

## Practice Tasks DBMS

| Tasks  | Expected Output  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
|--|--|--------------------|---------------|----------------|----------------|-----------------|-----------|---------|-------|-----------|--------|------|------|--------|------|-------|------|--------|------|--------|------|-----------|-------|
| <p>Task: write a query that print all employees and their job IDs, Display the last name concatenated with the job ID (separated by a comma and space) and name of the column Employee and Title</p> | <table><tr><th>Employee and Title</th></tr><tr><td>King, AD_PRES</td></tr><tr><td>Kochhar, AD_VP</td></tr><tr><td>De Haan, AD_VP</td></tr><tr><td>Hunold, IT_PROG</td></tr></table>  | Employee and Title | King, AD_PRES | Kochhar, AD_VP | De Haan, AD_VP | Hunold, IT_PROG |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Employee and Title   |  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| King, AD_PRES  |  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Kochhar, AD_VP   |  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| De Haan, AD_VP   |  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Hunold, IT_PROG  |  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| <p>Due to budget issues, the HR department needs a report that displays the last name and salary of employees who earn more than \$12,000.</p>   | <table><tr><th>LAST_NAME</th><th>SALARY</th></tr><tr><td>King</td><td>24000</td></tr><tr><td>Kochhar</td><td>17000</td></tr><tr><td>De Haan</td><td>17000</td></tr><tr><td>Hartstein</td><td>13000</td></tr></table>   | LAST_NAME          | SALARY        | King           | 24000          | Kochhar         | 17000     | De Haan | 17000 | Hartstein | 13000  |      |      |        |      |       |      |        |      |        |      |           |       |
| LAST_NAME  | SALARY   |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| King   | 24000  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Kochhar  | 17000  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| De Haan  | 17000  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Hartstein  | 13000  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| <p>Display the last name and salary for any employee whose salary is not in the range of \$5,000 to \$12,000.</p>  | <table><tr><th>LAST_NAME</th><th>SALARY</th></tr><tr><td>King</td><td>24000</td></tr><tr><td>Kochhar</td><td>17000</td></tr><tr><td>De Haan</td><td>17000</td></tr><tr><td>Lorentz</td><td>4200</td></tr><tr><td>Rajs</td><td>3500</td></tr><tr><td>Davies</td><td>3100</td></tr><tr><td>Matos</td><td>2600</td></tr><tr><td>Vargas</td><td>2500</td></tr><tr><td>Whalen</td><td>4400</td></tr><tr><td>Hartstein</td><td>13000</td></tr></table> | LAST_NAME          | SALARY        | King           | 24000          | Kochhar         | 17000     | De Haan | 17000 | Lorentz   | 4200   | Rajs | 3500 | Davies | 3100 | Matos | 2600 | Vargas | 2500 | Whalen | 4400 | Hartstein | 13000 |
| LAST_NAME  | SALARY   |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| King   | 24000  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Kochhar  | 17000  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| De Haan  | 17000  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Lorentz  | 4200   |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Rajs   | 3500   |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Davies   | 3100   |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Matos  | 2600   |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Vargas   | 2500   |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Whalen   | 4400   |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Hartstein  | 13000  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| <p>The HR department needs a report that displays the last name and hire date for all employees who were hired in 1994</p>   | <table><tr><th>LAST_NAME</th><th>HIRE_DATE</th></tr><tr><td>Higgins</td><td>07-JUN-94</td></tr><tr><td>Gietz</td><td>07-JUN-94</td></tr></table>   | LAST_NAME          | HIRE_DATE     | Higgins        | 07-JUN-94      | Gietz           | 07-JUN-94 |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| LAST_NAME  | HIRE_DATE  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Higgins  | 07-JUN-94  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Gietz  | 07-JUN-94  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| <p>Create a report to display the last name, salary, and commission of all employees who earn commissions. Sort data in descending order of salary and commissions.</p>                              | <table><tr><th>LAST_NAME</th><th>SALARY</th><th>COMMISSION_PCT</th></tr><tr><td>Abel</td><td>11000</td><td>.3</td></tr><tr><td>Zlotkey</td><td>10500</td><td>.2</td></tr><tr><td>Taylor</td><td>8600</td><td>.2</td></tr><tr><td>Grant</td><td>7000</td><td>.15</td></tr></table>  | LAST_NAME          | SALARY        | COMMISSION_PCT | Abel           | 11000           | .3        | Zlotkey | 10500 | .2        | Taylor | 8600 | .2   | Grant  | 7000 | .15   |      |        |      |        |      |           |       |
| LAST_NAME  | SALARY   | COMMISSION_PCT     |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Abel   | 11000  | .3                 |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Zlotkey  | 10500  | .2                 |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Taylor   | 8600   | .2                 |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Grant  | 7000   | .15                |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| <p>Display all employee last names in which the third letter of the name is a.</p>   | <table><tr><th>LAST_NAME</th></tr><tr><td>Grant</td></tr><tr><td>Whalen</td></tr></table>  | LAST_NAME          | Grant         | Whalen         |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| LAST_NAME  |  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Grant  |  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |
| Whalen   |  |                    |               |                |                |                 |           |         |       |           |        |      |      |        |      |       |      |        |      |        |      |           |       |

| Display the last name of all employees who have both an 'a' and an 'e' in their last name. 7   | <table><tr><th></th></tr><tr><td>Davies</td></tr><tr><td>De Haan</td></tr><tr><td>Hartstein</td></tr><tr><td>Whalen</td></tr></table>  |             | Davies        | De Haan | Hartstein  | Whalen  |       |         |        |         |         |          |       |       |          |      |  |
|--|--|-------------|---------------|---------|------------|---------|-------|---------|--------|---------|---------|----------|-------|-------|----------|------|--|
|  |  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Davies   |  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| De Haan  |  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Hartstein  |  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Whalen   |  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Display the last name, job, and salary for all employees whose job is sales representative or stock clerk and whose salary is not equal to \$2,500, \$3,500, or \$7,000 8  | <table><tr><th>LAST_NAME</th><th>JOB_ID</th><th>SALARY</th></tr><tr><td>Abel</td><td>SA_REP</td><td>11000</td></tr><tr><td>Taylor</td><td>SA_REP</td><td>8600</td></tr><tr><td>Davies</td><td>ST_CLERK</td><td>3100</td></tr><tr><td>Matos</td><td>ST_CLERK</td><td>2600</td></tr></table> | LAST_NAME   | JOB_ID        | SALARY  | Abel       | SA_REP  | 11000 | Taylor  | SA_REP | 8600    | Davies  | ST_CLERK | 3100  | Matos | ST_CLERK | 2600 |  |
| LAST_NAME  | JOB_ID   | SALARY      |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Abel   | SA_REP   | 11000       |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Taylor   | SA_REP   | 8600        |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Davies   | ST_CLERK   | 3100        |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Matos  | ST_CLERK   | 2600        |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| The HR department needs a report to display the employee number, last name, salary, and salary increased by 15.5% (expressed as a whole number) for each employee. 9   | <table><tr><th>EMPLOYEE_ID</th><th>LAST_NAME</th><th>SALARY</th><th>New Salary</th></tr><tr><td>100</td><td>King</td><td>24000</td><td>27720</td></tr><tr><td>101</td><td>Kochhar</td><td>17000</td><td>19635</td></tr><tr><td colspan="4">...</td></tr></table>                           | EMPLOYEE_ID | LAST_NAME     | SALARY  | New Salary | 100     | King  | 24000   | 27720  | 101     | Kochhar | 17000    | 19635 | ...   |          |      |  |
| EMPLOYEE_ID  | LAST_NAME  | SALARY      | New Salary    |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| 100  | King   | 24000       | 27720         |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| 101  | Kochhar  | 17000       | 19635         |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| ...  |  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Write a query that displays the last name (with the first letter uppercase and all other letters lowercase) and the length of the last name for all employees whose name starts with the letters J, A, or M. Give each column an appropriate label. Sort the results by the employees' last names 10   | <table><tr><th>Name</th><th>Length</th></tr><tr><td>Abel</td><td>4</td></tr><tr><td>Matos</td><td>5</td></tr><tr><td>Mourgos</td><td>7</td></tr></table>   | Name        | Length        | Abel    | 4          | Matos   | 5     | Mourgos | 7      |         |         |          |       |       |          |      |  |
| Name   | Length   |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Abel   | 4  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Matos  | 5  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Mourgos  | 7  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| The HR department wants to find the length of employment for each employee. For each employee, display the last name and calculate the number of months between today and the date on which the employee was hired. Label the column MONTHS_WORKED. Order your results by the number of months employed. Round the number of months up to the nearest whole number. 11 | <table><tr><th>LAST_NAME</th><th>MONTHS_WORKED</th></tr><tr><td>Zlotkey</td><td>47</td></tr><tr><td>Mourgos</td><td>50</td></tr><tr><td>Grant</td><td>55</td></tr><tr><td>Lorentz</td><td>59</td></tr><tr><td>Varaas</td><td>66</td></tr></table> <p>Your Result May Differ</p>            | LAST_NAME   | MONTHS_WORKED | Zlotkey | 47         | Mourgos | 50    | Grant   | 55     | Lorentz | 59      | Varaas   | 66    |       |          |      |  |
| LAST_NAME  | MONTHS_WORKED  |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Zlotkey  | 47   |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Mourgos  | 50   |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Grant  | 55   |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Lorentz  | 59   |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |
| Varaas   | 66   |             |               |         |            |         |       |         |        |         |         |          |       |       |          |      |  |

Create a report that produces the following for each employee:  
<employee last name> earns <salary> monthly but wants <3 times salary>. Label the column Dream Salaries.

| Dream Salaries |  |
|----------------|--|
| King           | earns \$24,000.00 monthly but wants \$72,000.00. |
| Kochhar        | earns \$17,000.00 monthly but wants \$51,000.00. |
| De Haan        | earns \$17,000.00 monthly but wants \$51,000.00. |
| ...            |  |

Create a query to display the last name and salary for all employees. Format the salary to be 15 characters long, left-padded with the \$ symbol. Label the column SALARY

| LAST_NAME | SALARY                  |
|-----------|-------------------------|
| King      | \$\$\$\$\$\$\$\$\$24000 |
| Kochhar   | \$\$\$\$\$\$\$\$\$17000 |
| De Haan   | \$\$\$\$\$\$\$\$\$17000 |
| Hunold    | \$\$\$\$\$\$\$\$\$9000  |
| ...       |                         |

Display each employee's last name, hire date, and salary review date, which is the first Monday after six months of service. Label the column REVIEW. Format the dates to appear in the format similar to "Monday, the Thirty-First of July, 2000."

| LAST_NAME | HIRE_DATE | REVIEW                                     |
|-----------|-----------|--|
| King      | 17-JUN-87 | Monday, the Twenty-First of December, 1987 |
| Kochhar   | 21-SEP-89 | Monday, the Twenty-Sixth of March, 1990    |
| De Haan   | 13-JAN-93 | Monday, the Nineteenth of July, 1993       |
| Hunold    | 03-JAN-90 | Monday, the Ninth of July, 1990            |

Display the last name, hire date, and day of the week on which the employee started. Label the column DAY. Order the results by the day of the week, starting with Monday.

| LAST_NAME | HIRE_DATE | DAY     |
|-----------|-----------|---------|
| Grant     | 24-MAY-99 | MONDAY  |
| Ernst     | 21-MAY-91 | TUESDAY |
| Mourgos   | 16-NOV-99 | TUESDAY |

Create a query that displays the employees' last names and commission amounts. If an employee does not earn commission, show "No Commission." Label the column COMM

| LAST_NAME | COMM          |
|-----------|---------------|
| King      | No Commission |
| Kochhar   | No Commission |

Create a query that displays the first eight characters of the employees' last names and indicates the amounts of their salaries with asterisks. Each asterisk signifies a thousand dollars. Sort the data in

| EMPLOYEES_AND_THEIR_SALARIES |       |
|------------------------------|-------|
| King                         | ***** |
| Kochhar                      | ***** |
| De Haan                      | ***** |

descending order of salary. Label it  
EMPLOYEES\_AND\_THEIR\_SALARIES

Using the DECODE function, write  
a query that displays the grade of  
all employees based on the value  
of the column JOB\_ID, using the  
following data:

**Job Grades:**

For AD\_PRES Print A  
For ST\_MAN Print B  
For IT\_PROG Print C  
For SA\_REP Print D  
For ST\_CLERK Print E  
For None of the above Print 0

| JOB_ID     | GRA |
|------------|-----|
| AC_ACCOUNT | 0   |
| AC_MGR     | 0   |
| AD_ASST    | 0   |
| AD_PRES    | A   |
| AD_VP      | 0   |

**Rewrite above with case  
statement.**

Find the highest, lowest, sum,  
and average salary of all  
employees. Label the columns  
Maximum, Minimum, Sum, and  
Average, respectively

| Maximum | Minimum | Sum    | Average |
|---------|---------|--------|---------|
| 24000   | 2500    | 175500 | 8775    |

Find the highest, lowest, sum,  
and average salary for each job.  
Label the columns Maximum,  
Minimum, Sum, and Average

| JOB_ID     | Maximum | Minimum | Sum   | Average |
|------------|---------|---------|-------|---------|
| AC_ACCOUNT | 8300    | 8300    | 8300  | 8300    |
| AC_MGR     | 12000   | 12000   | 12000 | 12000   |
| AD_ASST    | 4400    | 4400    | 4400  | 4400    |
| AD_PRES    | 24000   | 24000   | 24000 | 24000   |

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

| JOB_ID     | COUNT(*) |
|------------|----------|
| AC_ACCOUNT | 1        |
| AC_MGR     | 1        |
| AD_ASST    | 1        |
| AD_PRES    | 1        |
| AD_VP      | 2        |

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.

| TOTAL | 1995 | 1996 | 1997 | 1998 |
|-------|------|------|------|------|
| 20    | 1    | 2    | 2    | 3    |

Create a report to display the  
manager number and the salary  
of the lowest-paid employee for

| MANAGER_ID | MIN(SALARY) |
|------------|-------------|
| 102        | 9000        |
| 205        | 8300        |
| 149        | 7000        |

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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.

Write a query for the HR department to produce the addresses of all the departments. Use the LOCATIONS and COUNTRIES tables. Show the location ID, street address, city, state or province, and country in the output. Use a JOIN to produce the results.

| LOCATION_ID | STREET_ADDRESS      | CITY                | STATE_PROVINCE | COUNTRY_NAME             |
|-------------|---------------------|---------------------|----------------|--------------------------|
| 1400        | 2014 Jabberwocky Rd | Southlake           | Texas          | United States of America |
| 1500        | 2011 Interiors Blvd | South San Francisco | California     | United States of America |

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The HR department needs a report of all employees. Write a query to display the last name, department number, and department name for all employees.

| LAST_NAME | DEPARTMENT_ID | DEPARTMENT_NAME |
|-----------|---------------|-----------------|
| Whalen    | 10            | Administration  |
| Hartstein | 20            | Marketing       |
| Fay       | 20            | Marketing       |

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The HR department needs a report of employees in Toronto. Display the last name, job, department number, and department name for all employees who work in Toronto.

| LAST_NAME | JOB_ID | DEPARTMENT_ID | DEPARTMENT_NAME |
|-----------|--------|---------------|-----------------|
| Hartstein | MK_MAN | 20            | Marketing       |
| Fay       | MK_REP | 20            | Marketing       |

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Create a report to display employees' last name and employee number along with their manager's last name and manager number

| Employee | EMP# | Manager | M# |
|----------|------|---------|----|
| Kochhar  | 101  | King    |    |
| De Haan  | 102  | King    |    |

Modify above query that also display employee (king) who has no manager

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The HR department needs a report on job grades and salaries. Report will look like this

| LAST_NAME | JOB_ID   | DEPARTMENT_NAME | SALARY | GRA |
|-----------|----------|-----------------|--------|-----|
| Matos     | ST_CLERK | Shipping        | 2600   | A   |
| Vargas    | ST_CLERK | Shipping        | 2500   | A   |

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