

## Practice 5

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

- Group functions work across many rows to produce one result.  
True/False
- Group functions include nulls in calculations.  
True/False
- The WHERE clause restricts rows prior to inclusion in a group calculation.  
True/False
- Display the highest, lowest, sum, and average salary of all employees. Label the columns Maximum, Minimum, Sum, and Average, respectively. Round your results to the decimal position. Save your SQL statement in a file called *p5q4.sql*.

Maximum	Minimum	Sum	Average
-----	-----	-----	-----
5000	800	29025	2073

- Modify *p5q4.sql* to display the minimum, maximum, sum, and average salary for each job type. Resave to a file called *p5q5.sql*. Rerun your query.

JOB	Maximum	Minimum	Sum	Average
-----	-----	-----	-----	-----
CLERK	1300	800	4150	1038
SALESMAN	1600	1250	5600	1400
PRESIDENT	5000	5000	5000	5000
MANAGER	2975	2450	8275	2758
ANALYST	3000	3000	6000	3000

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

JOB	COUNT ( * )
-----	-----
CLERK	4
SALESMAN	4
PRESIDENT	1
MANAGER	3
ANALYST	2

## Practice 5 (continued)

7. Determine the number of managers without listing them. Label the column Number of Managers.

```
Number of Managers
-----
6
```

8. Write a query that will display the difference between the highest and lowest salaries. Label the column DIFFERENCE.

```
DIFFERENCE
-----
4200
```

9. Display the manager number and the salary of the lowest paid employee for that manager. Exclude anyone where the manager id is not known. Exclude any groups where the minimum salary is less than \$1000. Sort the output in descending order of salary.

```
      MGR      MIN ( SAL )
-----
      7566      3000
      7839      2450
      7782      1300
      7788      1100
```

10. Write a query to display the department name, location name, number of employees, and the average salary for all employees in that department. Label the columns' dname, loc, Number of People, and Salary, respectively.

```
DNAME      LOC      Number of People      Salary
-----
RESEARCH    DALLAS      5      2175
SALES        CHICAGO     6     1566.67
ACCOUNTING   NEW YORK    3     2916.67
```

### Practice 5 (continued)

The following two questions are very challenging.

11. Create a query that will display the total number of employees and of that total the number who were hired in 1980, 1981, 1982, and 1987. Give appropriate column headings.

TOTAL	1980	1981	1982	1987
14	1	10	1	2

12. Create a matrix query to display the job, the salary for that job based upon department number and the total salary for that job for all departments, giving each column an appropriate heading.

Job	Dept 10	Dept 20	Dept 30	Total
CLERK	1300	1900	950	4150
SALESMAN			5600	5600
PRESIDENT	5000			5000
MANAGER	2450	2975	2850	8275
ANALYST		6000		6000