

INLS 623 – Assignment 1

Ramakrishnan Chapter 5, Exercise 5.3 parts [4,5,9,10] (Page 175)

The following relation keeps track of airline flights information:

Flights(flno: integer, *origin*: string, *destination*: string, *distance*: integer, *departs*: time, *arrives*: time, *price*: integer)

Aircraft(aid: integer, *aname*: string, *cruisingrange*: integer)

Certified(eid: integer, aid: integer)

Employees(eid: integer, *ename*: string, *salary*: integer)

(Note that the Employees relation describes pilots and other kinds of employees as well; every pilot is certified for some aircraft, and only pilots are certified to fly. Write each of the following queries in SQL)

4. For all aircraft with *cruisingrange* over 1,000 miles, find the name of the aircraft and the average salary of all pilots certified for this aircraft.
5. Find the names of pilots certified for some Boeing aircraft.
9. A customer wants to travel from Madison to New York with no more than two changes of flight. List their **flight choices** (flight #, departure time, number of stops, and optionally each flight leg) if the customer wants to arrive in New York by 6 p.m the same day.
10. Compute the difference between the average salary of pilots and the average salary of all employees (including pilots).

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Consider the following relational schema. An employee can work in more than one department; the *pct_time* field of the Works relation shows the percentage of time that a given employee works in a given department

Emp(eid: integer, *ename*: string, *age*: integer, *salary*: real)

Works(eid: integer, did: integer, *pct_time*: integer)

Dept(did: integer, *budget*: real, *managerid*: integer)

3. Print the name of each employee whose salary exceeds the budget of all the departments that he or she works in
4. Find the *managerids* of managers who manage only departments with budgets greater than \$1,000,000.
5. Find the *enames* of managers who manage the departments with the largest budget.