Exercise No: 1  **Creating Database tables and using data types**

**Aim:**

To create database table and using data types.

**Problem Description:**

Design and create an Employee table which contains details such as employee ID, employee name, designation, manager ID, date of joining the duty, salary and department number. Demonstrate create table, modify table and drop table SQL commands over the employee table.

**Table Designing:**

*Table Name:* EMP

Key : EMPNO (Primary Key)

|  |  |  |  |
| --- | --- | --- | --- |
| ***Column Name*** | ***Data type*** | ***Size*** | ***Remark*** |
| EMPNO | NUMBER | 4 | Stores employee ID |
| ENAME | VARCHAR2 | 20 | Stores employee name |
| DESIGN | VARCHAR2 | 15 | Stores designation of employee |
| MGRNO | NUMBER | 2 | Manager ID |
| DOJ | DATE |  | Date of joining |
| SAL | NUMBER | 5 | Salary of employee |
| DEPTNO | NUMBER | 2 | Department no. where he/she is working |

**Execution of commands in SQL prompt: (Exercise 1)**

SQL> create table emp(empno number(4), ename varchar2(20), design varchar2(15),

 mgrno number(4), doj date, sal number(5), deptno number(2));

Table created.

SQL> desc emp;

 Name Null? Type

 ----------------------------------------- -------- ----------------------------

 EMPNO NUMBER(4)

 ENAME VARCHAR2(20)

 DESIGN VARCHAR2(15)

 MGRNO NUMBER(4)

 DOJ DATE

 SAL NUMBER(5)

 DEPTNO NUMBER(2)

SQL> alter table emp modify (design varchar2(12));

Table altered.

SQL> descr emp;

 Name Null? Type

 ----------------------------------------- -------- ----------------------------

 EMPNO NUMBER(4)

 ENAME VARCHAR2(20)

 DESIGN VARCHAR2(12)

 MGRNO NUMBER(4)

 DOJ DATE

 SAL NUMBER(5)

 DEPTNO NUMBER(2)

SQL> create table oldemp(empno number(3),doj date);

Table created.

SQL> select \* from tab;

TNAME TABTYPE CLUSTERID

------------------------------ ------- ----------

EMP TABLE

OLDEMP TABLE

2 rows selected.

SQL> drop table oldemp;

Table dropped.

SQL> select \* from tab;

TNAME TABTYPE CLUSTERID

------------------------------ ------- ----------

EMP TABLE

1 rows selected.

**Execution of commands in SQL prompt: (Exercise 2)**

SQL> insert into emp values(&empno,'&enmae','&design',&mgrno,'&doj',&sal,&deptno);

Enter value for empno: 7369

Enter value for enmae: Prabu R

Enter value for design: Clerk

Enter value for mgrno: 7902

Enter value for doj: 17-dec-2005

Enter value for sal: 3500

Enter value for deptno: 20

old 1: insert into emp values(&empno,'&enmae','&design',&mgrno,'&doj',&sal,&deptn

new 1: insert into emp values(7369,'Prabu R','Clerk',7902,'17-dec-2005',3500,20)

1 row created.

SQL> /

Enter value for empno: 7499

Enter value for enmae: Ganesh T

Enter value for design: Salesman

Enter value for mgrno: 7698

Enter value for doj: 20-Feb-2008

Enter value for sal: 4500

Enter value for deptno: 30

old 1: insert into emp values(&empno,'&enmae','&design',&mgrno,'&doj',&sal,&deptn

new 1: insert into emp values(7499,'Ganesh T','Salesman',7698,'20-Feb-2008',4500,

1 row created.

SQL> /

Enter value for empno: 7521

Enter value for enmae: Kumar K

Enter value for design: Salesman

Enter value for mgrno: 7698

Enter value for doj: 28-feb-2008

Enter value for sal: 4300

Enter value for deptno: 30

old 1: insert into emp values(&empno,'&enmae','&design',&mgrno,'&doj',&sal,&deptn

new 1: insert into emp values(7521,'Kumar K','Salesman',7698,'28-feb-2008',4300,3

1 row created.

SQL> /

Enter value for empno: 7698

Enter value for enmae: Magesh T

Enter value for design: Manager

Enter value for mgrno: 0

Enter value for doj: 01-may-2000

Enter value for sal: 12500

Enter value for deptno: 30

old 1: insert into emp values(&empno,'&enmae','&design',&mgrno,'&doj',&sal,&deptn

new 1: insert into emp values(7698,'Magesh T','Manager',0,'01-may-2000',12500,30)

1 row created.

SQL> /

Enter value for empno: 7902

Enter value for enmae: Venki L

Enter value for design: Manager

Enter value for mgrno: 0

Enter value for doj: 02-Oct-2003

Enter value for sal: 11000

Enter value for deptno: 20

old 1: insert into emp values(&empno,'&enmae','&design',&mgrno,'&doj',&sal,&deptn

new 1: insert into emp values(7902,'Venki L','Manager',0,'02-Oct-2003',11000,20)

1 row created.

SQL> /

Enter value for empno: 7905

Enter value for enmae: Lawrence F

Enter value for design: Supervisor

Enter value for mgrno: 7688

Enter value for doj: 05-Jul-2009

Enter value for sal: 5500

Enter value for deptno: 40

old 1: insert into emp values(&empno,'&enmae','&design',&mgrno,'&doj',&sal,&deptn

new 1: insert into emp values(7902,'Lawrence F','Supervisor',7688,'05-Jul-2009',5

1 row created.

SQL> select \* from emp;

 EMPNO ENAME DESIGN MGRNO DOJ SAL DEPTNO

 ---------- -------------------- --------------- ---------- --------- ---------- ----------

 7369 Prabu R Clerk 7902 17-DEC-05 500 20

 7499 Ganesh T Salesman 7698 20-FEB-08 4500 30

 7521 Kumar K Salesman 7698 28-FEB-08 4300 30

 7698 Magesh T Manager 0 01-MAY-00 12500 30

 7902 Venki L Manager 0 02-OCT-03 11000 20

 7905 Lawrence F Supervisor 7688 05-JUL-09 5500 40

6 rows selected.

SQL> update emp set sal=13500 where empno=7698; 1 row updated. SQL> select \* from emp;

 EMPNO ENAME DESIGN MGRNO DOJ SAL DEPTNO

 ---------- -------------------- --------------- ---------- --------- ---------- ----------

 7369 Prabu R Clerk 7902 17-DEC-05 3500 20

 7499 Ganesh T Salesman 7698 20-FEB-08 4500 30

 7521 Kumar K Salesman 7698 28-FEB-08 4300 30

 7698 Magesh T Manager 0 01-MAY-00 13500 30

 7902 Venki L Manager 0 02-OCT-03 11000 20

 7905 Lawrence F Supervisor 7688 05-JUL-09 5500 40

6 rows selected.

 SQL> delete from emp where empno=7521; 1 row deleted. SQL> select \* from emp;

 EMPNO ENAME DESIGN MGRNO DOJ SAL DEPTNO

 ---------- -------------------- --------------- ---------- --------- ---------- ----------

 7369 Prabu R Clerk 7902 17-DEC-05 3500 20

 7499 Ganesh T Salesman 7698 20-FEB-08 4500 30

 7698 Magesh T Manager 0 01-MAY-00 12500 30

 7902 Venki L Manager 0 02-OCT-03 11000 20

 7905 Lawrence F Supervisor 7688 05-JUL-09 5500 40

**Execution of commands in SQL prompt: (Exercise 3)**

**3. Practical Based on Implementing the Constraints.**

Sql>create table sop(sorderno number(6) primary key);

Sql>desc sop;

Name Null? Type

 ------------------------ ------- --------------

 S\_ORDER\_NO NOT NULL NUMBER(6)

Sql> create table salesorder(sorderno number(6), productno number(6) primary key,

 Clientno number(5) unique, delivery\_add varchar2(15), deliverydate date, orderstatus char(10), Foreign key(sorderno) references sop);

Table created.

Sql>desc salesorder;

Name Null? Type

------------------------------- -------- ----------

SORDERNO NUMBER(6)

PRODUCTNO NOT NULL NUMBER(6)

CLIENTNO NUMBER(5)

DELIVERY\_ADD VARCHAR2(15)

DELIVERYDATE DATE

ORDERSTATUS CHAR(10)

Sql>alter table salesorder add(salesmanno number(6) not null);

Table altered.

Sql>desc salesorder;

Name Null? Type

 ------------------------------- -------- ----

 SORDERNO NUMBER(6)

 PRODUCTNO NOT NULL NUMBER(6)

 CLIENTNO NUMBER(5)

 DELIVERY\_ADD VARCHAR2(15)

 DELIVERYDATE DATE

 ORDERSTATUS CHAR(10)

 SALESMANNO NOT NULL NUMBER(6)

Sql> alter table salesorder add(clientno constraint check(clientno>100);

Table altered.

**4. Practical for Retrieving Data Using following clauses.**

**• Simple select clause, • Accessing specific data with Where, Ordered By,**

**Distinct and Group By.**

SQL> create table studentmaster(sname varchar2(15),regno number(6), dept varchar2(1

Table created.

SQL> insert into studentmaster values('&sname',&regno,'&dept',&year);

Enter value for sname: Prabu K

Enter value for regno: 120051

Enter value for dept: Maths

Enter value for year: 2011

old 1: insert into studentmaster values('&sname',&regno,'&dept',&year)

new 1: insert into studentmaster values('Prabu K',120051,'Maths',2011)

1 row created.

SQL> /

Enter value for sname: Kumar L

Enter value for regno: 120091

Enter value for dept: CompSci

Enter value for year: 2012

old 1: insert into studentmaster values('&sname',&regno,'&dept',&year)

new 1: insert into studentmaster values('Kumar L',120091,'CompSci',2012)

1 row created.

SQL> /

Enter value for sname: Lawrence K

Enter value for regno: 210090

Enter value for dept: CompSci

Enter value for year: 2000

old 1: insert into studentmaster values('&sname',&regno,'&dept',&year)

new 1: insert into studentmaster values('Lawrence K',210090,'CompSci',2000)

1 row created.

SQL> /

Enter value for sname: Kamal H

Enter value for regno: 130091

Enter value for dept: Physics

Enter value for year: 2013

old 1: insert into studentmaster values('&sname',&regno,'&dept',&year)

new 1: insert into studentmaster values('Kamal H',130091,'Physics',2013)

1 row created.

SQL> /

Enter value for sname: Vetri O

Enter value for regno: 110012

Enter value for dept: Maths

Enter value for year: 2011

old 1: insert into studentmaster values('&sname',&regno,'&dept',&year)

new 1: insert into studentmaster values('Vetri O',110012,'Maths',2011)

1 row created.

SQL> /

Enter value for sname: Ragu G

Enter value for regno: 100012

Enter value for dept: Tamil

Enter value for year: 2000

old 1: insert into studentmaster values('&sname',&regno,'&dept',&year)

new 1: insert into studentmaster values('Ragu G',100012,'Tamil',2000)

1 row created.

SQL> select \* from studentmaster;

SNAME REGNO DEPT YEAR

--------------- ---------- ------------ ----------

Prabu K 120051 Maths 2011

Kumar L 120091 CompSci 2012

Lawrence K 210090 CompSci 2000

Kamal H 130091 Physics 2013

Vetri O 110012 Maths 2011

Ragu G 100012 Tamil 2000

6 rows selected.

SQL> select sname from studentmaster where dept='CompSci';

SNAME

---------------

Kumar L

Lawrence K

SQL> select distinct year from studentmaster;

 YEAR

----------

 2013

 2011

 2000

 2012

SQL> select \* from studentmaster order by sname asc;

SNAME REGNO DEPT YEAR

--------------- ---------- ------------ ----------

Kamal H 130091 Physics 2013

Kumar L 120091 CompSci 2012

Lawrence K 210090 CompSci 2000

Prabu K 120051 Maths 2011

Ragu G 100012 Tamil 2000

Vetri O 110012 Maths 2011

6 rows selected.

SQL> select count(\*) from studentmaster group by dept;

 COUNT(\*)

----------

 1

 1

 2

 2

SQL> desc emp;

 Name Null? Type

 ----------------------------------------- -------- ----------------------------

 EMPNO NUMBER(4)

 ENAME VARCHAR2(20)

 DESIGN VARCHAR2(12)

 MGRNO NUMBER(4)

 DOJ DATE

 SAL NUMBER(5)

 DEPTNO NUMBER(2)

SQL> select deptno,min(sal),max(sal) from emp group by deptno;

 DEPTNO MIN(SAL) MAX(SAL)

---------- ---------- ----------

 30 4500 13500

 20 3500 11000

 40 5500 5500

5. Practical Based on Aggregate Functions.

• AVG, • COUNT, • MAX, • MIN, • SUM.

SQL> desc emp;

 Name Null? Type

 ----------------------------------------- -------- ----------------------------

 EMPNO NUMBER(4)

 ENAME VARCHAR2(20)

 DESIGN VARCHAR2(12)

 MGRNO NUMBER(4)

 DOJ DATE

 SAL NUMBER(5)

 DEPTNO NUMBER(2)

SQL> select empno,ename,design,sal from emp;

 EMPNO ENAME DESIGN SAL

---------- -------------------- ------------ ----------

 7369 Prabu R Clerk 3500

 7499 Ganesh T Salesman 4500

 7698 Magesh T Manager 13500

 7902 Venki L Manager 11000

 7905 Lawrence F Supervisor 5500

SQL> select count(\*)"No. of Employees",avg(sal),max(sal),min(sal),sum(sal) from emp;

No. of Employees AVG(SAL) MAX(SAL) MIN(SAL) SUM(SAL)

------------------------- ------------- -------------- -------------- ---------------

 5 7600 13500 3500 38000

**6. Practical Based on implementing all String functions.**

SQL> select initcap('you can be master in oracle 11g') "Heading" from dual;

Heading

-------------------------------

You Can Be Master In Oracle 11g

SQL> select upper('oracle is an rdbms software system') "Upper Case" from dual;

Upper Case

----------------------------------

ORACLE IS AN RDBMS SOFTWARE SYSTEM

SQL> select substr('yes,this is a test sub string',5,15) "Sub String" from dual;

Sub String

---------------

this is a test

SQL> select length('Do concentrate on you studies well') "Length of the text" from dual;

Length of the text

------------------

 34

SQL> select ltrim('xxxxxXxLast Word','x') "Left trim Example" from dual;

Left trim Example

------------------------

XxLast Word

SQL> select rtrim('Wake up students, wake up xxYxxxx','x') "Remove Right Trim" from dual;

Remove Right Trim

-----------------------------

Wake up students, wake up xxY

**7. Practical Based on implementing Date and Time Functions.**

SQL>
SQL>
SQL>
SQL> -- **create**demo table
SQL> **create**table Employee(
  2    ID                 VARCHAR2(4 BYTE)         NOT NULL,
  3    First\_Name         VARCHAR2(10 BYTE),
  4    Last\_Name          VARCHAR2(10 BYTE),
  5    Start\_Date         DATE,
  6    End\_Date           DATE,
  7    Salary             Number(8,2),
  8    City               VARCHAR2(10 BYTE),
  9    Description        VARCHAR2(15 BYTE)
 10  )
 11  /

Table created.

SQL>
SQL> -- prepare data
SQL> **insert**into Employee(ID,  First\_Name, Last\_Name, Start\_Date,                     End\_Date,
                  Salary,  City,       Description)
  2               values ('01','Jason',    'Martin',  to\_date('19960725','YYYYMMDD'), to\_date('20060
725','YYYYMMDD'), 1234.56, 'Toronto',  'Programmer')
  3  /

1 row created.

SQL> **insert**into Employee(ID,  First\_Name, Last\_Name, Start\_Date,                     End\_Date,
                  Salary,  City,       Description)
  2                values('02','Alison',   'Mathews', to\_date('19760321','YYYYMMDD'), to\_date('19860
221','YYYYMMDD'), 6661.78, 'Vancouver','Tester')
  3  /

1 row created.

SQL> **insert**into Employee(ID,  First\_Name, Last\_Name, Start\_Date,                     End\_Date,
                  Salary,  City,       Description)
  2                values('03','James',    'Smith',   to\_date('19781212','YYYYMMDD'), to\_date('19900
315','YYYYMMDD'), 6544.78, 'Vancouver','Tester')
  3  /

1 row created.

SQL> **insert**into Employee(ID,  First\_Name, Last\_Name, Start\_Date,                     End\_Date,
                  Salary,  City,       Description)
  2                values('04','Celia',    'Rice',    to\_date('19821024','YYYYMMDD'), to\_date('19990
421','YYYYMMDD'), 2344.78, 'Vancouver','Manager')
  3  /

1 row created.

SQL> **insert**into Employee(ID,  First\_Name, Last\_Name, Start\_Date,                     End\_Date,
                  Salary,  City,       Description)
  2                values('05','Robert',   'Black',   to\_date('19840115','YYYYMMDD'), to\_date('19980
808','YYYYMMDD'), 2334.78, 'Vancouver','Tester')
  3  /

1 row created.

SQL> **insert**into Employee(ID,  First\_Name, Last\_Name, Start\_Date,                     End\_Date,
                  Salary, City,        Description)
  2                values('06','Linda',    'Green',   to\_date('19870730','YYYYMMDD'), to\_date('19960
104','YYYYMMDD'), 4322.78,'New York',  'Tester')
  3  /

1 row created.

SQL> **insert**into Employee(ID,  First\_Name, Last\_Name, Start\_Date,                     End\_Date,
                  Salary, City,        Description)
  2                values('07','David',    'Larry',   to\_date('19901231','YYYYMMDD'), to\_date('19980
212','YYYYMMDD'), 7897.78,'New York',  'Manager')
  3  /

1 row created.

SQL> **insert**into Employee(ID,  First\_Name, Last\_Name, Start\_Date,                     End\_Date,
                  Salary, City,        Description)
  2                values('08','James',    'Cat',     to\_date('19960917','YYYYMMDD'), to\_date('20020
415','YYYYMMDD'), 1232.78,'Vancouver', 'Tester')
  3  /

1 row created.

SQL>
SQL>
SQL>
SQL> -- display data in the table
SQL> **select**\* **from**Employee
  2  /

ID   FIRST\_NAME LAST\_NAME  START\_DAT END\_DATE      SALARY CITY       DESCRIPTION
---- ---------- ---------- --------- --------- ---------- ---------- ---------------
01   Jason      Martin     25-JUL-96 25-JUL-06    1234.56 Toronto    Programmer
02   Alison     Mathews    21-MAR-76 21-FEB-86    6661.78 Vancouver  Tester
03   James      Smith      12-DEC-78 15-MAR-90    6544.78 Vancouver  Tester
04   Celia      Rice       24-OCT-82 21-APR-99    2344.78 Vancouver  Manager
05   Robert     Black      15-JAN-84 08-AUG-98    2334.78 Vancouver  Tester
06   Linda      Green      30-JUL-87 04-JAN-96    4322.78 New York   Tester
07   David      Larry      31-DEC-90 12-FEB-98    7897.78 New York   Manager
08   James      Cat        17-SEP-96 15-APR-02    1232.78 Vancouver  Tester

SQL>
SQL>
SQL>
SQL> **SELECT**id, TO\_CHAR(Start\_Date, 'ddMon yy hh24:mi:ss') "Start\_Date" **FROM**employee
  2  /

ID   Start\_Date
---- -----------------
01   25Jul 96 00:00:00
02   21Mar 76 00:00:00
03   12Dec 78 00:00:00
04   24Oct 82 00:00:00
05   15Jan 84 00:00:00
06   30Jul 87 00:00:00
07   31Dec 90 00:00:00
08   17Sep 96 00:00:00

SQL>
SQL> **select**TO\_CHAR(sysdate,'HH24:MI:SS') **from**dual;

TO\_CHAR
--------
19:26:37

**8. Practical Based on implementing use of union, intersection, set difference.**

**SQL> desc emp;**

 **Name Null? Type**

 **----------------------------------------- -------- ----------------------------**

 **EMPNO NUMBER(4)**

 **ENAME VARCHAR2(20)**

 **DESIGN VARCHAR2(12)**

 **MGRNO NUMBER(4)**

 **DOJ DATE**

 **SAL NUMBER(5)**

 **DEPTNO NUMBER(2)**

**SQL> select \* from emp;**

 **EMPNO ENAME DESIGN MGRNO DOJ SAL DEPTNO**

 **---------- -------------------- ------------ ---------- --------- ---------- ----------**

 **7369 Prabu R Clerk 7902 17-DEC-05 3500 20**

 **7499 Ganesh T Salesman 7698 20-FEB-08 4500 30**

 **7698 Magesh T Manager 0 01-MAY-00 13500 30**

 **7902 Venki L Manager 0 02-OCT-03 11000 20**

 **7905 Lawrence F Supervisor 7688 05-JUL-09 5500 40**

**SQL> create table emp2 as select \* from emp;**

**Table created.**

**SQL> desc emp2;**

 **Name Null? Type**

 **----------------------------------------- -------- ----------------------------**

 **EMPNO NUMBER(4)**

 **ENAME VARCHAR2(20)**

 **DESIGN VARCHAR2(12)**

 **MGRNO NUMBER(4)**

 **DOJ DATE**

 **SAL NUMBER(5)**

 **DEPTNO NUMBER(2)**

**SQL> select \* from emp2;**

 **EMPNO ENAME DESIGN MGRNO DOJ SAL DEPTNO**

 **---------- -------------------- ------------ ---------- --------- ---------- ----------**

 **7369 Prabu R Clerk 7902 17-DEC-05 3500 20**

 **7499 Ganesh T Salesman 7698 20-FEB-08 4500 30**

 **7698 Magesh T Manager 0 01-MAY-00 13500 30**

 **7902 Venki L Manager 0 02-OCT-03 11000 20**

 **7905 Lawrence F Supervisor 7688 05-JUL-09 5500 40**

**SQL> insert into emp2 values(8080,'Chandru P','Helper',7698,'10-Mar-2005',2500,30);**

**1 row created.**

**SQL> select empno,ename from emp**

 **2 union**

 **3 select empno,ename from emp2;**

 **EMPNO ENAME**

**---------- --------------------**

 **7369 Prabu R**

 **7499 Ganesh T**

 **7698 Magesh T**

 **7902 Venki L**

 **7905 Lawrence F**

 **8080 Chandru P**

**6 rows selected.**

**SQL> select empno,ename from emp**

 **2 intersect**

 **3 select empno,ename from emp2;**

 **EMPNO ENAME**

**---------- --------------------**

 **7369 Prabu R**

 **7499 Ganesh T**

 **7698 Magesh T**

 **7902 Venki L**

 **7905 Lawrence F**

**SQL> select empno,ename from emp**

 **2 minus**

 **3 select empno,ename from emp2;**

**no rows selected**

**SQL> select empno,ename from emp2**

 **2 minus**

 **3 select empno,ename from emp;**

 **EMPNO ENAME**

**---------- --------------------**

 **8080 Chandru P**

**SQL>**

**9. Implement Nested Queries & JOIN operation.**

SQL> create table dept(deptno number(2),deptname varchar2(10),loc varchar2(10));

Table created.

SQL> insert into dept values(&deptno,'&deptname','&loc');

Enter value for deptno: 10

Enter value for deptname: Purchase

Enter value for loc: Chennai

old 1: insert into dept values(&deptno,'&deptname','&loc')

new 1: insert into dept values(10,'Purchase','Chennai')

1 row created.

SQL> /

Enter value for deptno: 20

Enter value for deptname: Marketting

Enter value for loc: Cuddalore

old 1: insert into dept values(&deptno,'&deptname','&loc')

new 1: insert into dept values(20,'Marketting','Cuddalore')

1 row created.

SQL> /

Enter value for deptno: 30

Enter value for deptname: Store

Enter value for loc: Banglore

old 1: insert into dept values(&deptno,'&deptname','&loc')

new 1: insert into dept values(30,'Store','Banglore')

1 row created.

SQL> /

Enter value for deptno: 40

Enter value for deptname: Account

Enter value for loc: Delhi

old 1: insert into dept values(&deptno,'&deptname','&loc')

new 1: insert into dept values(40,'Account','Delhi')

1 row created.

SQL> /

Enter value for deptno: 50

Enter value for deptname: Training

Enter value for loc: Calcutta

old 1: insert into dept values(&deptno,'&deptname','&loc')

new 1: insert into dept values(50,'Training','Calcutta')

1 row created.

SQL> select \* from dept;

 DEPTNO DEPTNAME LOC

---------- ---------- ----------

 10 Purchase Chennai

 20 Marketting Cuddalore

 30 Store Banglore

 40 Account Delhi

 50 Training Calcutta

SQL> select \* from emp;

 EMPNO ENAME DESIGN MGRNO DOJ SAL

---------- -------------------- ------------ ---------- --------- ----------

 DEPTNO

----------

 7369 Prabu R Clerk 7902 17-DEC-05 3500

 20

 7499 Ganesh T Salesman 7698 20-FEB-08 4500

 30

 7698 Magesh T Manager 0 01-MAY-00 13500

 30

 EMPNO ENAME DESIGN MGRNO DOJ SAL

---------- -------------------- ------------ ---------- --------- ----------

 DEPTNO

----------

 7902 Venki L Manager 0 02-OCT-03 11000

 20

 7905 Lawrence F Supervisor 7688 05-JUL-09 5500

 40

SQL> select e.ename,e.deptno,d.deptname

 2 from emp e, dept d

 3 where e.deptno=d.deptno and design='Manager';

ENAME DEPTNO DEPTNAME

-------------------- ---------- ----------

Venki L 20 Marketting

Magesh T 30 Store

SQL> select e1.ename,e2.ename

 2 from emp e1, emp e2

 3 where e1.mgrno=e2.empno;

ENAME ENAME

-------------------- --------------------

Ganesh T Magesh T

Prabu R Venki L

SQL> select \* from emp where deptno in (select deptno from dept where loc='Cuddalore');

 EMPNO ENAME DESIGN MGRNO DOJ SAL

---------- -------------------- ------------ ---------- --------- ----------

 DEPTNO

----------

 7902 Venki L Manager 0 02-OCT-03 11000

 20

 7369 Prabu R Clerk 7902 17-DEC-05 3500

 20

SQL> select \* from dept where not exists (select \* from emp where deptno = dept.deptno);

 DEPTNO DEPTNAME LOC

---------- ---------- ----------

 50 Training Calcutta

 10 Purchase Chennai

SQL>

**10. Practical Based on performing different operations on a view.**

SQL> create table personinfo(id number(2),name varchar2(15),city varchar2(12));

Table created.

SQL> insert into personinfo values(&id,'&name','&city');

Enter value for id: 1

Enter value for name: Rahul

Enter value for city: Delhi

old 1: insert into personinfo values(&id,'&name','&city')

new 1: insert into personinfo values(1,'Rahul','Delhi')

1 row created.

SQL> /

Enter value for id: 2

Enter value for name: Manish

Enter value for city: Bangalore

old 1: insert into personinfo values(&id,'&name','&city')

new 1: insert into personinfo values(2,'Manish','Bangalore')

1 row created.

SQL> /

Enter value for id: 3

Enter value for name: Yogesh

Enter value for city: Hyderabad

old 1: insert into personinfo values(&id,'&name','&city')

new 1: insert into personinfo values(3,'Yogesh','Hyderabad')

1 row created.

SQL> /

Enter value for id: 4

Enter value for name: Kamal

Enter value for city: Chennai

old 1: insert into personinfo values(&id,'&name','&city')

new 1: insert into personinfo values(4,'Kamal','Chennai')

1 row created.

SQL> /

Enter value for id: 5

Enter value for name: Vishal

Enter value for city: Mysore

old 1: insert into personinfo values(&id,'&name','&city')

new 1: insert into personinfo values(5,'Vishal','Mysore')

1 row created.

SQL> /

Enter value for id: 6

Enter value for name: Sanjay

Enter value for city: Chennai

old 1: insert into personinfo values(&id,'&name','&city')

new 1: insert into personinfo values(6,'Sanjay','Chennai')

1 row created.

SQL> /

Enter value for id: 7

Enter value for name: Ashish

Enter value for city: Delhi

old 1: insert into personinfo values(&id,'&name','&city')

new 1: insert into personinfo values(7,'Ashish','Delhi')

1 row created.

SQL> select \* from personinfo;

 ID NAME CITY

---------- --------------- ------------

 1 Rahul Delhi

 2 Manish Bangalore

 3 Yogesh Hyderabad

 4 Kamal Chennai

 5 Vishal Mysore

 6 Sanjay Chennai

 7 Ashish Delhi

7 rows selected.

SQL> create view view\_person as select \* from personinfo where city not in('Bangalore','Mysore');

SQL> select \* from view\_person;

 ID NAME CITY

---------- --------------- ------------

 1 Rahul Delhi

 3 Yogesh Hyderabad

 4 Kamal Chennai

 6 Sanjay Chennai

 7 Ashish Delhi

SQL> select \* from view\_person where id between 3 and 7;

 ID NAME CITY

---------- --------------- ------------

 3 Yogesh Hyderabad

 4 Kamal Chennai

 5 Vishal Mysore

 6 Sanjay Chennai

 7 Ashish Delhi

SQL> drop view view\_person;

view dropped.

**11. Practical Based on implementing use of triggers, cursors & procedures.**

**Aim: To create and use Cursor, Stored Procedure and Trigger in Oracle.**

**1.Cursor**

Problem Description:

 Create a table to store the salary details of the employees in a company. Declare the Cursor to contain employee number, employee name and net salary. Use Cursor to update the employee salaries.

Steps in SQL Commands:

SQL> create table mremp(ecode number(10),ename varchar(20),esal number(10));

Table created.

SQL> insert into mremp values('&ecode','&ename','&esal');

Enter value for ecode: 1001

Enter value for ename: jagan

Enter value for esal: 20000

old 1: insert into mremp values('&ecode','&ename','&esal')

new 1: insert into mremp values('1001','jegan','20000')

1 row created.

SQL> /

Enter value for ecode: 101

Enter value for ename: jeffrey

Enter value for esal: 20000

old 1: insert into mremp values('&ecode','&ename','&esal')

new 1: insert into mremp values('101','jeffrey','20000')

1 row created.

SQL> select \* from mremp;

 ECODE ENAME ESAL

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 1001 jagan 20000

 101 jeffrey 20000

SQL>set serveroutput on;

SQL> declare

 2 increment number(4):=&increment;

 3 t\_ecode mremp.ecode %type;

 4 t\_esal mremp.esal %type;

 5 cursor c\_emp is select ecode, esal from mremp;

 6 emprec mremp %type;

 7 begin

 8 open c\_emp;

 9 loop

 10 fetch c\_emp into t\_ecode,t\_esal;

 11 exit when c\_emp%notfound;

 12 update mremp set esal=esal+increment

 13 where ecode=t\_ecode;

 14 select ecode, esal into t\_ecode, t\_esal

 15 from mremp where ecode=t\_ecode;

 16 dbms\_output.put\_line(to\_char(t\_ecode)||'record is updated');

 17 dbms\_output.put\_line(to\_char(t\_esal))

18 end loop;

 19 commit;

 20 end;

 21 /

Enter value for increment: 100

old 2: increment number(4):=&increment;

new 2: increment number(4):=100;

1001record is updated

20100

101record is updated

20200

PL/SQL procedure successfully completed.

SQL> /

Enter value for increment: 100

old 2: increment number(4):=&increment;

new 2: increment number(4):=100;

1001record is updated

20200

101record is updated

20200

**2.Stored Procedure**

Problem Description:

 Create a table stock to contain the itemcode, itemname, current stock, date of last purchase. Write a stored procedure to seek for an item using itemcode and delete it, if the date of last purchase is before 1 year from the current date. If not, update the current stock.

Steps in SQL Commands:

Sql> create table itemmaster (item\_code number(10),item\_name varchar2(15), cur\_stock number(10), dlp date);

Table created.

Sql> insert into itemmaster values(‘&item\_code’,’&item\_name’,’&cur\_stock’,’&dlp’);

Enter value for item\_code: 1001

Enter value for item\_name: TV

Enter value for cur\_stock: 200

Enter value for dlp: 12-jun-2011

old 1: insert into itemmaster values('&item\_code','&item\_name','&cur\_stock','&dlp')

new 1: insert into itemmaster values('1001','TV','200','12-jun-2011')

1 row created.

SQL> /

Enter value for item\_code: 1002

Enter value for item\_name: AC

Enter value for cur\_stock: 100

Enter value for dlp: 30-april-2010

old 1: insert into itemmaster values('&item\_code','&item\_name','&cur\_stock','&dlp')

new 1: insert into itemmaster values('1002','AC','100','30-april-2010')

1 row created.

Sql> create or replace procedure

stock(i\_code number,st number) is c\_stock number(10);

date\_lp date;

begin

select cur\_stock, dlp into c\_stock,date\_lp from itemmaster where item\_code=i\_code;

if months\_between(sysdate, date\_lp)>12 then

delete from itemmaster where item\_code=i\_code;

dbms\_output.put\_line('the record is deleted);

else

update itemmaster set cur\_stock=cur\_stock+st

where item\_code=i\_code;

dbms\_output.put\_line('the record is updated with new stock');

end if;

end;

/

Procedure created.

 Sql> declare

 i\_code number(10):=&i\_code;

addstock number(10):=&addstock;

begin

 stock(i\_code,addstock);

end;

Sql>Enter value for i\_code: 1001

old 2: i\_code number(10):=&i\_code;

new 2: i\_code number(10):=1001;

Enter value for addstock: 200

old 3: addstock number(10):=&addstock;

new 3: addstock number(10):=200;

PL/SQL procedure successfully completed.

sql> select \* from itemmaster;

ITEM\_CODE ITEM\_NAME CUR\_STOCK DLP

--------- --------------- --------- ---------

 1001 TV 400 12-JUN-11

1. AC 100 30-APR-10

**3.Trigger**

Problem Description:

Create a table to contain the information about the voters in a particular constituency. Wrtie a proper trigger to update or delete a row in the table.

Steps in SQL Commands:

SQL> create table vote\_list(voter\_id number(1),voter\_name varchar2(15),sexvarchar2(6),age number(3),city varchar2(15),constituency varchar2(15));

Table created.

SQL> insert into vote\_list values('&voter\_id','&voter\_name','&sex','&age','&city','&constituency');

Enter value for voter\_id: 1

Enter value for voter\_name: pandi

Enter value for sex: male

Enter value for age: 19

Enter value for city: panruti

Enter value for constituency: cuddalore

old 1: insert into vote\_list values('&voter\_id','&voter\_name','&sex','&age','&city','&constituency

new 1: insert into vote\_list values('1','pandi','male','19','panruti','cuddalore')

1 row created.

SQL> /

Enter value for voter\_id: 2

Enter value for voter\_name: silva

Enter value for sex: male

Enter value for age: 19

Enter value for city: cuddalore

Enter value for constituency: tpr

old 1: insert into vote\_list values('&voter\_id','&voter\_name','&sex','&age','&city','&constituency

new 1: insert into vote\_list values('2','silva','male','19','cuddalore','tpr')

1 row created.

SQL> select\*from vote\_list;

 VOTER\_ID VOTER\_NAME SEC AGE CITY CONSTITUENCY

--------- --------------- ------ --------- --------------- ---------------

 1 pandi male 19 panruti cuddalore

 2 silva male 19 cuddalore tpr

 3 murali male 19 kallakurichi new york

 4 sathiyaraj male 19 kallakurichi reshi

 5 jeffrey male 18 karaikal karaikal

Sql> create or replace trigger day\_alert before update or delete on vote\_list

 declare

 opr\_day char(3);

 opr\_date date;

 begin

 opr\_day:=to\_char(sysdate,'dy');

 opr\_date:=sysdate;

 dbms\_output.put\_line('the day and date of DML operation is'||''||opr\_day||''||to\_char(opr\_date));

 end;

/

SQL> set serveroutput on;

SQL> update vote\_list set voter\_name='Pandidurai' where voter\_id=1;

the day and date of DML operation ismon26-SEP-11

1 row updated.