***Displaying Data from Multiple Tables(JOIN)***

**Practice 4 Solutions**

1. Write a query to display the last name, department number, and department name for all

employees.

**Ans:**

**SELECT e.last\_name, e.department\_id, d.department\_name**

**FROM employees e, departments d**

**WHERE e.department\_id = d.department\_id;**

2. Create a unique listing of all jobs that are in department 30. Include the location of department 90

in the output.

**Ans:**

**SELECT DISTINCT job\_id, location\_id**

**FROM employees, departments**

**WHERE employees.department\_id = departments.department\_id**

**AND employees.department\_id = 80;**

3. Write a query to display the employee last name, department name, location ID, and city of all

employees who earn a commission.

**Ans:**

**SELECT e.last\_name, d.department\_name, d.location\_id, l.c ity**

**FROM employees e, departments d, locations l**

**WHERE e.department\_id = d.department\_id**

**AND d.location\_id = l.location\_id**

**AND e.commission\_pct IS NOT NULL;**

4. Display the employee last name and department name for all employees who have an *a* (lowercase)

in their last names. Place your SQL statement in a text file named lab4\_4.sql.

**Ans:**

**SELECT last\_name, department\_name**

**FROM employees, departments**

**WHERE employees.department\_id = departments.department\_id**

**AND last\_name LIKE '%a%';**

5. Write a query to display the last name, job, department number, and department name for all

employees who work in Toronto.

**Ans:**

**SELECT e.last\_name, e.job\_id, e.department\_id,**

**d.department\_name**

**FROM employees e JOIN departments d**

**ON (e.department\_id = d.department\_id)**

**JOIN locations l**

**ON (d.location\_id = l.location\_id)**

**WHERE LOWER(l.city) = 'toronto';**

6. Display the employee last name and employee number along with their manager’s last name and

manager number. Label the columns Employee, Emp#, Manager, and Mgr#, respectively.

Place your SQL statement in a text file named lab4\_6.sql.

**Ans:**

**SELECT w.last\_name "Employee", w.employee\_id "EMP#",**

**m.last\_name "Manager", m.employee\_id "Mgr#"**

**FROM employees w join employees m**

**ON (w.manager\_id = m.employee\_id);**

7. Modify lab4\_6.sql to display all employees including King, who has no manager.

Place your SQL statement in a text file named lab4\_7.sql. Run the query in lab4\_7.sql

**Ans:**

**SELECT w.last\_name "Employee", w.employee\_id "EMP#",**

**m.last\_name "Manager", m.employee\_id "Mgr#"**

**FROM employees w**

**LEFT OUTER JOIN employees m**

**ON (w.manager\_id = m.employee\_id);**

If you have time, complete the following exercises.

8. Create a query that displays employee last names, department numbers, and all the

employees who work in the same department as a given employee. Give each column an appropriate

label.

**Ans:**

**SELECT e.department\_id department, e.last\_name employee,**

**c.last\_name colleague**

**FROM employees e JOIN employees c**

**ON (e.department\_id = c.department\_id)**

**WHERE e.employee\_id <> c.employee\_id**

**ORDER BY e.department\_id, e.last\_name, c.last\_name;**

9. Show the structure of the JOB\_GRADES table. Create a query that displays the name, job,

department name, salary, and grade for all employees.

**Ans:**

**DESC JOB\_GRADES;**

**SELECT e.last\_name, e.job\_id, d.department\_name,**

**e.salary, j.grade\_level**

**FROM employees e, departments d, job\_grades j**

**WHERE e.department\_id = d.department\_id**

**AND e.salary BETWEEN j.lowest\_sal AND j.highest\_sal;**

**-- OR**

**SELECT e.last\_name, e.job\_id, d.department\_name,**

**e.salary, j.grade\_level**

**FROM employees e JOIN departments d**

**ON (e.department\_id = d.department\_id)**

**JOIN job\_grades j**

**ON (e.salary BETWEEN j.lowest\_sal AND j.highest\_sal);**

If you want an extra challenge, complete the following exercises:

10. Create a query to display the name and hire date of any employee hired after employee Davies.

**SELECT e.last\_name, e.hire\_date**

**FROM employees e, employees davies**

**WHERE davies.last\_name = 'Davies'**

**AND davies.hire\_date < e.hire\_date**

**-- OR**

**SELECT e.last\_name, e.hire\_date**

**FROM employees e JOIN employees davies**

**ON (davies.last\_name = 'Davies')**

**WHERE davies.hire\_date < e.hire\_date;**

11. Display the names and hire dates for all employees who were hired before their managers, along with their manager’s names and hire dates. Label the columns Employee, Emp

Hired, Manager, and Mgr Hired, respectively.

**Ans:**

**SELECT w.last\_name, w.hire\_date, m.last\_name, m.hire\_date**

**FROM employees w, employees m**

**WHERE w.manager\_id = m.employee\_id**

**AND w.hire\_date < m.hire\_date;**

**-- OR**

**SELECT w.last\_name, w.hire\_date, m.last\_name, m.hire\_date**

**FROM employees w JOIN employees m**

**ON (w.manager\_id = m.employee\_id)**

**WHERE w.hire\_date < m.hire\_date;**