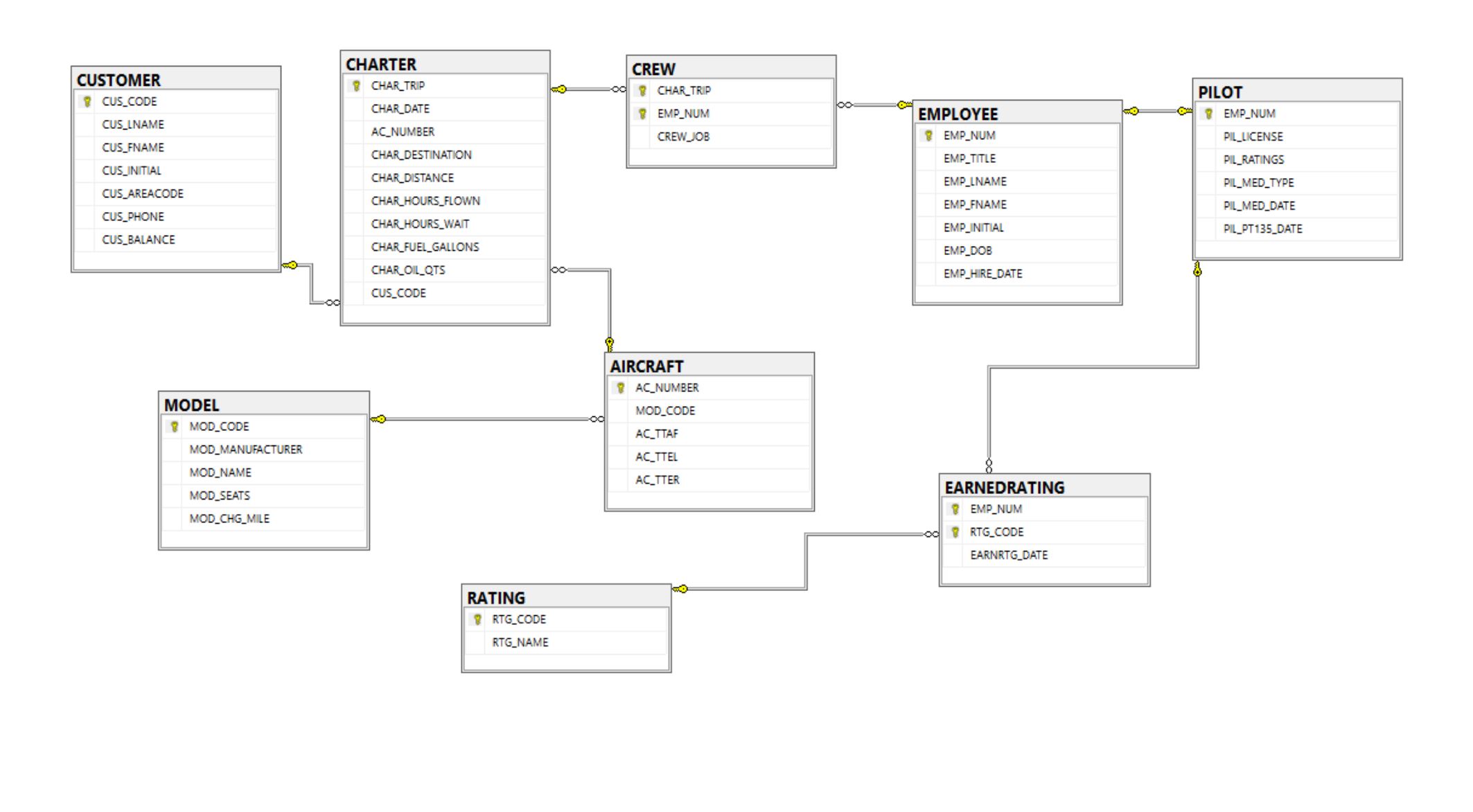
# A10

# Pedro Gregorio

## Part 0



## Part 1



## Part 2

--MAKING THE WAREHOUSE (DIMENSION TABLES AND FACTTABLE)

CREATE TABLE FACTTABLE (

PILOT\_ID INT,

TYPE\_ID INT,

TIME\_ID INT,

FUEL\_USED float(8),

DISTANCE float(8),

REVENUE FLOAT(8)

);

CREATE TABLE TIMEDIM (

TIME\_ID INT IDENTITY(1,1),

CHAR\_DATE DATE,

);

CREATE TABLE PILOTDIM (

PILOT\_ID INT IDENTITY(1,1),

EMP\_NUM INT,

EMP\_LNAME varchar(15),

EMP\_FNAME varchar(15)

);

CREATE TABLE TYPEDIM (

TYPE\_ID INT IDENTITY(1,1),

MOD\_CODE varchar(10),

MOD\_NAME VARCHAR(20)

);

-- ADD CONSTRAINTS TO THE DIMENSIONS AND FACT TABLE

ALTER TABLE TIMEDIM

ADD CONSTRAINT PK\_TIMEDIM PRIMARY KEY (TIME\_ID);

ALTER TABLE PILOTDIM

ADD CONSTRAINT PK\_PILOTDIM PRIMARY KEY (PILOT\_ID);

ALTER TABLE TYPEDIM

ADD CONSTRAINT PK\_TYPEDIM PRIMARY KEY (TYPE\_ID);

ALTER TABLE FACTTABLE

ADD CONSTRAINT FK\_FACT\_PILOTDIM FOREIGN KEY (PILOT\_ID) REFERENCES PILOTDIM(PILOT\_ID);

ALTER TABLE FACTTABLE

ADD CONSTRAINT FK\_FACT\_TYPEDIM FOREIGN KEY (TYPE\_ID) REFERENCES TYPEDIM(TYPE\_ID);

ALTER TABLE FACTTABLE

ADD CONSTRAINT FK\_FACT\_TIMEDIM FOREIGN KEY (TIME\_ID) REFERENCES TIMEDIM(TIME\_ID);

-- CREATE STAGING TABLE

CREATE TABLE STAGING (

PILOT\_ID INT,

EMP\_NUM INT,

TYPE\_ID INT,

EMP\_LNAME varchar(10),

EMP\_FNAME varchar(10),

MOD\_CODE varchar(10),

MOD\_NAME varchar(25),

TIME\_ID INT,

CHAR\_DATE DATE,

FUEL\_USED FLOAT(8),

DISTANCE FLOAT(8),

REVENUE FLOAT(8)

);

## Part 3

CREATE PROC A10

AS

BEGIN

-- DROP THE FOREIGN KEYS TO TRUNCATE

ALTER TABLE FACTTABLE DROP CONSTRAINT FK\_FACT\_PILOTDIM

ALTER TABLE FACTTABLE DROP CONSTRAINT FK\_FACT\_TYPEDIM

ALTER TABLE FACTTABLE DROP CONSTRAINT FK\_FACT\_TIMEDIM

-- TRUNCATE

TRUNCATE TABLE FACTTABLE

TRUNCATE TABLE PILOTDIM

TRUNCATE TABLE TYPEDIM

TRUNCATE TABLE TIMEDIM

TRUNCATE TABLE STAGING

-- BRING BACK THE FOREIGN KEYS

ALTER TABLE FACTTABLE

ADD CONSTRAINT FK\_FACT\_PILOTDIM FOREIGN KEY (PILOT\_ID) REFERENCES PILOTDIM(PILOT\_ID);

ALTER TABLE FACTTABLE

ADD CONSTRAINT FK\_FACT\_TYPEDIM FOREIGN KEY (TYPE\_ID) REFERENCES TYPEDIM(TYPE\_ID);

ALTER TABLE FACTTABLE

ADD CONSTRAINT FK\_FACT\_TIMEDIM FOREIGN KEY (TIME\_ID) REFERENCES TIMEDIM(TIME\_ID);

-- POPULATE THE DIM TABLES

INSERT INTO PILOTDIM (EMP\_NUM, EMP\_LNAME, EMP\_FNAME)

SELECT P.EMP\_NUM, EMP\_LNAME, EMP\_FNAME

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

INSERT INTO TIMEDIM (CHAR\_DATE)

SELECT CHAR\_DATE

FROM CHARTER

INSERT INTO TYPEDIM (MOD\_CODE, MOD\_NAME)

SELECT MOD\_CODE, MOD\_NAME

FROM MODEL

-- POPULATE STAGING TABLE

INSERT INTO STAGING (EMP\_NUM, EMP\_LNAME, EMP\_FNAME , MOD\_CODE, MOD\_NAME, CHAR\_DATE, FUEL\_USED, DISTANCE, REVENUE)

SELECT P.EMP\_NUM, E.EMP\_LNAME, E.EMP\_FNAME, M.MOD\_CODE, M.MOD\_NAME ,C.CHAR\_DATE, C.CHAR\_FUEL\_GALLONS, C.CHAR\_DISTANCE, SUM(C.CHAR\_FUEL\_GALLONS \* M.MOD\_CHG\_MILE) AS REVENUE

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

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

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

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

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

GROUP BY P.EMP\_NUM, E.EMP\_LNAME, E.EMP\_FNAME, M.MOD\_CODE, M.MOD\_NAME ,C.CHAR\_DATE, C.CHAR\_FUEL\_GALLONS, C.CHAR\_DISTANCE

-- UPDATE ALL DW KEYS INTO THE STAGING TABLE

UPDATE STAGING

SET PILOT\_ID = P.PILOT\_ID

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

UPDATE STAGING

SET TYPE\_ID = T.TYPE\_ID

FROM STAGING S INNER JOIN TYPEDIM T ON S.MOD\_CODE = T.MOD\_CODE

UPDATE STAGING

SET TIME\_ID = T.TIME\_ID

FROM STAGING S INNER JOIN TIMEDIM T ON S.CHAR\_DATE = T.CHAR\_DATE

-- POPULATE THE FACTTABLE USING THE STAGING TABLE

INSERT INTO FACTTABLE (PILOT\_ID, TYPE\_ID, TIME\_ID, FUEL\_USED, DISTANCE, REVENUE)

SELECT PILOT\_ID, TYPE\_ID, TIME\_ID, FUEL\_USED, DISTANCE, REVENUE

FROM STAGING

END

## PART 4

--List the names of pilots who have flown the most miles.

SELECT P.EMP\_LNAME, P.EMP\_FNAME, F.DISTANCE

FROM PILOTDIM P INNER JOIN FACTTABLE F ON P.PILOT\_ID = F.PILOT\_ID

WHERE F.DISTANCE = (SELECT MAX(DISTANCE)

FROM FACTTABLE)

--List the revenue by model and month in ascending order.

SELECT T.MOD\_CODE, T.MOD\_NAME,MONTH(TD.CHAR\_DATE) AS MONTH, SUM(REVENUE) AS REVENUE

FROM FACTTABLE F INNER JOIN TYPEDIM T ON F.TYPE\_ID = T.TYPE\_ID

INNER JOIN TIMEDIM TD ON F.TIME\_ID = TD.TIME\_ID

GROUP BY MOD\_CODE, MOD\_NAME, MONTH(TD.CHAR\_DATE)

ORDER BY SUM(REVENUE) ASC