TERADATA SQL HANDS\_ON

Project description:

This series of tasks help the participant understand how to create table, insert records, update records and efficiently write basic queries in Teradata.

1. Create tables are per the below specification.

CREATE TABLE DEPT (

DEPTNO NUMERIC(2) NOT NULL,

DNAME CHAR(14),

LOC CHAR(13),

CONSTRAINT DEPT\_PRIMARY\_KEY PRIMARY KEY (DEPTNO));

INSERT INTO DEPT VALUES (10,'ACCOUNTING','NEW YORK');

INSERT INTO DEPT VALUES (20,'RESEARCH','DALLAS');

INSERT INTO DEPT VALUES (30,'SALES','CHICAGO');

INSERT INTO DEPT VALUES (40,'OPERATIONS','BOSTON');

CREATE TABLE EMP (

EMPNO NUMERIC(4) NOT NULL,

ENAME CHAR(10),

JOB CHAR(9),

MGR NUMERIC(4) CONSTRAINT EMP\_SELF\_KEY REFERENCES EMP (EMPNO),

HIREDATE DATE,

SAL NUMERIC(7,2),

COMM NUMERIC(7,2),

DEPTNO NUMERIC(2) NOT NULL,

CONSTRAINT EMP\_FOREIGN\_KEY FOREIGN KEY (DEPTNO) REFERENCES DEPT (DEPTNO),

CONSTRAINT EMP\_PRIMARY\_KEY PRIMARY KEY (EMPNO));

INSERT INTO EMP VALUES (7839,'KING','PRESIDENT',NULL,'17-NOV-81',5000,NULL,10);

INSERT INTO EMP VALUES (7698,'BLAKE','MANAGER',7839,'1-MAY-81',2850,NULL,30);

INSERT INTO EMP VALUES (7782,'CLARK','MANAGER',7839,'9-JUN-81',2450,NULL,10);

INSERT INTO EMP VALUES (7566,'JONES','MANAGER',7839,'2-APR-81',2975,NULL,20);

INSERT INTO EMP VALUES (7654,'MARTIN','SALESMAN',7698,'28-SEP-81',1250,1400,30);

INSERT INTO EMP VALUES (7499,'ALLEN','SALESMAN',7698,'20-FEB-81',1600,300,30);

INSERT INTO EMP VALUES (7844,'TURNER','SALESMAN',7698,'8-SEP-81',1500,0,30);

INSERT INTO EMP VALUES (7900,'JAMES','CLERK',7698,'3-DEC-81',950,NULL,30);

INSERT INTO EMP VALUES (7521,'WARD','SALESMAN',7698,'22-FEB-81',1250,500,30);

INSERT INTO EMP VALUES (7902,'FORD','ANALYST',7566,'3-DEC-81',3000,NULL,20);

INSERT INTO EMP VALUES (7369,'SMITH','CLERK',7902,'17-DEC-80',800,NULL,20);

INSERT INTO EMP VALUES (7788,'SCOTT','ANALYST',7566,'09-DEC-82',3000,NULL,20);

INSERT INTO EMP VALUES (7876,'ADAMS','CLERK',7788,'12-JAN-83',1100,NULL,20);

INSERT INTO EMP VALUES (7934,'MILLER','CLERK',7782,'23-JAN-82',1300,NULL,10);

INSERT INTO EMP VALUES (7782,'CLARK','MANAGER',7839,'1981-06-09',2450,NULL,10);

INSERT INTO EMP VALUES (7566,'JONES','MANAGER',7839,'1981-04-02',2975,NULL,20);

INSERT INTO EMP VALUES (7654,'MARTIN','SALESMAN',7698,'1981-09-28',1250,1400,30);

INSERT INTO EMP VALUES (7499,'ALLEN','SALESMAN',7698,'1981-02-20',1600,300,30);

INSERT INTO EMP VALUES (7844,'TURNER','SALESMAN',7698,'1981-09-08',1500,0,30);

INSERT INTO EMP VALUES (7900,'JAMES','CLERK',7698,'1981-12-03',950,NULL,30);

INSERT INTO EMP VALUES (7521,'WARD','SALESMAN',7698,'1981-02-22',1250,500,30);

INSERT INTO EMP VALUES (7902,'FORD','ANALYST',7566,'1981-12-03',3000,NULL,20);

INSERT INTO EMP VALUES (7369,'SMITH','CLERK',7902,'1980-12-17',800,NULL,20);

CREATE TABLE BONUS (

ENAME CHAR(10),

JOB CHAR(9),

SAL NUMERIC,

COMM NUMERIC);

CREATE TABLE SALGRADE (

GRADE NUMERIC,

LOSAL NUMERIC,

HISAL NUMERIC);

INSERT INTO SALGRADE VALUES (1,700,1200);

INSERT INTO SALGRADE VALUES (2,1201,1400);

INSERT INTO SALGRADE VALUES (3,1401,2000);

INSERT INTO SALGRADE VALUES (4,2001,3000);

INSERT INTO SALGRADE VALUES (5,3001,9999);

Execute the below queries

1. List all columns and all rows of employee table

ANS: Select \* From Emp;

1. List employee number, name and salary from employee table

ANS: select empno,ename,sal from emp;

1. List employee number, name and salary from employee table where salary is > 3000

ANS : select empno,ename,sal from emp where sal>3000

1. List employees joined after 1981

select \* from emp where year(hiredate)>1981;

1. List all clerks

select \* from emp where job = 'clerk'

1. List employees in the ascending order of salary

select \* from emp order by sal

1. List employees in ascending order of job within descending order deptno

select \* from emp order by job , deptno desc

1. List distinct department

select distinct dname from dept

1. List distinct jobs in each department

select distinct job from emp,dept d where emp.deptno = d.deptno

1. List name, salary and annual salary in the descending order of annual salary

select ename,sal,sal\*12 as annualsal from emp order by annualsal desc

1. List your session number, default database and user name of the current session

SELECT SESSION,database,user;

1. List all objects in your database

select \* from dbc.tables where databasename='newdb';

1. List the structure of EMP table

help table emp

1. Get the syntax SQL SELECT statement

Select attribute(s) from table name where clause

1. Get the current source code of EMP table

show table emp;

1. Produce the execution plan of your SQL statement
2. List employees whose salary is not in the range of 2000 and 3000

select ename , sal from emp where not sal between 2000 and 3000

1. List name and the department for all employees who are NOT members of departments 10 and 20

select ename from emp where deptno not in(10,20)

1. List employees for whom COMM is not applicable

select ename from emp where comm is null

1. List employees for whom COMM is applicable

select ename from emp where comm is not null

1. List employees in ascending order of COMM and note who NULLs are sorted

select ename,comm from emp order by comm asc

1. List employees whose names start with ‘K’

select ename from emp where ename like 'k%'

1. List employees whose names contain ‘K’

select ename from emp where ename like '%k%'

1. List employees whose name start with an \_ char.

select ename from emp where ename like '\_%'

1. List total, maximum, minimum , average of salary from employee table

select sum(sal),min(sal),max(sal),avg(sal) from emp

1. List average and count of commission of all employees in department 10

select avg(comm),count(comm) from emp where deptno=10

1. List department wise no of employees and total salary

select count(ename),sum(sal) ,deptno from emp group by deptno

1. List total salary Job wise within each department

select distinct job , sum(sal) from emp group by job,deptno

1. List department wise total salary for deptno 10 and 20 only

select sum(sal) from emp group by deptno where deptno !=30

1. List department wise total salary where total salary is > 6000

select sum(sal) from emp group by deptno

1. SELECT COUNT(\*), COUNT(COMM) FROM EMP; - explain why the two counts are different

Count(\*) - returns the number of rows in a specified table, and it preserves duplicate rows.

Count(comm) – This will just print the number of comm values.

1. Update the Employees table and increase the salary by 15%

Update emp set sal=sal+(sal\*0.15)

1. Update the commission column value to 1000 for all the employees who are not getting any commission

Update emp set comm=1000 where comm=null

1. Delete all the records where salary is less than 3000

Delete from emp where sal<3000

1. Delete all the records where commission is null

Delete from emp where comm!=null

--------------happy learning-----------------