DBMS Lab Practical

**Lab Practical No.1**

**Question:**

1. (Exercise on retrieving records from the table) EMPLOYEES (Employee\_Id, First\_Name, Last\_Name, Email, Phone\_Number, Hire\_Date, Job\_Id, Salary, Commission\_Pct, Manager\_Id, Department\_Id)

( a) Find out the employee id, names, salaries of all the employees

( b) List out the employees who works under manager 100

( c) Find the names of the employees who have a salary greater than or equal to 4800

( d) List out the employees whose last name is ‘AUSTIN’

( e) Find the names of the employees who works in departments 60,70 and 80

( f ) Display the unique Manager\_Id

Employees table:

1. create an employee’s table with the following fields:

(Emp\_id,First\_name,Last\_name,Phone\_No,Hire\_date,Job\_id,Emp\_Salary,Comission\_Pct,manager\_id,Department\_id)

Query:

create table Employees (Emp\_id NUMBER(6),First\_name CHAR(25),Last\_name CHAR(20),Phone\_No NUMBER(12),Hire\_date DATE,Job\_Id NUMBER(5),Emp\_Salary NUMBER(7),Comission\_Pct NUMBER(5),manager\_id NUMBER(5),Department\_id NUMBER(5));

1. Insert five records into the table employees:

Query:

SQL> insert into employees values(47401,'Rama','Rao',8965324170,'28-Jan-2003',301,60000,601,100,60);

1 row created.

SQL> insert into employees values(47402,'Ranga','Reddy',7020321450,'23-Jun-2004',302,56464,602,101,70);

1 row created.

SQL> insert into employees values(47403,'Raja','Shekhar',9848002255,'12-aug-2004',303,58451,603,103,80);

1 row created.

SQL> insert into employees values(47404,'Ravi',' AUSTIN ',9701811356,'30-sep-2006',304,36520,604,100,90);

1 row created.

SQL> insert into employees values(47405,'Ranga','Raju',9032553262,'17-May-2014',305,2568,605,105,60);

1 row created.

SQL> Select \* from Employees;

1. Display the table Employees :

Query:

sql>select \* from employees;

**a) Find out the employee id, names, salaries of all the employees**

Query:

sql>select Emp\_id,First\_Name,Last\_Name,Emp\_Salary from employees;

**b) List out the employees who works under manager 100**

Query:

sql>select \* from employees where manager\_id=100;

**c) Find the names of the employees who have a salary greater than or equal to 4800**

Query:

sql>select \* from employees where EMP\_SALARY>=4800;

**d) List out the employees whose last name is ‘AUSTIN’**

Query:

sql>select \* from employees where Last\_Name='AUSTIN ';

**e) Find the names of the employees who works in departments 60,70 and 80**

Query: sql>select \* from employees where DEPARTMENT\_ID IN(60,70,80);

**f)** **Display the unique Manager\_Id from employees table**

Query:

sql>select DISTINCT(MANAGER\_ID) from employees;

**Lab Practical No: 2**

**Question:**

(Exercise on updating records in table)Create Client\_master with the following fields(ClientNO, Name, Address, City, State, bal\_due)

( a ) Insert five records

( b ) Find the names of clients whose bal\_due> 5000 .

( c ) Change the bal\_due of ClientNO “ C123” to Rs. 5100

( d ) Change the name of Client\_master to Client12 .

( e ) Display the bal\_due heading as “BALANCE” Client master table:

1. create a client master table with attributes (Client\_no,Client\_Name,Client\_Address,Client\_City,Client\_State,Balance\_Due)

Query:

create table Client\_Master(Client\_no varchar(6),Client\_Name char(25),Client\_Address varchar(25),Client\_City varchar(20),Client\_State varchar(20),Balance\_Due number(20));

1. insert five records into the Client\_Master

Query:

sql>insert INTO CLIENT\_MASTER Values('C123','Ramesh','L B Nagar', 'Hyderabad', 'Telangana', 7000);

sql>insert INTO CLIENT\_MASTER Values('C124', 'Suresh', 'Dilsuknagar', 'Hyderabad', 'Telangana',6000);

sql>insert INTO CLIENT\_MASTER Values('C125','Vignesh','Saroor nagar', 'Hyderabad', 'Telangana',3500);

sql>insert INTO CLIENT\_MASTER Values('C126','Rajiv','A S Rao Nagar','Hyderabad', 'Telangana',4500);

sql>insert INTO CLIENT\_MASTER Values('C127','Ranga', 'Vanasthalipuram','Hyderabad', 'Telangana',5478);

1. Display Client Master Table

Query: sql>select \* from Client\_Master;

1. **Find the name of Clients whose balance\_due >5000**

Query: sql>select Client\_Name from Client\_Master where Balance\_Due>5000;

**c) Change the bal\_due of ClientNO “ C123” to Rs. 5100**

Query: sql>update Client\_Master set Balance\_Due=5100 where Client\_No='C123';

**d ) Change the name of Client\_master to Client12 .**

Query: sql>rename Client\_Master to Client12;

**e ) Display the bal\_due heading as “BALANCE” Client master table:**

Query: sql> select Client\_No, Balance\_Due Balance from Client\_Master

**Lab Practical No: 3**

**Question:**

Rollback and Commit commands

Create Teacher table with the following fields(Name, DeptNo, Date of joining, DeptName, Location, Salary)

( a ) Insert five records

( b ) Give Increment of 25% salary for Mathematics Department .

( c ) Perform Rollback command

( d ) Give Increment of 15% salary for Commerce Department

( e ) Perform commit command

**Create Teacher table with the following fields(Id,Name, DeptNo, Date of joining, DeptName, Location, Salary)**

Query :

SQL> create table teacher(Id number(2) primary key, name varchar2(20) not null, Deptno number(2) not null, Deptname varchar2(20) not null, joinDate date not null, location varchar2(20) not null, salary number(10,2) not null);

**( a ) Insert five records**

SQL> insert into teacher values(10,'kiran',4,'computer science', '03-Jun-2003', 'hyderabad', 50000);

SQL> insert into teacher values(11,'ramu',5,'mathematics', '13-Jul-2008', 'hyderabad', 40000);

SQL> insert into teacher values(12,'raju',6,'commerce', '23-Dec-2005', 'abids', 30000);

SQL> insert into teacher values(13,'manirathnam',6,'commerce', '18-Dec-2006', 'abids', 30000);

SQL> insert into teacher values(14,'sita',6,'commerce', '28-Aug-2016', 'kingkoti', 23000);

**( b ) Give Increment of 25% salary for Mathematics Department .**

Sql> update teacher set salary= salary+(salary \* 0.25) where Deptname= ‘mathematics';

**( c ) Perform Rollback command**

Sql>rollback;

**( d ) Give Increment of 15% salary for Commerce Department**

Sql> update teacher set salary= salary+(salary \* 0.15) where Deptname= ‘commerce';

( e ) Perform commit command

Sql>commit;

**Lab Practical No: 4**

**Question:**

4 . (Exercise on order by and group by clauses) Create Sales table with the following fields( Sales No, Salesname, Branch, Salesamount, DOB)

( a ) Insert five records

( b ) Calculate total salesamount in each branch

( c ) Calculate average salesamount in each branch .

( d ) Display all the salesmen, DOB who are born in the month of December as day in character format i.e. 21-Dec-09

( e ) Display the name and DOB of salesman in alphabetical order of the month.

Sales Table:

**Create a Sales Table with the following fields (Sales\_No,Sales\_Name,Branch,Sales\_Amount,DOB)**

Query:

Sql> Create Table Sales(Sales\_No number(5),Sales\_Name char(25),Branch char(25), Sales\_Amount number(10), DOB Date);

( a ) Insert five records

( b ) Calculate total salesamount in each branch

( c ) Calculate average salesamount in each branch .

( d ) Display all the salesmen, DOB who are born in the month of December as day in character format i.e. 21-Dec-09

( e ) Display the name and DOB of salesman in alphabetical order of the month.

Query:

Sql> insert into Sales VALUES(1020,'AutoMobiles','Hyderabad',68452,'28-JUL-1985');

Sql> insert into Sales VALUES(1021,'Electronics','Secunderabad',47850,'22-DEC-1995');

Sql> insert into Sales VALUES(1022,'Electronics','Secunderabad',44500,'03-JUN-1986');

Sql> insert into Sales VALUES(1023,'AutoMobiles','Hyderabad',74200,'28-SEP-1996');

Sql> insert into Sales VALUES(1024,'AutoMobiles','Hyderabad',54500,'28-OCT-1984');

**Display the Sales table:**

Query: sql>select \* from Sales;

**( b ) Calculate total salesamount in each branch**

Query: sql>select branch, sum(Sales\_Amount) from sales group by Branch;

**( c ) Calculate average salesamount in each branch .**

Query:

selectbranch,avg(Sales\_Amount) from sales group by Branch;

**( d ) Display all the salesmen, DOB who are born in the month of December as day in character format i.e. 21-Dec-09**

Query:

SQL> select Sales\_Name, DOB from sales where SUBSTR(DOB,4,3)='DEC';

**( e ) Display the name and DOB of salesman in alphabetical order of the month.**

Query:

sql>select Sales\_Name,to\_char(DOB,'MONTH') from sales Order by to\_Char(DOB,'Day');

**Lab Practical No: 5**

**Question:**

5. Create an Emp table with the following fields:(EmpNo, EmpName, Job,Basic, DA, HRA,PF, GrossPay, NetPay)

(Calculate DA as 30% of Basic and HRA as 40% of Basic)

( a ) Insert Five Records and calculate GrossPay and NetPay.

( b ) Display the employees whose Basic is lowest in each department .

( c ) If NetPay is less than <Rs. 10,000 add Rs. 1200 as special allowances .

( d ) Display the employees whose GrossPay lies between 10,000 & 20,000

( e ) Display all the employees who earn maximum salary .

Employee Table

**create an employee table with the following fields:**

**(Emp\_No,Emp\_ Name, Designation, basic, DA, HRA, PF, Gross pay, Net pay);**

Query:

Sql> create table Employee (Emp\_No number(6) primary key, Emp\_Name char(25) not null , Designation varchar(25),Emp\_Basic number(10,2));

( a ) Insert Five Records and calculate GrossPay and NetPay.

Query:

insert into Employee values(4019,'Talatam Venkatesh','Director',10000);

insert into Employee values(4039,'Gumaa','Technical Engineer',15000);

insert into Employee values(4015,'Anudeep Varma','Technical Engineer',12000);

insert into Employee values(4016,'I Vasudeva Varma','Technical Engineer',13000);

insert into Employee values(4027,'Uday Reddy','Director',16000);

insert into Employee values(4006,'Sai Mani','Director',10000);

**#Updating Attributes DA, HRA, PF, Gross pay, Net Pay ?**

**# Adding coloumn to table and Updating Attributes DA**

Sql>alter table employeeadd(Emp\_DA number(6));

Sql>update Employeeset Emp\_DA=(30/100)\*Emp\_Basic;

**# Adding coloumn to table and Updating Attributes HRA**

Sql>alter table employee add(Emp\_HRA number(6));

update Employee set Emp\_HRA=(40/100)\*Emp\_Basic;

**# Adding coloumn to table and Updating Attributes PF**

Sql>alter table employee add (Emp\_PF number(6));

Sql> Employee set Emp\_pf= Emp\_basic\*(12/100);

**# Adding coloumn to table and Updating Attributes Gross Pay**

Sql>alter table employee add (Emp\_Grosspay number(6));

Sql>update Employee set Emp\_grosspay= EMp\_hra+emp\_da+emp\_basic;

**# Adding coloumn to table and Updating Attributes Net Pay**

alter table employee add (Emp\_netpay number(6));

update Employee set Emp\_netpay=emp\_grosspay-emp\_pf;

**Display the employeetable:**

Query: sql>select \* from employee;

**( b ) Display the employees whose Basic is lowest in each department .**

Query: sql>select min(emp\_basic) from employee group by designation;

**( c ) If NetPay is less than <Rs. 10,000 add Rs. 1200 as special allowances .**

Query:

Sql> update employee set emp\_netpay=emp\_netpay+1200 where emp\_netpay<30000;

**( d ) Display the employees whose GrossPay lies between 10,000 & 20,000**

Query: sql>select \* from employee where emp\_grosspay between 10000 and 20000;

**( e ) Display all the employees who earn maximum salary .**

Query:

sql>select \* from employee where emp\_grosspay = (select max(emp\_grosspay) from employee);

**Lab Practical No:6**

**Question:**

6. Employee Database An Enterprise wishes to maintain a database to automate its operations. Enterprise is divided into certain departments and each department consists of employees. The following two tables describes the automation schemas

Dept (deptno, dname, loc)

Emp (empno, ename, job, mgr, hiredate, sal, comm, deptno)

a)Update the employee salary by 15%, whose experience is greater than 10 years.

b)Delete the employees, who completed 30 years of service.

c)Display the manager who is having maximum number of employees working under him?

d)Create a view, which contain employee names and their manager

**Creating Dept and Emp table**

**Create Dept table : Dept (deptno, dname, loc)**

Sql> create table dept(deptno number(3) primary key, dname varchar2(30) not null, loc varchar2(30) not null);

**Create Dept table : Emp (empno, ename, job, mgr, hiredate, sal, comm, deptno)**

Sql>create table emp(empno number(3) primary key, ename varchar2(20) not null, job varchar2(20) not null, mgr number(3) references emp(empno), hiredate date not null, sal number(10,2) not null, comm Number(10,2), deptno number(3));

**Inserting data int Dept and Emp tables**

**Inserting data into Dept table**

Sql>insert into dept values(101, ‘FINANCE’,’ SYDNEY’);

Sql>insert into dept values(102, ‘AUDIT’,’ MELBOURNE’);

Sql>insert into dept values(103, ‘MARKETING’,’ PERTH’);

Sql>insert into dept values(104, ‘PRODUCTION’,’ BRISBANE’);

Sql>insert into dept values(105, ‘Humanresource’,’ hyderabad’);

**Inserting data into Emp table**

Sql> insert into emp (empno, ename ,job, hiredate, sal, deptno) values

(68319,’KAYLING’,’PRESIDENT’,’18-Nov-1991’,6000.00,101);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(66928,’ BLAZE’,’ MANAGER’,68319,’09 -Jun-1991’, 2750.00,103);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(67832,’ CLARE’,’ MANAGER’,68319,’18-Nov-1991’, 2550.00,101);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(65646,’ JONAS’,’ MANAGER’,68319,’02-Apr-1991’, 2957.00,102);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(67858,’ SCARLET’,’ ANALYST’, 65646,’19-Apr-1997’, 3100.00,102);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(69062,’ FRANK’,’ ANALYST’, 65646,’03-Dec-1991’, 3100.00,102);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(63679,’ SANDRINE’,’ CLERK’, 69062,’18-Dec-1990’, 900.00,102);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal,comm, deptno) values

(64989,’ ADELYN’,’ SALESMAN’, 66928,’20-Feb-1991’, 1700.00,400, 103);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal,comm, deptno) values

(65271,’ WADE’,’ SALESMAN’, 66928,’22-Feb-1991’, 1350.00,600, 103);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal,comm, deptno) values

(66564,’ MADDEN’,’ SALESMAN’, 66928,’28-Sep-1991’, 1350.00,1500, 103);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal,comm, deptno) values

(68454,’ TUCKER’,’ SALESMAN’, 66928,’08-Sep-1991’, 1600.00, 0, 103);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(68736,’ ADNRES’,’ CLERK’, 67858,’23-May-1997’, 1200.00,102);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(69000,’ JULIUS’,’ CLERK’, 66928,’03-Dec-1991’, 1050.00,103);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(69324,’ MARKER’,’ CLERK’, 67832,’23-Jan-1992’, 1400.00,101);

Sql> insert into emp (empno, ename ,job,mgr, hiredate, sal, deptno) values

(69924,’ MARKER’,’ CLERK’, 67832,’23-Jan-1992’, 1400.00,104);

**a)Update the employee salary by 15%, whose experience is greater than 30 years.**

Query

Sql> update emp set sal=sal+(sal\*0.15) where (sysdate-hiredate)/365>30;

**b)Delete the employees, who completed 30 years of service.**

Sql> delete from emp where (sysdate-hiredate)/365>30;

**c)Display the manager who is having maximum number of employees working under him?**

**Create view**

Sql> create view mgrcount as select mgr, count(empno) total from emp group by mgr;

Sql> select mgr from mgrcount where total in (select max(total) from mgrcount);

**d)Create a view, which contain employee names and their manager**

Sql> create view employee\_manager as select e1.ename ,e2.ename from emp e1, emp e2

where e1.mgr=e2.empno;

**Lab Practical No:7**

**Question:**

7. Using Employee Database perform the following queries

a)Determine the names of employee, who earn more than their managers.

b)Determine the names of employees, who take highest salary in their departments.

c)Determine the employees, who are located at the same place.

d)Determine the employees, whose total salary is like the minimum Salary of any department.

e)Determine the department which does not contain any employees.

**a)Determine the names of employee, who earn more than their managers.**

sql>select e1.ename from emp e1, emp e2 where e1.mgr=e2.empno and e1.sal>e2.sal;

**b)Determine the names of employees, who take highest salary in their departments.**

**Create a view to store maximum salaries of each department**

SQL> create view maxsalaries as select max(sal) maxsalary, deptno from emp group by deptno;

**Displaythe names of employees, who take highest salary in their departments.**

Sql>select ename, sal from emp, maxsalaries where emp.deptno= maxsalaries.deptno and sal=maxsalary;

**c)Determine the employees, who are located at the same place.**

SQL> select ename,dname from emp , dept where emp.deptno=dept.deptno order by dname;

**d)Determine the employees, whose total salary is like the minimum Salary of any department.**

SQL> select empno, ename, sal from emp where sal in(select max(sal) from emp group by deptno);

**e)Determine the department which does not contain any employees.**

SQL> select dname from dept where deptno not in(select deptno from emp);

**Lab Practical No:8**

**Question:**

9. Usingthe tables “DEPARTMENTS” and “EMPLOYEES” perform the following queries

a)Display the employee details, departments that the departments are same in both the emp and dept.

b)Display the employee name and Department name by implementing a left outer join.

c)Display the employee name and Department name by implementing a right outer join.

d)Display the details of those who draw the salary greater than the average salary.

**a)Display the employee details, departments that the departments are same in both the emp and dept.**

sql > select ename, dname from dept,emp where emp.deptno=dept.deptno;

**b)Display the employee name and Department name by implementing a left outer join.**

sql > select ename, dname from dept,emp where emp.deptno(+)=dept.deptno;

**c)Display the employee name and Department name by implementing a right outer join.**

sql > select ename, dname from dept,emp where emp.deptno=+dept.deptno;

**d)Display the details of those who draw the salary greater than the average salary.**

SQL> Select empno,sal from emp where sal> (select avg(sal) from emp);