



# ASSIGNMENT 10

CIS 310-01

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## Assignment 10 – Create Tables

```
/* Assignment 10 - Create Tables Information */
```

```
CREATE TABLE CUSTOMER (  
  CUS_CODE int not null,  
  CUS_LNAME varchar(15),  
  CUS_FNAME varchar(15),  
  CUS_INITIAL varchar(1),  
  CUS_AREACODE varchar(3),  
  CUS_PHONE varchar(8),  
  CUS_BALANCE float(8)  
);  
INSERT INTO CUSTOMER VALUES('10010', 'Ramas', 'Alfred', 'A', '615', '844-2573', '0');  
INSERT INTO CUSTOMER VALUES('10011', 'Dunne', 'Leona', 'K', '713', '894-1238', '0');  
INSERT INTO CUSTOMER VALUES('10012', 'Smith', 'Kathy', 'W', '615', '894-2285', '896.54');  
INSERT INTO CUSTOMER VALUES('10013', 'Olowski', 'Paul', 'F', '615', '894-2180', '1285.19');  
INSERT INTO CUSTOMER VALUES('10014', 'Orlando', 'Myron', '', '615', '222-1672', '673.21');  
INSERT INTO CUSTOMER VALUES('10015', 'O'Brian', 'Amy', 'B', '713', '442-3381', '1014.56');  
INSERT INTO CUSTOMER VALUES('10016', 'Brown', 'James', 'G', '615', '297-1228', '0');  
INSERT INTO CUSTOMER VALUES('10017', 'Williams', 'George', '', '615', '290-2556', '0');  
INSERT INTO CUSTOMER VALUES('10018', 'Farriss', 'Anne', 'G', '713', '382-7185', '0');  
INSERT INTO CUSTOMER VALUES('10019', 'Smith', 'Olette', 'K', '615', '297-3809', '453.98');
```

```
/* -- */
```

```
CREATE TABLE MODEL (  
  MOD_CODE varchar(10) not null,  
  MOD_MANUFACTURER varchar(15),  
  MOD_NAME varchar(20),  
  MOD_SEATS float(8),  
  MOD_CHG_MILE float(8)  
);  
INSERT INTO MODEL VALUES('C-90A', 'Beechcraft', 'KingAir', '8', '2.67');  
INSERT INTO MODEL VALUES('PA23-250', 'Piper', 'Aztec', '6', '1.93');  
INSERT INTO MODEL VALUES('PA31-350', 'Piper', 'Navajo Chieftain', '10', '2.35')
```

```
/* -- */
```

```
CREATE TABLE AIRCRAFT (  
  AC_NUMBER varchar(5) not null,  
  MOD_CODE varchar(10),  
  AC_TTAF float(8),  
  AC_TTEL float(8),  
  AC_TTER float(8)  
);  
INSERT INTO AIRCRAFT VALUES('1484P', 'PA23-250', '1833.1', '1833.1', '101.8');  
INSERT INTO AIRCRAFT VALUES('2289L', 'C-90A', '4243.8', '768.9', '1123.4');  
INSERT INTO AIRCRAFT VALUES('2778V', 'PA31-350', '7992.9', '1513.1', '789.5');  
INSERT INTO AIRCRAFT VALUES('4278Y', 'PA31-350', '2147.3', '622.1', '243.2');
```

```
/* -- */
```

```
CREATE TABLE PILOT (  
  PILOT_CODE int not null,  
  PILOT_LNAME varchar(15),  
  PILOT_FNAME varchar(15),  
  PILOT_INITIAL varchar(1),  
  PILOT_AREACODE varchar(3),  
  PILOT_PHONE varchar(8),  
  PILOT_BALANCE float(8)  
);
```

```

EMP_NUM int not null,
PIL_LICENSE varchar(25),
PIL_RATINGS varchar(25),
PIL_MED_TYPE varchar(1),
PIL_MED_DATE datetime,
PIL_PT135_DATE datetime
);
INSERT INTO PILOT VALUES('101','ATP','SEL/MEL/Instr/CFII','1','4/12/2016','6/15/2015');
INSERT INTO PILOT VALUES('104','ATP','SEL/MEL/Instr','1','6/10/2015','3/23/2016');
INSERT INTO PILOT VALUES('105','COM','SEL/MEL/Instr/CFI','2','2/25/2016','2/12/2016');
INSERT INTO PILOT VALUES('106','COM','SEL/MEL/Instr','2','4/2/2016','12/24/2015');
INSERT INTO PILOT
VALUES('109','COM','SEL/MEL/SES/Instr/CFII','1','4/14/2016','4/21/2016');

/* -- */
CREATE TABLE RATING (
RTG_CODE varchar(5) not null,
RTG_NAME varchar(50)
);
INSERT INTO RATING VALUES('CFI','Certified Flight Instructor');
INSERT INTO RATING VALUES('CFII','Certified Flight Instructor, Instrument');
INSERT INTO RATING VALUES('INSTR','Instrument');
INSERT INTO RATING VALUES('MEL','Multiengine Land');
INSERT INTO RATING VALUES('SEL','Single Engine, Land');
INSERT INTO RATING VALUES('SES','Single Engine, Sea');

/* -- */

CREATE TABLE EARNEDRATING (
EMP_NUM int not null,
RTG_CODE varchar(5) not null,
EARNRTG_DATE datetime
);
INSERT INTO EARNEDRATING VALUES('101','CFI','2/18/2004');
INSERT INTO EARNEDRATING VALUES('101','CFII','12/15/2011');
INSERT INTO EARNEDRATING VALUES('101','INSTR','11/8/1999');
INSERT INTO EARNEDRATING VALUES('101','MEL','6/23/2000');
INSERT INTO EARNEDRATING VALUES('101','SEL','4/21/1999');
INSERT INTO EARNEDRATING VALUES('104','INSTR','7/15/2002');
INSERT INTO EARNEDRATING VALUES('104','MEL','1/29/2003');
INSERT INTO EARNEDRATING VALUES('104','SEL','3/12/2001');
INSERT INTO EARNEDRATING VALUES('105','CFI','11/18/2003');
INSERT INTO EARNEDRATING VALUES('105','INSTR','4/17/2001');
INSERT INTO EARNEDRATING VALUES('105','MEL','8/12/2001');
INSERT INTO EARNEDRATING VALUES('105','SEL','9/23/2000');
INSERT INTO EARNEDRATING VALUES('106','INSTR','12/20/2001');
INSERT INTO EARNEDRATING VALUES('106','MEL','4/2/2002');
INSERT INTO EARNEDRATING VALUES('106','SEL','3/10/2000');
INSERT INTO EARNEDRATING VALUES('109','CFI','11/5/2004');
INSERT INTO EARNEDRATING VALUES('109','CFII','6/21/2009');
INSERT INTO EARNEDRATING VALUES('109','INSTR','7/23/2002');
INSERT INTO EARNEDRATING VALUES('109','MEL','3/15/2003');
INSERT INTO EARNEDRATING VALUES('109','SEL','2/5/2002');
INSERT INTO EARNEDRATING VALUES('109','SES','5/12/2002');

/* -- */

```

```

CREATE TABLE CHARTER (
CHAR_TRIP int not null,
CHAR_DATE datetime,
AC_NUMBER varchar(5),
CHAR_DESTINATION varchar(3),
CHAR_DISTANCE float(8),
CHAR_HOURS_FLOWN float(8),
CHAR_HOURS_WAIT float(8),
CHAR_FUEL_GALLONS float(8),
CHAR_OIL_QTS integer,
CUS_CODE int
);
INSERT INTO CHARTER
VALUES('10001','2/5/2016','2289L','ATL','936','5.1','2.2','354.1','1','10011');
INSERT INTO CHARTER
VALUES('10002','2/5/2016','2778V','BNA','320','1.6','0','72.6','0','10016');
INSERT INTO CHARTER
VALUES('10003','2/5/2016','4278Y','GNV','1574','7.8','0','339.8','2','10014');
INSERT INTO CHARTER
VALUES('10004','2/6/2016','1484P','STL','472','2.9','4.9','97.2','1','10019');
INSERT INTO CHARTER
VALUES('10005','2/6/2016','2289L','ATL','1023','5.7','3.5','397.7','2','10011');
INSERT INTO CHARTER
VALUES('10006','2/6/2016','4278Y','STL','472','2.6','5.2','117.1','0','10017');
INSERT INTO CHARTER
VALUES('10007','2/6/2016','2778V','GNV','1574','7.9','0','348.4','2','10012');
INSERT INTO CHARTER
VALUES('10008','2/7/2016','1484P','TYS','644','4.1','0','140.6','1','10014');
INSERT INTO CHARTER
VALUES('10009','2/7/2016','2289L','GNV','1574','6.6','23.4','459.9','0','10017');
INSERT INTO CHARTER
VALUES('10010','2/7/2016','4278Y','ATL','998','6.2','3.2','279.7','0','10016');
INSERT INTO CHARTER
VALUES('10011','2/7/2016','1484P','BNA','352','1.9','5.3','66.4','1','10012');
INSERT INTO CHARTER
VALUES('10012','2/8/2016','2778V','MOB','884','4.8','4.2','215.1','0','10010');
INSERT INTO CHARTER
VALUES('10013','2/8/2016','4278Y','TYS','644','3.9','4.5','174.3','1','10011');
INSERT INTO CHARTER
VALUES('10014','2/9/2016','4278Y','ATL','936','6.1','2.1','302.6','0','10017');
INSERT INTO CHARTER
VALUES('10015','2/9/2016','2289L','GNV','1645','6.7','0','459.5','2','10016');
INSERT INTO CHARTER
VALUES('10016','2/9/2016','2778V','MQY','312','1.5','0','67.2','0','10011');
INSERT INTO CHARTER
VALUES('10017','2/10/2016','1484P','STL','508','3.1','0','105.5','0','10014');
INSERT INTO CHARTER
VALUES('10018','2/10/2016','4278Y','TYS','644','3.8','4.5','167.4','0','10017');

```

```

/* -- */

```

```

CREATE TABLE CREW (
CHAR_TRIP int not null,
EMP_NUM int not null,
CREW_JOB varchar(20)
);
INSERT INTO CREW VALUES('10001','104','Pilot');
INSERT INTO CREW VALUES('10002','101','Pilot');

```

```

INSERT INTO CREW VALUES('10003','105','Pilot');
INSERT INTO CREW VALUES('10003','109','Copilot');
INSERT INTO CREW VALUES('10004','106','Pilot');
INSERT INTO CREW VALUES('10005','101','Pilot');
INSERT INTO CREW VALUES('10006','109','Pilot');
INSERT INTO CREW VALUES('10007','104','Pilot');
INSERT INTO CREW VALUES('10007','105','Copilot');
INSERT INTO CREW VALUES('10008','106','Pilot');
INSERT INTO CREW VALUES('10009','105','Pilot');
INSERT INTO CREW VALUES('10010','108','Pilot');
INSERT INTO CREW VALUES('10011','101','Pilot');
INSERT INTO CREW VALUES('10011','104','Copilot');
INSERT INTO CREW VALUES('10012','101','Pilot');
INSERT INTO CREW VALUES('10013','105','Pilot');
INSERT INTO CREW VALUES('10014','106','Pilot');
INSERT INTO CREW VALUES('10015','101','Copilot');
INSERT INTO CREW VALUES('10015','104','Pilot');
INSERT INTO CREW VALUES('10016','105','Copilot');
INSERT INTO CREW VALUES('10016','109','Pilot');
INSERT INTO CREW VALUES('10017','101','Pilot');
INSERT INTO CREW VALUES('10018','104','Copilot');
INSERT INTO CREW VALUES('10018','105','Pilot');

/* -- */

CREATE TABLE EMPLOYEE (
EMP_NUM int not null,
EMP_TITLE varchar(4),
EMP_LNAME varchar(15),
EMP_FNAME varchar(15),
EMP_INITIAL varchar(1),
EMP_DOB datetime,
EMP_HIRE_DATE datetime
);
INSERT INTO EMPLOYEE VALUES('100','Mr.','Kolmycz','George','D','6/15/1952','3/15/2007');
INSERT INTO EMPLOYEE VALUES('101','Ms.','Lewis','Rhonda','G','3/19/1975','4/25/2008');
INSERT INTO EMPLOYEE VALUES('102','Mr.','VanDam','Rhett','','11/14/1968','12/20/2012');
INSERT INTO EMPLOYEE VALUES('103','Ms.','Jones','Anne','M','10/16/1984','8/28/2015');
INSERT INTO EMPLOYEE VALUES('104','Mr.','Lange','John','P','11/8/1981','10/20/2006');
INSERT INTO EMPLOYEE VALUES('105','Mr.','Williams','Robert','D','3/14/1985','1/8/2015');
INSERT INTO EMPLOYEE VALUES('106','Mrs.','Duzak','Jeanine','K','2/12/1978','1/5/2011');
INSERT INTO EMPLOYEE VALUES('107','Mr.','Diante','Jorge','D','8/21/1984','7/2/2006');
INSERT INTO EMPLOYEE
VALUES('108','Mr.','Wiesenbach','Paul','R','2/14/1976','11/18/2014');
INSERT INTO EMPLOYEE
VALUES('109','Ms.','Travis','Elizabeth','K','6/18/1971','4/14/2011');
INSERT INTO EMPLOYEE
VALUES('110','Mrs.','Genkazi','Leighla','W','5/19/1980','12/1/2012');

/* -- */

```

## Assignment 10 – Part 1

USE CIS31073

```
CREATE TABLE PILOTDIM
(
  PILOT_KEY INT IDENTITY(1,1) NOT NULL,
  EMP_NUM INT NOT NULL,
  EMP_LNAME VARCHAR(25),
  EMP_FNAME VARCHAR(25),
  PIL_LICENSE VARCHAR(5),
  PIL_RATINGS VARCHAR(25)
)

CREATE TABLE AIRCRAFTDIM
(
  AIRCRAFT_KEY INT IDENTITY(1,1) NOT NULL,
  MOD_CODE VARCHAR(10) NOT NULL,
  AC_NUMBER VARCHAR(15),
  AC_TTAF VARCHAR(25),
  AC_TTEL VARCHAR(25),
  AC_TTER VARCHAR(25)
)
```

```
CREATE TABLE TIMEDIM
(
  TIME_KEY INT IDENTITY(1,1) NOT NULL,
  CHAR_DATE DATETIME,
  CHAR_MONTH INT,
  CHAR_YEAR INT
)
```

```
CREATE TABLE FACTTABLE
(
  PILOT_KEY INT NOT NULL,
  AIRCRAFT_KEY INT NOT NULL,
  TIME_KEY INT NOT NULL,
  CHAR_DISTANCE FLOAT,
  CHAR_FUEL_GALLONS FLOAT,
  MOD_CHANGE_MILEOIL FLOAT
)
```

```
DROP TABLE PILOTDIM
DROP TABLE MODELDIM
DROP TABLE TIMEDIM
DROP TABLE FACTTABLE
```

```
CREATE TABLE STAGING
(
  PILOT_KEY INT,
  EMP_NUM INT,
  EMP_FNAME VARCHAR(10),
```

```
EMP_LNAME VARCHAR(10),  
AIRCRAFT_KEY INT,  
MOD_CODE VARCHAR(10),  
TIME_KEY INT,  
CHAR_DATE DATETIME,  
CHAR_FUEL_GALLONS FLOAT(8),  
CHAR_DISTANCE FLOAT(8),  
MOD_CHG_MILE FLOAT  
)
```

```
DROP TABLE STAGING
```

```
ALTER TABLE PILOTDIM  
ADD CONSTRAINT PK_PILOTDIM PRIMARY KEY (PILOT_KEY)
```

```
ALTER TABLE AIRCRAFTDIM  
ADD CONSTRAINT PK_AIRCRAFTDIM PRIMARY KEY (AIRCRAFT_KEY)
```

```
ALTER TABLE TIMEDIM  
ADD CONSTRAINT PK_TIMEDIM PRIMARY KEY (TIME_KEY)
```

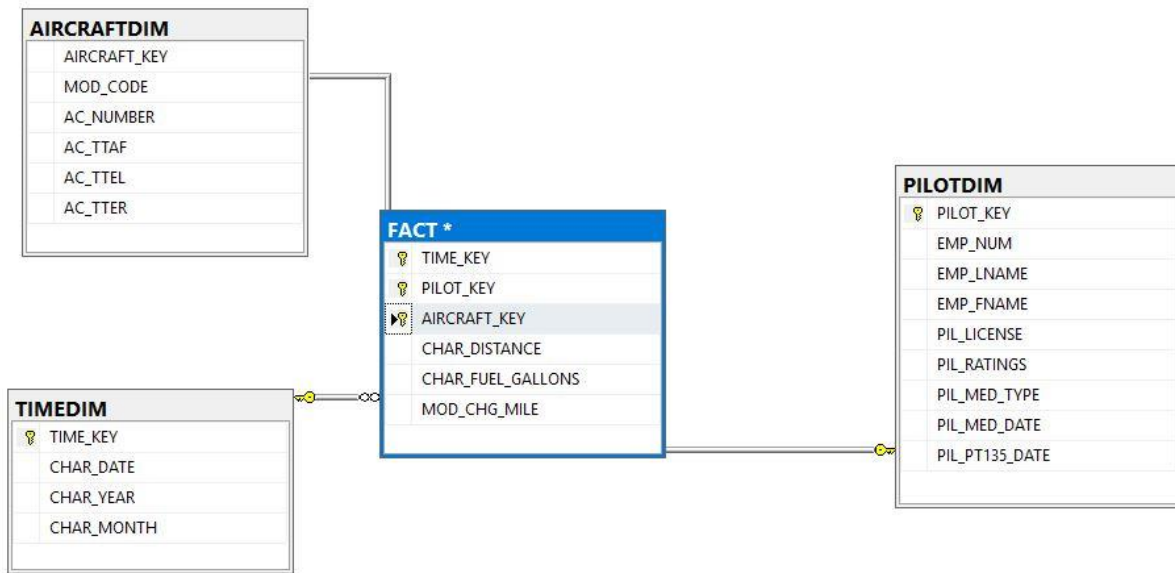
```
ALTER TABLE FACTTABLE  
ADD CONSTRAINT FK_FACT_PILOTDIM FOREIGN KEY (PILOT_KEY) REFERENCES PILOTDIM(PILOT_KEY)
```

```
ALTER TABLE FACTTABLE  
ADD CONSTRAINT FK_FACT_AIRCRAFTDIM FOREIGN KEY (AIRCRAFT_KEY) REFERENCES  
AIRCRAFTDIM(AIRCRAFT_KEY)
```

```
ALTER TABLE FACTTABLE  
ADD CONSTRAINT FK_FACT_TIMEDIM FOREIGN KEY (TIME_KEY) REFERENCES TIMEDIM(TIME_KEY)
```

```
ALTER TABLE FACTTABLE  
ADD PRIMARY KEY (PILOT_KEY, AIRCRAFT_KEY, TIME_KEY)
```

## Assignment 10 – Part 2



## Assignment 10 – Part 3

```
CREATE PROCEDURE A10
AS
BEGIN
```

```
ALTER TABLE FACTTABLE
DROP CONSTRAINT FK_FACT_PILOTDIM
```

```
ALTER TABLE FACTTABLE
DROP CONSTRAINT FK_FACT_AIRCRAFTDIM
```

```
ALTER TABLE FACTTABLE
DROP CONSTRAINT FK_FACT_TIMEDIM
```

```
TRUNCATE TABLE FACTTABLE
TRUNCATE TABLE PILOTDIM
TRUNCATE TABLE AIRCRAFTDIM
TRUNCATE TABLE TIMEDIM
```

```
ALTER TABLE FACTTABLE
ADD CONSTRAINT FK_FACT_PILOTDIM FOREIGN KEY (PILOT_KEY) REFERENCES PILOTDIM(PILOT_KEY)
```

```
ALTER TABLE FACTTABLE
ADD CONSTRAINT FK_FACT_AIRCRAFTDIM FOREIGN KEY (AIRCRAFT_KEY) REFERENCES
AIRCRAFTDIM(AIRCRAFT_KEY)
```

```
ALTER TABLE FACTTABLE
ADD CONSTRAINT FK_FACT_TIMEDIM FOREIGN KEY (TIME_KEY) REFERENCES TIMEDIM(TIME_KEY)
```

```
INSERT INTO PILOTDIM (EMP_NUM, EMP_FNAME, EMP_LNAME)
SELECT P.EMP_NUM, E.EMP_FNAME, E.EMP_LNAME
```



```
FROM PILOT P INNER JOIN EMPLOYEE E ON P.EMP_NUM = E.EMP_NUM
```

```
INSERT INTO AIRCRAFTDIM (AIRCRAFT_KEY)
SELECT MOD_CODE
FROM MODEL
```

```
INSERT INTO TIMEDIM (CHAR_DATE)
SELECT CHAR_DATE
FROM CHARTER
```

```
TRUNCATE TABLE STAGING
```

```
INSERT INTO STAGING (EMP_NUM, EMP_FNAME, EMP_LNAME, AIRCRAFT_KEY, CHAR_DATE,
CHAR_FUEL_GALLONS, CHAR_DISTANCE, REVENUE)
SELECT P.EMP_NUM, E.EMP_FNAME, E.EMP_LNAME, M.MOD_CODE, CH.CHAR_DATE,
CH.CHAR_FUEL_GALLONS, CH.CHAR_DISTANCE, SUM(CHAR_FUEL_GALLONS*CHAR_DISTANCE) AS REVENUE
FROM PILOT P INNER JOIN EMPLOYEE E ON P.EMP_NUM = E.EMP_NUM
      INNER JOIN CREW C ON E.EMP_NUM = C.EMP_NUM
      INNER JOIN CHARTER CH ON C.CHAR_TRIP = CH.CHAR_TRIP
      INNER JOIN AIRCRAFT A ON CH.AC_NUMBER = A.AC_NUMBER
      INNER JOIN MODEL M ON A.MOD_CODE = M.MOD_CODE
GROUP BY P.EMP_NUM, E.EMP_FNAME, E.EMP_LNAME, M.MOD_CODE, CH.CHAR_DATE,
MONTH(CH.CHAR_DATE), YEAR(CH.CHAR_DATE), CH.CHAR_FUEL_GALLONS, CH.CHAR_DISTANCE
```

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

```
UPDATE STAGING
SET MODEL_KEY = A.AIRCRAFT_KEY
FROM STAGING S INNER JOIN AIRCRAFTDIM A ON S.MOD_CODE = A.MOD_CODE
```

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

```
INSERT INTO FACTTABLE (PILOT_KEY, AIRCRAFT_KEY, TIME_KEY, CHAR_FUEL_GALLONS)
SELECT PILOT_KEY, AIRCRAFT_KEY, TIME_KEY, CHAR_FUEL_GALLONS
FROM STAGING
```

```
END
```

```
EXEC A10
```

```
SELECT *
FROM STAGING
```

```
SELECT *
FROM FACTTABLE
```

## Assignment 10 – Part 4

```
SELECT P.EMP_FNAME, P.EMP_LNAME
FROM PILOTDIM P INNER JOIN FACTTABLE F ON P.PILOT_KEY = F.PILOT_KEY
WHERE CHAR_DISTANCE = (SELECT MAX(CHAR_DISTANCE) FROM FACTTABLE)
GROUP BY P.EMP_FNAME, P.EMP_LNAME
```

```
SELECT A.MOD_CODE, MONTH(T.CHAR_DATE) AS [MONTH], SUM(F.REVENUE) AS [TOTAL REVENUE]
FROM FACTTABLE F INNER JOIN AIRCRAFTDIM A ON F.AIRCRAFT_KEY = A.AIRCRAFT_KEY
      INNER JOIN TIMEDIM T ON F.TIME_KEY = T.TIME_KEY
GROUP BY A.MOD_CODE, MONTH(T.CHAR_DATE)
ORDER BY SUM(F.REVENUE) ASC
```