**Assignment 4**

**SQL Group by Clause**

**Q1. Determine the validity of the following three statements. Circle either True or False.**

1. Group functions work across many rows to produce one result per group. True/False –**True**

2. Group functions include nulls in calculations. True/False -**False**

3. The WHERE clause restricts rows before inclusion in a group calculation. True/False-**True**

**The HR department needs the following reports:**

4. Find the highest, lowest, sum, and average salary of all employees. Label the columns Maximum, Minimum, Sum, and Average, respectively. Round your results to the nearest whole number.

Solution: select round(max(salary),0) Maximum,

round(min(salary),0) Minimum,

round(sum(salary),0) Sum,

round(avg(salary),0) Average

from employees;

5. Write a query to display the minimum, maximum, sum, and average salary for each job type.

Solution: select job\_id,min(salary),max(salary),sum(salary),avg(salary)

from employees

group by job\_id;

6. Write a query to display the number of people with the same job.

Solution: select job\_id, count(\*)

from employees

group by job\_id;

7. Determine the number of managers without listing them. Label the column Number of Managers. Hint: Use the MANAGER\_ID column to determine the number of managers.

Solution: select count (distinct manager\_id) "Number of Managers" from employees;

8. Find the difference between the highest and the lowest salaries. Label the column DIFFERENCE.

Solution: select max(salary)-min(salary) DIFFERENCE from employees;

9 .Create a report to display the manager number and the salary of the lowest-paid employee for that manager. Exclude anyone whose manager is not known. Exclude any groups where the minimum salary is $6,000 or less. Sort the output in descending order of salary.

Solution: select manager\_id,min(salary) from employees

where manager\_id is not null

group by manager\_id

having min(salary)>=6000

order by min(salary) desc;

10. Create a query to display the total number of employees and, of that total, the number of employees hired in 1995, 1996, 1997, and 1998. Create appropriate column headings.

Solution: select count(employee\_id) total,

sum(decode(to\_char(hire\_date,'YYYY'),1995,1,0)) "1995",

sum(decode(to\_char(hire\_date,'YYYY'),1996,1,0)) "1996",

sum(decode(to\_char(hire\_date,'YYYY'),1997,1,0)) "1997",

sum(decode(to\_char(hire\_date,'YYYY'),1998,1,0)) "1998"

from employees;

11. Create a matrix query to display the job, the salary for that job based on the department number, and the total salary for that job, for departments 20, 50, 80, and 90, giving each column an appropriate heading.

Solution:

select job\_id,

sum(decode(department\_id,20,salary)) "DEPT\_20",

sum(decode(department\_id,50,salary)) "DEPT\_50",

sum(decode(department\_id,80,salary)) "DEPT\_80",

sum(decode(department\_id,90,salary)) "DEPT\_90",

sum(salary) "TOTAL\_SAL"

from employees

group by job\_id;