURPOSES

ALTER TABLE FACT\_TABLE DROP CONSTRAINT FK\_PILOT

ALTER TABLE FACT\_TABLE DROP CONSTRAINT FK\_CUSTOMER

ALTER TABLE FACT\_TABLE DROP CONSTRAINT FK\_TIME

ALTER TABLE FACT\_TABLE DROP CONSTRAINT FK\_MODEL

ALTER TABLE CUSTOMER\_DIM NOCHECK CONSTRAINT ALL

ALTER TABLE PILOT\_DIM NOCHECK CONSTRAINT ALL

ALTER TABLE MODEL\_DIM NOCHECK CONSTRAINT ALL

ALTER TABLE TIME\_DIM NOCHECK CONSTRAINT ALL

--DELETE ALL INFORMATION FROM TABLES

TRUNCATE TABLE CUSTOMER\_DIM

TRUNCATE TABLE PILOT\_DIM

TRUNCATE TABLE MODEL\_DIM

TRUNCATE TABLE TIME\_DIM

TRUNCATE TABLE FACT\_TABLE

--TURN ON CONSTRAINTS AGAIN FOR REPOPULATION

ALTER TABLE CUSTOMER\_DIM CHECK CONSTRAINT ALL

ALTER TABLE PILOT\_DIM CHECK CONSTRAINT ALL

ALTER TABLE MODEL\_DIM CHECK CONSTRAINT ALL

ALTER TABLE TIME\_DIM CHECK CONSTRAINT ALL

ALTER TABLE FACT\_TABLE CHECK CONSTRAINT ALL

ALTER TABLE FACT\_TABLE

ADD CONSTRAINT [FK\_CUSTOMER] FOREIGN KEY (CUSTOMERID) REFERENCES CUSTOMER\_DIM,

CONSTRAINT [FK\_PILOT] FOREIGN KEY (PILOTID) REFERENCES PILOT\_DIM,

CONSTRAINT [FK\_MODEL] FOREIGN KEY (MODELID) REFERENCES MODEL\_DIM,

CONSTRAINT [FK\_TIME] FOREIGN KEY (TIMEID) REFERENCES TIME\_DIM

--INSERT INFORMATION INTO DIMENSION TABLES

INSERT INTO CUSTOMER\_DIM (CUS\_CODE, CUS\_LNAME, CUS\_FNAME)

SELECT CUS\_CODE, CUS\_LNAME, CUS\_FNAME

FROM CUSTOMER

INSERT INTO PILOT\_DIM (EMP\_NUM, EMP\_TITLE, EMP\_LNAME, PIL\_LICENSE, PIL\_RATINGS)

SELECT E.EMP\_NUM, E.EMP\_TITLE, E.EMP\_LNAME, P.PIL\_LICENSE, P.PIL\_RATINGS

FROM PILOT P INNER JOIN EMPLOYEE E ON P.EMP\_NUM = E.EMP\_NUM

INSERT INTO MODEL\_DIM (MOD\_CODE, MOD\_MANUFACTURER, MOD\_NAME, MOD\_SEATS, MOD\_CHG\_MILE)

SELECT MOD\_CODE, MOD\_MANUFACTURER, MOD\_NAME, MOD\_SEATS, MOD\_CHG\_MILE

FROM MODEL

INSERT INTO TIME\_DIM (CHARTER\_DATE, DAY\_NUM, WEEK\_NUM, MONTH\_NUM, QUARTER\_NUM, YEAR\_NUM)

SELECT DISTINCT CHAR\_DATE, DAY(CHAR\_DATE), DATEPART(WEEK, CHAR\_DATE), MONTH(CHAR\_DATE),

DATEPART(QUARTER, CHAR\_DATE), YEAR(CHAR\_DATE)

FROM CHARTER

--DELETE ALL DATA FROM STAGING TABLE

TRUNCATE TABLE STAGING

--INSERT TRANSACTION INFORMATION INTO STAGING TABLE

INSERT INTO STAGING (CUS\_CODE, EMP\_NUM, MOD\_CODE, CHARTER\_DATE, DISTANCE,

HOURS\_FLOWN, FUEL\_GALLONS, OIL\_QTS, MOD\_CHG\_MILE)

SELECT C.CUS\_CODE, P.EMP\_NUM, M.MOD\_CODE, CH.CHAR\_DATE, CH.CHAR\_DISTANCE,

CH.CHAR\_HOURS\_FLOWN, CH.CHAR\_FUEL\_GALLONS, CH.CHAR\_OIL\_QTS, M.MOD\_CHG\_MILE

FROM PILOT P INNER JOIN EMPLOYEE E ON P.EMP\_NUM = E.EMP\_NUM

INNER JOIN CREW CR ON E.EMP\_NUM = CR.EMP\_NUM

INNER JOIN CHARTER CH ON CR.CHAR\_TRIP = CH.CHAR\_TRIP

INNER JOIN CUSTOMER C ON CH.CUS\_CODE = C.CUS\_CODE

INNER JOIN AIRCRAFT A ON CH.AC\_NUMBER = A.AC\_NUMBER

INNER JOIN MODEL M ON A.MOD\_CODE = M.MOD\_CODE

--ASSIGNING DW KEYS TO STAGING TABLE

UPDATE STAGING

SET CUSTOMERID = C.CUSTOMERID

FROM STAGING S INNER JOIN CUSTOMER\_DIM C ON S.CUS\_CODE = C.CUS\_CODE

UPDATE STAGING

SET PILOTID = P.PILOTID

FROM STAGING S INNER JOIN PILOT\_DIM P ON S.EMP\_NUM = P.EMP\_NUM

UPDATE STAGING

SET MODELID = M.MODELID

FROM STAGING S INNER JOIN MODEL\_DIM M ON S.MOD\_CODE = M.MOD\_CODE

UPDATE STAGING

SET TIMEID = T.TIMEID

FROM STAGING S INNER JOIN TIME\_DIM T ON S.CHARTER\_DATE = T.CHARTER\_DATE

--POPULATE FACT TABLE FROM STAGING TABLE

INSERT INTO FACT\_TABLE

SELECT CUSTOMERID, PILOTID, MODELID, TIMEID, DISTANCE, HOURS\_FLOWN, FUEL\_GALLONS,

OIL\_QTS, (DISTANCE \* MOD\_CHG\_MILE) AS [COST]

FROM STAGING

END

EXEC A11