Thais Minet
3/3/18

7.5. Specify the following queries on the database in Figure 5.5 in SQL. Show the query results if each query is applied to the database state in Figure 5.6.

A. For each department whose average employee salary is more than $30,000, retrieve the department name and the number of employees working for that department.

```
SELECT Dname, EmpCount
FROM (
  SELECT Dname, Dno
  FROM DEPARTMENT
) AS Dnames
INNER JOIN (
  SELECT Dno, EmpCount
  FROM (
    SELECT Dno, COUNT(*) AS EmpCount
    FROM EMPLOYEE
    GROUP_BY Dno
  ) AS Dno_EmployeeCounted
  INNER JOIN (
    SELECT Dno, AVG(Salary) AS AvgSal
    FROM EMPLOYEE
    GROUP_BY Dno
    FILTER AvgSal > 30000
  ) AS Dno_AvgSalaries
  ON Dno_EmployeeCounted.Dno = Dno_AvgSalaries.Dno
) AS EmpsCounted
ON Dnames.Dno = EmpsCounted.Dno
```

B. Suppose that we want the number of male employees in each department making more than $30,000, rather than all employees (as in Exer- cise 7.5a). Can we specify this query in SQL? Why or why not?

```
SELECT Dname, EmpCount
FROM (
  SELECT Dname, Dno
  FROM DEPARTMENT
) AS Dnames
INNER JOIN (
  SELECT Dno, EmpCount
  FROM (
    SELECT Dno, COUNT(*) AS EmpCount
    FROM EMPLOYEE
    GROUP_BY Dno
```

```
  ) AS Dno_EmployeeCounted
  INNER JOIN (
    SELECT Dno, AVG(Salary) AS AvgSal
    FROM EMPLOYEE
    GROUP_BY Dno
    FILTER AvgSal > 30000 AND Sex='M'
  ) AS Dno_AvgSalaries
  ON Dno_EmployeeCounted.Dno = Dno_AvgSalaries.Dno
) AS EmpsCounted
ON Dnames.Dno = EmpsCounted.Dno
```