Thais Minet
3/3/18

6.6. Repeat Exercise 6.5, but use the AIRLINE database schema of Figure 5.8.

6.5. Consider the database shown in Figure 1.2, whose schema is shown in Figure 2.1. What are the referential integrity constraints that should hold on the schema? Write appropriate SQL DDL statements to define the database.

```
CREATE TABLE AIRPORT (
 Airport_code varchar(10) NOT NULL,
 Name varchar(20) NOT NULL,
 City varchar(20) NOT NULL,
 State varchar(50),
 PRIMARY KEY (Airport_code)
);

CREATE TABLE FLIGHT (
 Flight_number varchar(10) NOT NULL,
 Airline varchar(20) NOT NULL,
 Weekdays varchar(10),
 PRIMARY KEY (Flight_number)
);

CREATE TABLE FLIGHT_LEG (
 Flight_number varchar(10) NOT NULL,
 Leg_number varchar(10) NOT NULL,
 Departure_airport_code varchar(10) NOT NULL,
 Scheduled_departure_time time NOT NULL,
 Arrival_airport_code varchar(10) NOT NULL,
 Scheduled_arrival_time time NOT NULL,
 PRIMARY KEY (Flight_number, Leg_number),
 CONSTRAINT FLIGHTNOFK FOREIGN KEY Flight_number
REFERENCES FLIGHT(Flight_number) ON DELETE REJECT ON UPDATE CASCADE
);

CREATE TABLE LEG_INSTANCE (
 Flight_number varchar(10) NOT NULL,
 Leg_number varchar(10) NOT NULL,
```

```
 Date date NOT NULL,
 Number_of_available_seats int NOT NULL,
 Airplane_id varchar(10) NOT NULL,
 Departure_airport_code varchar(10) NOT NULL,
 Departure_time time NOT NULL,
 Arrival_airport_code varchar(10) NOT NULL,
 Arrival_time time NOT NULL,
 PRIMARY KEY (Flight_number, Leg_number, Date),
 CONSTRAINT FLIGHTNOFK FOREIGN KEY Flight_number
REFERENCES FLIGHT(Flight_number) ON DELETE REJECT ON UPDATE CASCADE,
 CONSTRAINT FLIGHTLEGNOFK FOREIGN KEY Leg_number
REFERENCES FLIGHT_LEG(Leg_number) ON DELETE REJECT ON UPDATE CASCADE
);

CREATE TABLE FARE (
 Flight_number varchar(10) NOT NULL,
 Fare_code varchar(10) NOT NULL,
 Amount float NOT NULL,
 Restrictions varchar(10),
 PRIMARY KEY (Flight_number, Fare_code),
 CONSTRAINT FLIGHTNOFK FOREIGN KEY Flight_number
REFERENCES FLIGHT(Flight_number) ON DELETE REJECT ON UPDATE CASCADE
);

CREATE TABLE AIRPLANE_TYPE (
 Airplane_type_name varchar(10) NOT NULL,
 Max_seats int NOT NULL,
 Company varchar(20) NOT NULL,
 PRIMARY Key (Airplane_type_name)
);

CREATE TABLE CAN_LAND (
 Airplane_type_name varchar(10) NOT NULL,
 Airport_code varchar(10) NOT NULL,
 PRIMARY KEY (Airplane_type_name, Airport_code),
 CONSTRAINT AIRPLANETYPENAMEFK FOREIGN KEY Airplane_type_name
REFERENCES AIRPLANE_TYPE(Airplane_type_name) ON DELETE REJECT ON UPDATE
CASCADE,
```

```
 CONSTRAINT CANLANDAIRPORTCODEFK FOREIGN KEY (Airport_code) REFERENCES
AIRPORT(Airport_code) ON UPDATE CASCADE ON DELETE REJECT
);

CREATE TABLE AIRPLANE (
 Airplane_id varchar(10) NOT NULL,
 Total_number_of_seats int NOT NULL,
 Airplane_type varchar(10) NOT NULL,
 PRIMARY KEY (Airplane_id),
 CONSTRAINT AIRPLANEAIRPLANETYPEFK FOREIGN KEY (Airplane_type) REFERENCES
AIRPLANE_TYPE(Airplane_type_name) ON UPDATE CASCADE ON DELETE REJECT
);

CREATE TABLE SEAT_RESERVATION (
 Flight_number varchar(10) NOT NULL,
 Leg_number varchar(10) NOT NULL,
 Date date NOT NULL,
 Seat_number varchar(5) NOT NULL,
 Customer_name varchar(50) NOT NULL,
 Customer_phone varchar(15) NOT NULL,
 PRIMARY KEY (Flight_number, Leg_number, Date, Seat_number),
 CONSTRAINT SEATRESERVATIONFLIGHTNUMBERFK FOREIGN KEY (Flight_number)
REFERENCES FLIGHT(Flight_number) ON UPDATE CASCADE ON DELETE REJECT,
 CONSTRAINT SEATRESERVATIONLEGNUMBERFK FOREIGN KEY (Leg_number) REFERENCES
LEG_INSTANCE(Leg_number) ON UPDATE CASCADE ON DELETE REJECT,
 CONSTRAINT SEATRESERVATIONDATEFK FOREIGN KEY (Date) REFERENCES
LEG_INSTANCE(Date) ON UPDATE CASCADE ON DELETE REJECT
);
```