BBM471 DATABASE MANAGEMENT SYSTEMS

Homework 3

1. Consider the given schema of a sample database.

```
Worker(WORKER_ID, FIRST_NAME, LAST_NAME, SALARY, JOINING_DATE, DEPARTMENT)
```

   a) Write an SQL query to fetch the count of employees working in the department 'Admin'.
   b) Write an SQL query to fetch the list of employees with the same salary.
   c) Write an SQL query to show the second highest salary from a table.
   d) Write an SQL query to fetch the departments that have less than five people in it.
   e) Write an SQL query to fetch the names of workers who earn the highest salary.

2. Consider the following relations containing airline flight information:

   Flights(flno: integer, from: string, to: string, distance: integer, departs: time, arrives: time)
   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 (otherwise, he or she would not qualify as a pilot), and only pilots are certified to fly. Write the following queries in relational algebra

   a) Find the eids of pilots certified for some Boeing aircraft.
   b) Find the eids of employees who make the highest salary.