Fall 2005 CS 186 Exercise Questions

SQL

Consider the following schema for an airline database (primary key attributes are in bold):

FLIGHTS (**flight_num**, source_city, destination_city)
DEPARTURES (**flight_num, date**, plane_type)
PASSENGERS (**passenger_id**, passenger_name, passenger_address)
BOOKINGS (**passenger_id, flight_num, date,** seat_number)

Express the following queries in SQL (feel free to abbreviate relation and attribute names and to use INTERSECT and EXCEPT if you need to):

a) Find the passenger_id of all passengers who have a seat booked on a plane of type "747" from San Francisco to Washington. Do not return any duplicate values.

b) Find the cities that have direct (nonstop) flights to both Honolulu and Newark

c) Find the flight_num and date of all flights for which there are no reservations.

d) Find the passenger_name of all passengers who have a seat booked on at least one plane of every type.

e) Print an ordered list of all source cities and the number of distinct destination cities that they have direct (nonstop) flights to. The list should be ordered in decreasing number of destinations and should contain only those source cities that have flights to 25 or more distinct destinations.

For example, the output should look like:

Source_City	NumDestinations
Chicago	120
Atlanta	106
...	...
Austin	25