

7BDINoo6W.1 BIG DATA THEORY AND PRACTICE

Week 5 Seminar Tasks

Exercises on SQL

Log in to Oracle Apex.

Refer to the *Lecture 4 Notes* as a foundational guide for constructing your expressions.

Note: For these tasks, the corresponding solutions will not be provided immediately. They will be made available at the end of the week to give you ample opportunity to explore, attempt, and learn from this exercise. Utilise this chance to delve deeply into the task, experiment with different approaches, and solidify your understanding of SQL expressions and querying.

PART A

Consider the Oracle employees database. Write SQL expressions that will retrieve and display:

- a. Details of employees who work for the Sales department.
- b. Details of employees who either have the same job description as that of JONES or whose salary is greater than or equal to that of FORD.
- c. Details of employees whose job description is among the job descriptions of employees who work for a department located in CHICAGO.
- d. Details of employees who work for a department located in N.Y. or CHICAGO.
- e. Details of employees who are in salary grade 3 and work for a department located in CHICAGO.
- f. Details of employees who are in salary grade 3 or 4, work for a department located in N.Y. or CHICAGO, their job description is SALESMAN and whose name contains the letter "N".
- g. Details of employees who work at the location the SALES department is located and whose job description is not CLERK
- h. The EMPNO of any two employees who work at the same location, i.e. pairs of EMPNO.

- i.** Details of CLERKs who work at any location that a SALESMAN works.
- j.** Details of employees whose job description is MANAGERs and who manage at least one employee whose job description is also MANAGER.
- k.** Details of the employees whose grade is unique at the location they work.
- l.** Details of employees that manage other employees (i.e. their employee number should appear in the mgr column of some other employee) and whose empno value is greater than the empno value of at least one of the employees they manage.
- m.** Details of employees that manage other employees (i.e. their employee number should appear in the mgr column of some other employee) and whose empno value is greater than the empno value of all employees they manage.
- n.** Details of employees who are managed directly by the president.
- o.** Details of departments who have employees earning at least as much as MILLER.
- p.** Details of employees who are managed by an employee whose job description is not MANAGER.
- q.** Details of employees whose combined earnings (i.e. salary + commissions) are greater than those of clerks.
- r.** Descending order of grade and in ascending order of name, the names, salaries and salary grades of all the employees.

PART B

Consider the oracle employees database (emp – dept – salgrade tables). Write SQL expressions that will retrieve:

- a.** Details (i.e. deptno and dname) of departments along with the employee number, name and job description of any employees working for the department (i.e. the details of departments should be displayed irrespective of whether there are any employees working for the department).
- b.** Details (i.e. deptno and dname) of all departments along with the name of any employees whose job description is 'CLERK' (i.e. the details of departments should be displayed irrespective of whether there are any CLERK employees working for the department)
- c.** Details (i.e. deptno and dname) of the departments along with the name of any employees working for the department and the name of their manager (i.e. the details of departments should be displayed irrespective of whether there are any employees working for the department).