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**Homework 6**

* 1. [6 points] Specify the following additional queries on the database in Figure 5.5 in SQL. Show the query results if 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.

Ans:

**SELECT** Dname, **AVG(\*)**

**FROM** DEPARTMENT, EMPLOYEE

**WHERE** Dnumber = Dno **AND** **AVG(\*)** >= 30000

**GROUP BY** Dnumber

**RESULT**

|  |  |
| --- | --- |
| Dname | AvgSal |
| Research | 33250 |
| Administration | 31000 |
| Headquarters | 55000 |

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

Ans:

Yes. Use the **HAVING** clause to specify that Sex = ‘M’

Results with

Dname AvgSal

Research 36000

Headquarters 55000

* 1. [9 points] In SQL, specify the following queries on the database specified in Figure 5.5 using the concept of nested queries and the concepts described in this chapter.

(a) Retrieve the names of all employees who work in the department that has the employee with the highest salary among all employees.

Ans:

**SELECT** Fname, Minit, Lname

**FROM** EMPLOYEE

**WHERE** Dno **IN**

(**SELECT** Dno

**FROM** EMPLOYEE

**GROUP BY** Salary

**HAVING MAX(\*))**

(b) Retrieve the names of all employees whose supervisor’s supervisor has '888665555' for Ssn.

Ans:

(c) Retrieve the names of employees who make at least $10,000 more than the employee who is paid the least in the company.

Ans:

* 1. [6 points] On the database schema below, specify the following two queries in SQL:

ORDER (**OrderID**, OrderDate, CustomerID)

CUSTOMER (**CustomerID**, CustomerName, CustomerAddress)

ORDER\_LINE (**OrderID, ProductID**, OrderedQuantity)

PRODUCT (**ProductID**, ProductDescription, ProductFinish, ProductStandardPrice)

1. Show the customer ID and name for all the customers who have ordered both products with IDs 3 and 4 on the same order:

Ans:

1. List the order number and order quantity for all customer orders for which the order quantity is greater than the average order quantity of that product: (Hint: This involves a correlated subquery.)

Ans: