

6/2/2022

Exp - 3

SQL DCL & TCL Commands

Aim: To perform manipulate records of table using Select command, Data Control Language (DCL) and Transaction Control Language (TCL) Commands

3A Basic Select Statements

Arithmetic Operators

- + Addition
- Subtraction
- * Multiplication
- / Division

Comparison Operators

- = Equal to
- <> Not Equal to
- < Less than
- > Greater than
- <= Less than equal to
- >= Greater than equal to

IN (List) Match any of list values

LIKE Match a character pattern

IS NULL is a null value

BETWEEN ... AND... Between 2 values

Logical Operators

AND Returns TRUE if both components conditions are TRUE.

OR returns TRUE if either components conditions is TRUE.

NOT returns TRUE if condition is FALSE

MGR	ENAME	SALARY	HIREDATE
7839	JONES	3273	1981/4/22
7839	BLAKE	3135	1981/7/28
7839	CLARK	2695	1981/7/08

MGR	ENAME	SALARY	HIREDATE
7839	JONES	3273	1981/4/22
7839	BLAKE	3135	1981/7/28

O/P
Verified.

Q1} Update all records of manager table by increasing 10% of their salary.

UPDATE manager

SET SALARY = SALARY * 110/100;

SELECT mgr, name, salary, hiredate FROM manager;

Q2} Delete records from ~~new~~ manager table where salary is less than 2750.

DELETE FROM manager

WHERE SALARY < 2750;

SELECT mgr, name, salary, hiredate FROM manager;

Q3} Display each name of Employee as "Name" & Annual salary as "Annual salary"

UPDATE manager

SET SALARY = SALARY * 12;

ALTER TABLE manager RENAME SALARY to ANNUAL-SALARY;

Q4} List concatenated value of name and designation of each employee.

SELECT JOB || ' ' || name as employee
FROM EMP

Q5} List the names of Clerk from employee table.

SELECT NAME FROM EMP WHERE JOB = "CLERK"

Q6} List the details of employees who have joined before 30 Sept 81.

SELECT * FROM EMP WHERE hiredate < (30-09-81);

~~EMPLOYEE~~

EMPLOYEE

CLERK SMITH

SAILSMAN ALLEN

SALESMAN WARD

MANAGER JONES

SALESMAN MARTIN

MANAGER BLAKE

MANAGER CLARK

ANALYST SCOTT

PRESIDENT KING

SALESMAN TURNER

CLERK ADDAMS

CLERK JAMES

CLERK MILLER

ANALYST FORD

SP Newfield

NAME

SMITH

ADDAMS

JAMES

MILLER

Q7) List Details of employees who's employee numbers are 7369, 7837, 7934, 7788.

SELECT empid, ename, job, mgr, hiredate, salary, comm,
deptnum
FROM EMP WHERE empid = 7369 or empid = 7837 or empid =
7934 or empid = 7788.

Q8) List name of employees who are not managers.

SELECT ename FROM EMP WHERE JOB <> "Manager"

Q9) List the name of employees not belonging to dept no 30, 40, &
10.

SELECT ename FROM EMP WHERE deptno ~~<>~~ 30
and deptno <> 40 and deptno <> 10;

Or

SELECT ename FROM EMP WHERE deptno no in (30, 40, 10);

Q10) List the names of these employees joined b/w 30 June
81 and 31 dec 81.

~~SELECT ename FROM EMP WHERE~~
~~WHERE hiredate between '30-June-81' and '31-dec-81';~~

ENAME

SMITH

ALLEN

WARD

MARTIN

SCOTT

KING

TURNER

ADAMS

JAMES

FORD

MILLER

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EMPID	ENAME	JOB	MGR	HIREDATE	SALARY	COMM	DEPTNUM
7369	SMITH	CLERK	7902	17-DEC-80	800	NULL	20
7839	KING	PRESIDENT	NULL	17-Nov-81	5000	NULL	10
7934	MILLER	CLERK	7782	23-JAN-82	1300	NULL	10
7788	SCOTT	ANALYST	7566	19-APR-87	3000	NULL	20

S/P Verified

ENAME

SMITH

JONES

SCOTT

ADAMS

FORD

S/P Verified

Q11} List different designation in Company

SELECT distinct JOB FROM EMP;

Q12} List the names of employee not eligible for commission

SELECT ENAME FROM EMP WHERE COMM = NULL;

Q13} List the name & designations of employee who does not report to anybody

SELECT ename, JOB FROM EMP WHERE job = 'MANAGER'

Q14} List all employees not assigned to any department

SELECT ename FROM EMP~~DEPT~~ WHERE JOB = NULL

Q15} List names of employees who are eligible for commission

SELECT ename FROM EMP WHERE job <> NULL

* Q16} List employees whose name either start or end with 'S'.

SELECT ename FROM EMP WHERE ename like ('%S') OR
~~OR~~ ename like ('S%');

Q17} List names of employees whose names have 'q' as second character.

SELECT ename FROM EMP WHERE ename like '_q%';

Q18} Sort emp table in ascending order by hiredate and list ename, job, dept no and hire date.

SELECT ename, job, deptno, hiredate FROM EMP ORDER BY hiredate;

Q19} Sort emp table in descending order of salary , list empno,ename,job & annual salary.

SELECT empno, ename, job, hiredate FROM EMP ORDER BY SALARY DESC,

JOB

CLERK

SALESMAN

MANAGER

ANALYST

PRESIDENT

ENAME

ALLEN

WARD

MARTIN

ENAME

SMITH

JONES

SCOTT

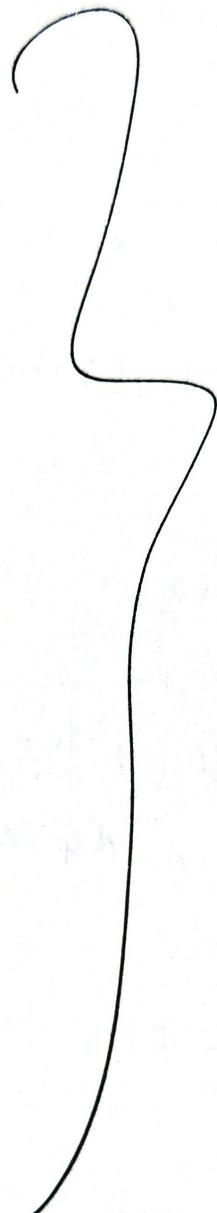
ADAMS

JAMES

ENAME

KING

MILLER



8) P
Very fine

* Q20) List ename, deptno and sal after sorting emp table in ascending order by deptno and descending order by salary.

```
SELECT ename, job, salary FROM EMP GROUP BY @deptno  
ORDER BY salary DESC;
```

3 B DCL & TCL Commands

DCL is Data Control Language statements. Examples →

GRANT - gives user's access privileges to database

REVOKE - withdraw access privileges given with GRANT command.

Database Transactions :-

- Begin when the first executable statement is executed
- End with one of the following events →
 - COMMIT or ROLLBACK
 - DDL or DCL statement executes (automatic commit)
 - User exits
 - System crashes

TCL (Transaction Control Language)

- TCL statements are COMMIT, ROLLBACK & SAVE POINT
- State of Data Before COMMIT or ROLLBACK
 - The prev state of the data can be restored
 - The current user can review the results of DML operations by using SELECT statement.

ENAME	SALARY
SMITH	800
ALLEN	1600
WARD	1250
JONES	2975
MARTIN	1

ENAME	JOB	SALARY
CLARK	MANAGER	2450
ALLEN	SALESMAN	1600
SMITH	CLERK	800

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EMANO	ENAME	JOB	HIREDATE
7839	KING	PRESIDENT	17-NOV-81
7788	SCOTT	ANALYST	19-Apr-81
7902	FORD	ANALYST	3-DEC-81
7566	JONES	MANAGER	2-Apr-81
7698	BLAKE	MANAGER	1-MAY-81
7782	CLARK	MANAGER	9-JUN-81
7499	ALLEN	SALESMAN	20-JEB-81
7844	TURNER	SALESMAN	08-SEP-81
7934	MILLER	CLERK	23-JAN-82
7521	WARD	SALESMAN	22-SEP-81
7654	MARTIN	SALESMAN	28-JUL-81
7876	ADAMS	CLERK	23-MAR-81
7900	JAMES	CLERK	03-OEC-81
7369	SMITH	CLERK	17-DEC-80

S/P Verified

Q1} Change Loc = 'CHICAGO' for deptno = 30 in DEPT table
and COMMIT the transaction.

Update DEPT set LOC = 'CHICAGO' WHERE deptno = 30;
COMMIT;

Q2} Delete all rows from EMP table & ROLLBACK the transaction

DELETE FROM EMP;
ROLLBACK;

Q3} Change Loc = 'Boston' for deptno = 40 in DEPT table.

UPDATE DEPT set LOC = 'BOSTON' WHERE deptno = 40;

(b) Create SAVEPOINT in the name 'update_over'.

SAVEPOINT update_over;

(c) Insert another row in DEPT Table with your own value.

INSERT INTO DEPT (deptno, name, loc) VALUE (50, 'Lakshya', 'Toronto');

(d) Rollback the transaction upto the point 'update_over'.

ROLLBACK to update_over;

Result: Thus, DCL & TCL Commands are ~~not~~ executed.