**Lab3 – queries and Answers**

**Lab3 – queries**

**Query 1: Retrieve all employees whose address is in Elgin,IL**

Hint: Use the LIKE operator to find similar strings

**Query 2: Retrieve all employees who were born during the 1970's.**

Hint: Use the LIKE operator to find similar strings

**Query 3: Retrieve all employees in department 5 whose salary is between 60000 and 70000 .**

Hint: Use the keyword BETWEEN for this query

**Query 4A: Retrieve a list of employees ordered by department ID.**

Hint: Use the ORDER BY clause for this query

**Query 4B: Retrieve a list of employees ordered in descending order by department ID and within each department ordered alphabetically in descending order by last name.**

**Query 5A: For each department ID retrieve the number of employees in the department.**

Hint: Use COUNT(\*) to retrieve the total count of a column, and then GROUP BY

**Query 5B: For each department retrieve the number of employees in the department, and the average employees salary in the department.**

Hint: Use COUNT(\*) to retrieve the total count of a column, and AVG() function to compute average salaries, and then group

**Query 5C: Label the computed columns in the result set of Query 5B as NUM\_EMPLOYEES and AVG\_SALARY.**

Hint: Use AS “LABEL\_NAME” after the column name

**Query 5D: In Query 5C order the result set by Average Salary.**

Hint: Use ORDER BY after the GROUP BY

**Query 5E: In Query 5D limit the result to departments with fewer than 4 employees.**

Hint: Use HAVING after the GROUP BY, and use the count() function in the HAVING clause instead of the column label.

**Note: WHERE clause is used for filtering the entire result set whereas the HAVING clause is used for filtering the result of the grouping**

**BONUS Query 6: Similar to 4B but instead of department ID use department name. Retrieve a list of employees ordered by department name, and within each department ordered alphabetically in descending order by last name.**

Hint: Department name is in the DEPARTMENTS table. So your query will need to retrieve data from more than one table. Don’t worry if you are not able to figure this one out … we’ll cover working with multiple tables in the next lesson.

**Lab3 – Answers**

-- Query 1------

;

select F\_NAME , L\_NAME

from EMPLOYEES

where ADDRESS LIKE '%Elgin,IL%' ;

--Query 2--

;

select F\_NAME , L\_NAME

from EMPLOYEES

where B\_DATE LIKE '197%' ;

---Query3--

;

select \*

from EMPLOYEES

where (SALARY BETWEEN 60000 and 70000) and DEP\_ID = 5 ;

--Query4A--

;

select F\_NAME, L\_NAME, DEP\_ID

from EMPLOYEES

order by DEP\_ID;

--Query4B--

;

select F\_NAME, L\_NAME, DEP\_ID

from EMPLOYEES

order by DEP\_ID desc, L\_NAME desc;

--Query5A--

;

select DEP\_ID, COUNT(\*)

from EMPLOYEES

group by DEP\_ID;

--Query5B--

;

select DEP\_ID, COUNT(\*), AVG(SALARY)

from EMPLOYEES

group by DEP\_ID;

--Query5C--

;

select DEP\_ID, COUNT(\*) AS "NUM\_EMPLOYEES", AVG(SALARY) AS "AVG\_SALARY"

from EMPLOYEES

group by DEP\_ID;

--Query5D--

;

select DEP\_ID, COUNT(\*) AS "NUM\_EMPLOYEES", AVG(SALARY) AS "AVG\_SALARY"

from EMPLOYEES

group by DEP\_ID

order by AVG\_SALARY;

--Query5E--

;

select DEP\_ID, COUNT(\*) AS "NUM\_EMPLOYEES", AVG(SALARY) AS "AVG\_SALARY"

from EMPLOYEES

group by DEP\_ID

having count(\*) < 4

order by AVG\_SALARY;

--5E alternative: if you want to use the label

select DEP\_ID, NUM\_EMPLOYEES, AVG\_SALARY from

( select DEP\_ID, COUNT(\*) AS NUM\_EMPLOYEES, AVG(SALARY) AS AVG\_SALARY from EMPLOYEES group by DEP\_ID)

where NUM\_EMPLOYEES < 4

order by AVG\_SALARY;

--BONUS Query6--

;

select D.DEP\_NAME , E.F\_NAME, E.L\_NAME

from EMPLOYEES as E, DEPARTMENTS as D

where E.DEP\_ID = D.DEPT\_ID\_DEP

order by D.DEP\_NAME, E.L\_NAME desc;