

A6 Problem 4: Airline Schemas

Instructions: Write the relational model schema for your airline database in this file, using the notation we have used all term. Remember to underline primary keys. Include descriptions of other candidate keys or foreign keys (if any) immediately under each relation schema.

Example:

foo(a, b, c)

- *b is also a candidate key*
- *c is a foreign key to bar.c*

Problem 4 Schemas:

- ❖ **flights**(flight_number, date, time, source, destination, is_domestic, aircraft_type)
 - Aircraft_type is a foreign key to aircrafts.aircraft_type
 - Aircraft_type must be defined as NOT NULL to enforce total participation.
- ❖ **aircrafts**(aircraft_type, company, model)
 - (company, model) is a candidate key.
- ❖ **seats**(aircraft_type, seat_number, seat_class, seat_type, exit_row)
 - Aircraft_type is a foreign key to aircrafts.aircraft_type
- ❖ **purchases**(purchase_id, cust_id, purchase_time, confirmation_num)
 - cust_id is a foreign key to customer.cust_id
 - cust_id must be defined as NOT NULL to enforce total participation.
- ❖ **purchaser**(cust_id, card_number, exper_date, verification_code)
 - cust_id is a foreign key to customer.cust_id
- ❖ **travelers**(cust_id, passport_num, citizenship_country, emergency_name, emergency_number, freq_flyer_num)
 - cust_id is a foreign key to customer.cust_id
 - (passport_num, citizenship_country) is also a candidate key
 - freq_flyer_num is also a candidate key
- ❖ **customer**(cust_id, first_name, last_name, email)
- ❖ **contact_phone**(cust_id, phone_number)
 - cust_id is a foreign key to customer.cust_id
 - (cust_id, phone_number) is a candidate key.

- ❖ **tickets**(ticket_id, ticket_cost, purchase_id, cust_id)
 - cust_id is a foreign key to customer.cust_id
 - purchase_id is a foreign key to purchases.purchase_id
 - Both purchase_id and cust_id are NOT NULL to enforce total participation.
- ❖ **flight_info**(flight_number, date, seat_number, aircraft_type, ticket_id)
 - (flight_number, date) are foreign keys to flights.flight_number, flights.date
 - (seat_number, aircraft_type) are foreign keys to seats.seat_number and seats.aircraft_type.
 - ticket_id is a foreign key to tickets.ticket_id