DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ACADEMIC YEAR: 2021-22

EVEN SEMESTER

Lab Manual:

Programme (UG/PG) : UG

Semester : VI

SUBJECT CODE : 18CSC303J

Course Title : DATABASE MANAGEMENT SYSTEM

FACULTY : Dr. S. SURESH

DONE BY: -

Name: A. Venkata

DineshReddy

Reg-No: RA1911028010098

SEC: CSE-CC (J1)



FACULTY OF ENGINEERING AND TECHNOLOGY

SRMIST (Under section 3 of UGC Act, 1956) SRM, Kattankulathur- 603203 Kancheepuram District

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DBMS Lab Record

Submitted By:

NAME -A. Venkata DineshReddy

REGISTRATION NO. -RA1911028010098

SUBJECT NAME- Database Management System

SUBJECT CODE - 18CSC303J

BRANCH - Computer Science And

Engineering

Specialization - Cloud Computing

FACULTY NAME - Dr.S.Suresh



Title of Experiment

AIM : To (Create SQI	_ basic	commands
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SQL Command:

SQL> create table student(StudID integer,Studname varchar(20),DOB date,Age integer,Dept varchar(10),Prog varchar(10),Spec varchar(10));

Table created.

SQL> desc student;

Name Null? Type

STUDID NUMBER(38)

STUDNAME VARCHAR2(20)

DOB DATE

AGE NUMBER(38)

DEPT VARCHAR2(10)

PROG VARCHAR2(10)

SPEC VARCHAR2(10)

SQL> insert into student values(98,'DineshReddy','19-May-2002',20,'CSE','Btech','Cloud');

1 row created.

SQL> select * from student;

STUDID STUDNAME	DOB	AGE DEP	Γ PROG
SPEC			-
98 DineshReddy Cloud	19-MAY-02	20 CSE 1	Btech
SQL> insert into student v 2002',20,'CSE','Btech','Clo	•	anth','19-October-	
1 row created.			
SQL> select * from studen	ıt;		
STUDID STUDNAME	DOB	AGE DEP	Γ PROG
SPEC			-
98 DineshReddy Cloud	19-MAY-02	20 CSE I	Btech
101 Prasanth 1 Cloud	9-OCT-02	20 CSE Bted	ch

SQL> update student set age=21 where studid=101;			
1 row updated.			
SQL> select * from student;			
STUDID STUDNAME	DOB	AGE DI	EPT PROG
SPEC			
98 DineshReddy 19-M	MAY-02	20 CSE	Btech
101 Prasanth 19-OC Cloud	T-02 21	I CSE I	Btech
SQL> select studid,studname from	om student;		
STUDID STUDNAME			
98 DineshReddy 101 Prasanth			

SQL> delete from student where studid=101;

1 row deleted.			
SQL> select * from studer	nt;		
STUDID STUDNAME			PROG
SPEC			
98 DineshReddy Cloud	19-MAY-02	20 CSE Bt	ech
SQL> alter table student a	dd(sec varchar(10));	
Table altered.			
SQL> select * from studen	nt;		
STUDID STUDNAME			PROG
SPEC SEC			
98 DineshReddy	19-MAY-02	20 CSE Bt	ech

Cloud

SQL> alter table student m	odify(dept varcha	r(3));	
Table altered.			
SQL> select * from studen	t;		
STUDID STUDNAME	DOB	AGE DEP PR	OG SPEC
SEC			
98 DineshReddy	19-MAY-02	20 CSE Btech	Cloud
SQL> desc student;			
Name	Null? Type		
STUDID		BER(38)	
STUDNAME	VA	ARCHAR2(20)	
DOB	DATE		
AGE	NUMBE	R(38)	
DEPT	VARCHAR2(3)		

VARCHAR2(10)

PROG

SPEC VARCHAR2(10)
SEC VARCHAR2(10)

SQL> alter table student drop column sec;

Table altered.

SQL> select * from student;

STUDID STUDNAMI	E DOB	AGE DEP PR	ROG SPEC
98 DineshReddy	19-MAY-02	20 CSE Btech	Cloud

OUTPUT:

101 Prasanth

19-0CT-02

```
C:\Users\DINESH\AppData\Local\Temp\Rar$EXa9912.6896\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
SQL> create table student(StudID integer,Studname varchar(20),DOB date,Age integer,Dept varchar(10),Prog varchar(10),Spec varchar(10));
Table created.
SQL> desc student;
STUDID
STUDNAME
                                                          NUMBER(38)
VARCHAR2(20)
                                                          DATE
NUMBER(38)
VARCHAR2(10)
VARCHAR2(10)
VARCHAR2(10)
DOB
AGE
SQL> insert into student values(98,'DineshReddy','19-May-2002',20,'CSE','Btech','Cloud');
row created.
SQL> select * from student;
    STUDID STUDNAME
                                                       AGE DEPT
SPEC
        98 DineshReddy
                                   19-MAY-02
                                                        20 CSE
                                                                        Btech
SQL> insert into student values(101, 'Prasanth', '19-October-2002',20, 'CSE', 'Btech', 'Cloud');
row created.
SQL> select * from student;
   STUDID STUDNAME
                                   DOB
                                                       AGE DEPT
                                                                        PROG
SPEC
        98 DineshReddy
                                   19-MAY-02
                                                        20 CSE
                                                                        Btech
```

```
19-0CT-02 20 CSE Btech
      101 Prasanth
Cloud
SQL> update student set age=21 where studid=101;
1 row updated.
SQL> select * from student;
                                               AGE DEPT
   STUDID STUDNAME
                                                             PROG
                              DOB
SPEC
      98 DineshReddy
                              19-MAY-02
                                                20 CSE
                                                              Btech
Cloud
                              19-0CT-02
                                               21 CSE
     101 Prasanth
                                                             Btech
Cloud
SQL> select studid, studname from student;
   STUDID STUDNAME
      98 DineshReddy
      101 Prasanth
SQL> delete from student where studid=101;
1 row deleted.
SQL> select * from student;
   STUDID STUDNAME
                              DOB
                                               AGE DEPT
                                                              PROG
SPEC
                             19-MAY-02
       98 DineshReddy
                                               20 CSE
                                                             Btech
Cloud
SQL> alter table student add(sec varchar(10));
C:\Users\DINESH\AppData\Local\Temp\Rar$EXa9912.6896\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
                                                AGE DEPT
   STUDID STUDNAME
                               DOB
                                                               PROG
SPEC SEC
      98 DineshReddy
                              19-MAY-02 20 CSE Btech
Cloud
SQL> alter table student modify(dept varchar(3));
Table altered.
SQL> select * from student;
   STUDID STUDNAME
                               DOB
                                                AGE DEP PROG
                                                                   SPEC
SEC
      98 DineshReddy
                               19-MAY-02
                                                20 CSE Btech
                                                                  Cloud
SQL> desc student;
Name
                                          Null?
                                                   Type
                                                   NUMBER(38)
VARCHAR2(20)
STUDID
STUDNAME
DOB
                                                   DATE
                                                   NUMBER(38)
VARCHAR2(3)
VARCHAR2(10)
VARCHAR2(10)
VARCHAR2(10)
AGE
DEPT
PROG
SPEC
SEC
SQL> alter table student drop column sec;
Table altered.
SQL> select * from student;
                               DOB
                                                AGE DEP PROG
   STUDID STUDNAME
                                                                  SPEC
```

19-MAY-02

98 DineshReddy

20 CSE Btech

Cloud

C:\Users\DINESH\AppData\Local\Temp\Rar\$EXa9912.6896\ORACLE CLIENT 11.2\instantclient 11 2\sqlplus.exe

DBMS Lab Record

Submitted By:

NAME -A.Venkata DineshReddy

REGISTRATION NO. -RA1911028010098

SUBJECT NAME- Database Management System

SUBJECT CODE - 18CSC303J

BRANCH - Computer Science And

Engineering

Specialization - Cloud Computing

FACULTY NAME - Dr.S.Suresh



Title of Experiment

AIM: To write SQL queries to execute different DML commands. SQL Commands:

SELECT - Used to query or fetch selected fields or columns from a database table

Syntax,

SELECT column_name1, column_name2, ...FROM table name WHERE condition expression;

SQL> CREATE TABLE CUSTOMERS(CUSTOMER_ID INT,SALE_DATE DATE,SALE_AMOUNT NUMERIC,SALESPERSON VARCHAR(255), STORE_STATE VARCHAR(255),ORDER_ID VARCHAR(255));

Table created.

SQL> desc customers:

Name Null? Type

CUSTOMER_ID NUMBER(38)

SALE_DATE DATE

SALE_AMOUNT NUMBER(38)

SALESPERSON VARCHAR2(255)

STORE_STATE VARCHAR2(255)

ORDER_ID VARCHAR2(255)

INSERT - Used to insert new data records or rows in the database table

Syntax,

INSERT INTO table_name (column_name_1, column_name_2,column_name_3, ...) VALUES (value1, value2, value3, ...)

(value1, value2, value3,)
SQL> INSERT INTO CUSTOMERS VALUES(1001,'23-MAY- 2020',1200,'RAJ K','KA','1001');
1 row created.
SQL> INSERT INTO CUSTOMERS VALUES(1001,'22-MAY-2020',1200,'MK','NULL','1002');
1 row created.
SQL> INSERT INTO CUSTOMERS VALUES(1002,'23-MAY-2020',1200,'MALIKA RAKESH','MH','1003');
1 row created.
SQL> INSERT INTO CUSTOMERS VALUES(1003,'22-MAY-2020',1500,'MALIKA RAKESH','MH','1004');

1 row created.

SQL> INSERT INTO CUSTOMERS VALUES(1004,'22-MAY-2020',1210,'M K','NULL','1003');

1 row created.
SQL> INSERT INTO CUSTOMERS VALUES(1005,'12-DEC-2019',4200,'R K RAKESH','MH','1007');
1 row created.
SQL> INSERT INTO CUSTOMERS VALUES(1002,'12-MAY-2020',1200,'MOLLY SAMBERG','DL','1001');
1 row created.
SQL> select * from customers;
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1001 23-MAY-20 1200
RAJ K
KA

CUSTOMER_ID SALE_DATE SALE_AMOUNT	
SALESPERSON	
STORE_STATE	
ORDER_ID	
1001 22-MAY-20 1200	
M K	
NULL	
1002	
CUSTOMER_ID SALE_DATE SALE_AMOUNT	
SALESPERSON	
STORE_STATE	
ORDER_ID	
1002 23-MAY-20 1200	

MALIKA RAKESH

MH
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT

SALESPERSON
STORE_STATE
ORDER_ID
1003 22-MAY-20 1500
MALIKA RAKESH
MH
1004
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE STATE
STORE_STATE

ORDER_ID

1004 22-MAY-20 1210
M K
NULL
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1005 12-DEC-19 4200
R K RAKESH
МН
1007
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON

STORE_STATE
ORDER_ID
1002 12-MAY-20 1200
MOLLY SAMBERG
DL
1001
7 rows selected.
UPDATE - Used to set the value of a field or column for a particular record to a new value
Syntax,
<pre>UPDATE table_name SET column_name_1 = value1, column_name_2 = value2, WHERE condition;</pre>
SQL> UPDATE customers SET customer_id = 1007 where sale_amount = 4200;
1 row updated.
SQL> select * from customers

SQL>

SQL> select * from customers;
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1001 23-MAY-20 1200
RAJ K
KA
1001
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID

M K
NULL
1002
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1002 23-MAY-20 1200
MALIKA RAKESH
MH
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE

ORDER_ID
1003 22-MAY-20 1500
MALIKA RAKESH
MH
1004
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1004 22-MAY-20 1210
MK
NULL
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT

SALESPERSON

STORE_STATE
ORDER_ID
1007 12-DEC-19 4200
R K RAKESH
MH
1007
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1002 12-MAY-20 1200
MOLLY SAMBERG
DL
1001

DELETE - Used to remove one or more rows from the database table.

Syntax,

1001

DELETE FROM table_name WHERE condition;

SQL> DELETE from customers where customer_id = 1007;

1 row deleted.
SQL> select * from customers;
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1001 23-MAY-20 1200
RAJ K
KA

CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1001 22-MAY-20 1200
M K
NULL
1002
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID

MALIKA RAKESH
MH
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1003 22-MAY-20 1500
MALIKA RAKESH
MH
1004
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE

ORDER_ID
1004 22-MAY-20 1210
MK
NULL
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1002 12-MAY-20 1200
MOLLY SAMBERG
DL
1001

OUTPUT:

6 rows selected.

```
SQL*Plus: Release 11.2.0.4.0 Production on Mon Jan 24 11:13:20 2022
Copyright (c) 1982, 2013, Oracle. All rights reserved.
Enter user-name: RA1911028010098/RA1911028010098@drsuresh-j1.c6hfisyr3ugy.us-east-1.rds.amazonaws.com:1521/j1
Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
SOL> CREATE TABLE CUSTOMERS(CUSTOMER ID INT.SALE DATE DATE.SALE AMOUNT NUMERIC.SALESPERSON VARCHAR(255), STORE
Table created.
SQL> desc customers;
                                      Null?
Name
                                              Type
                                              NUMBER(38)
CUSTOMER ID
SALE DATE
                                              DATE
SALE AMOUNT
                                              NUMBER(38)
SALESPERSON
                                              VARCHAR2(255)
STORE STATE
                                              VARCHAR2(255)
ORDER ID
                                              VARCHAR2(255)
SQL> INSERT INTO CUSTOMERS VALUES(1001, 23-MAY-2020',1200, RAJ K', KA', 1001');
l row created.
SQL> INSERT INTO CUSTOMERS VALUES(1001,'22-MAY-2020',1200,'M K','NULL','1002');
1 row created.
SQL> INSERT INTO CUSTOMERS VALUES(1002, '23-MAY-2020',1200, 'MALIKA RAKESH', 'MH', '1003');
1 row created.
SQL> INSERT INTO CUSTOMERS VALUES(1003,'22-MAY-2020',1500,'MALIKA RAKESH','MH','1004');
l row created.
SQL> INSERT INTO CUSTOMERS VALUES(1004,'22-MAY-2020',1210,'M K,'NULL','1003');
ORA-01756: quoted string not properly terminated
SQL> INSERT INTO CUSTOMERS VALUES(1004, 22-MAY-2020',1210, 'M K', 'NULL', '1003');
SQL> INSERT INTO CUSTOMERS VALUES(1005,'12-DEC-2019',4200,'R K RAKESH','MH','1007');
1 row created.
SQL> INSERT INTO CUSTOMERS VALUES(1002, 12-MAY-2020, 1200, MOLLY SAMBERG', DL', 1001');
 row created.
```

SQL> select * from customers;
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
DRDER_ID
1001 23-MAY-20 1200 RAJ K
CA 1001
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1001 22-MAY-20 1200 1 K WULL 1002
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
DRDER_ID
1002 23-MAY-20 1200 MALIKA RAKESH MH 1003
CUSTOMER_ID_SALE_DATE_SALE_AMOUNT
SALESPERSON
STORE_STATE ORDER_ID
1003 22-MAY-20 1500 MALIKA RAKESH MH 1004
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1004 22-MAY-20 1210 M K NULL 1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID 1005 12-DEC-19 4200
R K RAKESH MH 1007
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1002 12-MAY-20 1200 MOLLY SAMBERG DL
1001

```
SQL> UPDATE sales SET customer_id = 1007 where sale_amount = 4200;
UPDATE sales SET customer_id = 1007 where sale_amount = 4200
*
ERROR at line 1:
ORA-00942: table or view does not exist
SQL> UPDATE customers SET customer_id = 1007 where sale_amount = 4200;
1 row updated.
SQL> select * from customers
SQL>
SQL> select * from customers;
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE STATE
ORDER_ID
       1001 23-MAY-20
                                 1200
RAJ K
1001
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
       1001 22-MAY-20
                                1200
MK
NULL
1002
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
SALESPERSON
STORE_STATE
ORDER ID
1002 23-MAY-20
MALIKA RAKESH
                                1200
MH
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE STATE
ORDER ID
1003 22-MAY-20
MALIKA RAKESH
                                1500
1004
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
        1004 22-MAY-20
                                1210
M K
NULL
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER ID
1007 12-DEC-19
R K RAKESH
                                 4200
```

```
MH
1007
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER ID
      1002 12-MAY-20 1200
MOLLY SAMBERG
1001
7 rows selected.
SQL> DELETE from customers where customer_id = 4200;
0 rows deleted.
SQL> DELETE from customers where customer_id = 1007;
1 row deleted.
SQL> select * from customers;
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE STATE
ORDER_ID
       1001 23-MAY-20
                             1200
RAJ K
KA
1001
CUSTOMER ID SALE DATE SALE AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
       1001 22-MAY-20
                              1200
M K
NULL
1002
CUSTOMER_ID SALE_DATE SALE_AMOUNT
STORE STATE
DRDER_ID
1002 23-MAY-20
MALIKA RAKESH
                               1200
1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE STATE
ORDER_ID
1003 22-MAY-20
MALIKA RAKESH
                              1500
MH
1004
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
       1884 22-MAY-28
```

Result:

Thus the DML commands are used to modify or manipulate data records

present in the customer database tables.

SQL> select * from customers; CUSTOMER ID SALE DATE SALE AMOUNT -----SALESPERSON ______ STORE STATE -----ORDER ID ______ 1001 23-MAY-20 1200 RAJ K KΑ 1001 CUSTOMER ID SALE DATE SALE AMOUNT -----SALESPERSON STORE STATE ORDER ID ______ 1001 22-MAY-20 1200 МК NULL 1002 CUSTOMER_ID SALE_DATE SALE_AMOUNT SALESPERSON STORE STATE ______ ORDER ID 1002 23-MAY-20 1200 MALIKA RAKESH МН 1003

CUSTOMER ID SALE DATE SALE AMOUNT

SALESPERSON		
STORE_STATE		
ORDER_ID		
1000	00 200	1500
MALIKA RAKE		1500
MH 1004		
1004		
CUSTOMER ID	SALE DATE	SALE_AMOUNT
SALESPERSON		
 STORE_STATE		
ORDER_ID		
	22-MAY-20	1210
M K NULL		
1003		
CUSTOMER_ID	SALE_DATE	SALE_AMOUNT
SALESPERSON		
STORE_STATE		
ORDER_ID		
1005	12-DEC-10	4200
R K RAKESH	17 DEC-19	4200
MH 1007		
1001		
CUSTOMER ID	SALE DATE	SALE_AMOUNT
SALESPERSON		
OVIDOL EKOON		

```
STORE STATE
______
ORDER ID
______
    1002 12-MAY-20 1200
MOLLY SAMBERG
1001
7 rows selected.
SQL> grant select on customers to admin;
Grant succeeded.
SQL> revoke select on customers from admin;
Revoke succeeded.
SQL> commit;
Commit complete.
SQL> INSERT INTO CUSTOMERS VALUES (98, '19-MAY-
2002',1200,'DineshReddy','AP','1111');
1. row created.
SQL> select * from customers;
CUSTOMER ID SALE DATE SALE AMOUNT
_____
SALESPERSON
STORE STATE
_____
ORDER ID
______
    1001 23-MAY-20 1200
RAJ K
ΚA
1001
CUSTOMER ID SALE DATE SALE AMOUNT
_____
```

SALESPERSON

STORE_S	STATE			
ORDER_1				
M K NULL 1002	1001	22-MAY-20		1200
1002				
CUSTOME	ER_ID	SALE_DATE	SALE_	AMOUNT
SALESPE				
STORE_S	STATE			
ORDER_1	ID			
MALIKA MH 1003		23-MAY-20 SH		
CUSTOME	ER_ID	SALE_DATE	SALE_	AMOUNT
SALESPE	ERSON			
STORE_S	STATE			
ORDER_1	[D			
MALIKA MH 1004		22-MAY-20 SH		1500
CUSTOME	ER_ID	SALE_DATE	SALE_	AMOUNT
SALESPE				
STORE_S		_		_

ORDER_	ID	
	•	
	1004 22-MAY-20	1210
M K NULL		
1003		
CHOMON		ATE AMOUNT
	ER_ID SALE_DATE S.	ALE_AMOUNT
SALESE	ERSON	
	C T A T T	
STORE_		
ORDER_		
	1005 12-DEC-19	4200
R K RA MH	KESH	
1007		
CUSTOM	ER_ID SALE_DATE S. 	ALE_AMOUN'I'
SALESE	ERSON	
CTODE		
STORE_		
ORDER	ID	
	· 	
	1002 12-MAY-20	1200
MOLLY DL	SAMBERG	
1001		
CUSTOM	ER_ID SALE_DATE S.	ALE_AMOUNT
SALESE	ERSON	
	_ _	
STORE_	-	
	TD	
ORDER_	.ID	

```
98 19-MAY-02 1200
DineshReddy
ΑP
1111
8 rows selected.
SQL> rollback;
Rollback complete.
SQL> select * from customers;
CUSTOMER_ID SALE_DATE SALE_AMOUNT
-----
SALESPERSON
STORE STATE
_____
ORDER ID
______
   1001 23-MAY-20 1200
RAJ K
KΑ
1001
CUSTOMER ID SALE DATE SALE AMOUNT
_____
SALESPERSON
STORE STATE
ORDER ID
______
   1001 22-MAY-20 1200
МК
NULL
1002
CUSTOMER ID SALE DATE SALE AMOUNT
______
SALESPERSON
```

STORE_STATE			
ORDER_ID		 	
1002 23-MAY-20 MALIKA RAKESH MH 1003	1200		
CUSTOMER_ID SALE_DATE SAL	E_AMOUNT		
SALESPERSON			
STORE_STATE			
ORDER_ID		 	
1003 22-MAY-20 MALIKA RAKESH MH 1004	1500		
CUSTOMER_ID SALE_DATE SAL	E_AMOUNT	 	
STORE_STATE		 	
ORDER_ID			
1004 22-MAY-20 M K NULL 1003	1210		
CUSTOMER_ID SALE_DATE SAL	E_AMOUNT		
SALESPERSON		 	
STORE_STATE			

```
ORDER ID
_____
    1005 12-DEC-19
                 4200
R K RAKESH
MH
1007
CUSTOMER ID SALE DATE SALE AMOUNT
_____
SALESPERSON
STORE STATE
ORDER ID
______
    1002 12-MAY-20 1200
MOLLY SAMBERG
1001
7 rows selected.
SQL> INSERT INTO CUSTOMERS VALUES (98, '19-MAY-
2002',1200,'DineshReddy','AP','1001');
1. row created.
SQL> INSERT INTO CUSTOMERS VALUES (98, '19-MAY-
2002',1200,'DineshReddy','AP','1999');
1. row created.
SQL> select * from customers;
CUSTOMER ID SALE DATE SALE AMOUNT
______
SALESPERSON
STORE STATE
______
ORDER ID
______
   1001 23-MAY-20 1200
RAJ K
```

CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
 ORDER_ID
1001 22-MAY-20 1200 M K NULL 1002
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
STORE_STATE
ORDER_ID
1002 23-MAY-20 1200 MALIKA RAKESH MH 1003
CUSTOMER_ID SALE_DATE SALE_AMOUNT
SALESPERSON
 STORE_STATE
ORDER_ID
1003 22-MAY-20 1500 MALIKA RAKESH MH 1004

CUSTOMER_ID	SALE_DATE	SALE_AMOUNT	
SALESPERSON			
STORE_STATE			
ORDER_ID			
1004 M K NULL 1003	22-MAY-20	1210	
CUSTOMER ID	SALE DATE	SALE_AMOUNT	
SALESPERSON			
STORE_STATE			
ORDER_ID			
		4200	
CUSTOMER_ID	SALE_DATE	SALE_AMOUNT	
SALESPERSON			
 STORE_STATE			
ORDER_ID			
1002 MOLLY SAMBER DL 1001		1200	
CUSTOMER ID	SALE DATE	SALE AMOUNT	

```
SALESPERSON
STORE STATE
ORDER ID
_____
      98 19-MAY-02 1200
DineshReddy
AΡ
1001
CUSTOMER ID SALE DATE SALE AMOUNT
SALESPERSON
STORE STATE
______
ORDER ID
_____
      98 19-MAY-02 1200
DineshReddy
ΑP
1999
9 rows selected.
SQL> savepoint sp1;
Savepoint created.
SQL> delete from customers where customer id=1007;
delete from customers where customer id=1007
ERROR at line 1:
ORA-00920: invalid relational operator
SQL> delete from customers where customer_id=1007;
0 rows deleted.
SQL> delete from customers where customer id=1005;
1. row deleted.
SQL> rollback to sp1;
```

Rollback complete. SQL> select * from customers; CUSTOMER ID SALE DATE SALE AMOUNT _____ SALESPERSON STORE STATE ______ ORDER ID _____ 1001 23-MAY-20 1200 RAJ K KA 1001 CUSTOMER ID SALE DATE SALE AMOUNT SALESPERSON STORE STATE ______ ORDER ID ______ 1001 22-MAY-20 1200 ΜK NULL 1002 CUSTOMER ID SALE DATE SALE AMOUNT _____ SALESPERSON ______ STORE STATE ORDER ID ______ 1002 23-MAY-20 1200 MALIKA RAKESH MН 1003

CUSTOMER_ID	SALE_DATE	SALE_AMOUNT	
SALESPERSON			
STORE_STATE			
ORDER_ID			
1003 MALIKA RAKE: MH 1004		1500	
CUSTOMER_ID	-	SALE_AMOUNT	
SALESPERSON			
STORE_STATE			
ORDER_ID			
1004 M K NULL 1003		1210	
CUSTOMER_ID	SALE_DATE	SALE_AMOUNT	
SALESPERSON			
STORE_STATE			
ORDER_ID			
1005 R K RAKESH MH 1007	12-DEC-19	4200	

CUSTOMER_ID SALE_DATE SALE_AMOUNT

```
SALESPERSON
STORE STATE
______
ORDER ID
______
   1002 12-MAY-20 1200
MOLLY SAMBERG
\mathsf{DL}
1001
CUSTOMER_ID SALE_DATE SALE_AMOUNT
-----
SALESPERSON
_____
STORE STATE
ORDER ID
______
     98 19-MAY-02 1200
DineshReddy
ΑP
1001
CUSTOMER ID SALE DATE SALE AMOUNT
_____
SALESPERSON
STORE STATE
ORDER ID
______
    98 19-MAY-02 1200
DineshReddy
ΑP
1999
9 rows selected.
SQL> delete from customers where customer id=1003;
```

```
1. row deleted.
SQL> delete from customers where customer id=1001;
2. rows deleted.
SQL> savepoint sp2;
Savepoint created.
SQL> rollback to sp2;
Rollback complete.
SQL> select * from customers;
CUSTOMER_ID SALE_DATE SALE_AMOUNT
-----
SALESPERSON
_____
STORE STATE
_____
ORDER ID
______
    1002 23-MAY-20 1200
MALIKA RAKESH
МН
1003
CUSTOMER ID SALE DATE SALE AMOUNT
_____
SALESPERSON
STORE STATE
ORDER ID
______
    1004 22-MAY-20 1210
ΜK
NULL
1003
CUSTOMER ID SALE DATE SALE AMOUNT
______
SALESPERSON
```

 STORE_STATE		
ORDER_ID		
1005 R K RAKESH MH 1007	12-DEC-19	4200
CUSTOMER_ID	SALE_DATE	SALE_AMOUNT
SALESPERSON	_	
STORE_STATE		
ORDER_ID		
1002 MOLLY SAMBER DL 1001	12-MAY-20	1200
CUSTOMER_ID	SALE_DATE	SALE_AMOUNT
SALESPERSON		
STORE_STATE		
ORDER_ID		_
98 DineshReddy AP 1001	19-MAY-02	1200
CUSTOMER_ID	SALE_DATE	SALE_AMOUNT
SALESPERSON		
STORE_STATE		

ORDER_ID

98 19-MAY-02 1200

DineshReddy

ΑP

1999

6 rows selected.

SQL> commit;

Commit complete.

SQL> spool off

DBMS Lab Record

Submitted By:

NAME -A. Venkata DineshReddy

REGISTRATION NO. -RA1911028010098

SUBJECT NAME- Database Management System

SUBJECT CODE - 18CSC303J

BRANCH - Computer Science And

Engineering

Specialization - Cloud Computing

FACULTY NAME - Dr.S.Suresh



Title of Experiment

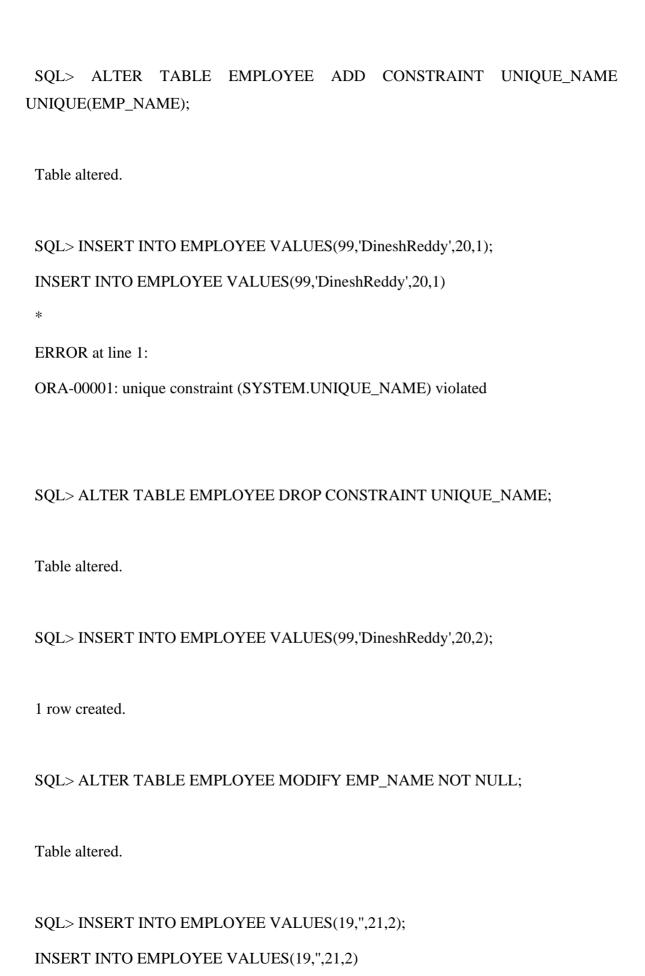
AIM: To execute commands using keys and finding constraints.

SQL Command:

SOL> CREATE TABLE EMPLOYEE(EMP ID INT NOT NULLEMP NAME

	NT,DEPT_ID INT,CHECK (AGE>=18))	
Table created.		
SQL> desc employee;		
Name	Null? Type	
EMP_ID	NOT NULL NUMBER(38)	
EMP_NAME	VARCHAR2(20)	
AGE	NUMBER(38)	
DEPT_ID	NUMBER(38)	
SQL> INSERT INTO E	EMPLOYEE VALUES(98,'DineshReddy	y',20,1);
1 row created.		
SQL> INSERT INTO E	EMPLOYEE VALUES(19,'Dinesh',17,1));
INSERT INTO EMPLO	OYEE VALUES(19,'Dinesh',17,1)	
*		
ERROR at line 1:		

ORA-02290: check constraint (SYSTEM.SYS_C006998) violated



ERROR at line 1:	
ORA-01400: cannot insert NULL into	O ("SYSTEM"."EMPLOYEE"."EMP_NAME")
SQL> ALTER TABLE EMPLOYEE	MODIFY EMP_NAME NULL;
Table altered.	
SQL> INSERT INTO EMPLOYEE V	VALUES(19,",21,2);
1 row created.	
SQL> CREATE TABLE VARCHAR(3),PRIMARY KEY(DEPT	DEPARTMENT(DEPT_ID INT,DEPT_NAME ID)):
VARCHAR(3),I RIMART RET(DEI 1	1_110)),
Table created.	
SQL> desc department;	
Name Null?	Type
DEPT_ID NOT	NULL NUMBER(38)
DEPT_NAME	VARCHAR2(3)
SQL> desc employee;	
Name Null?	Type
EMP_ID NOT	NULL NUMBER(38)
EMP_NAME	VARCHAR2(20)

NUMBER(38)

AGE

DEPT_ID

NUMBER(38)

SQL> select * from employee;

EMP_ID EMP_NAME	Ξ		AGE	DEPT_ID
98 DineshReddy		20	1	
99 DineshReddy		20	2	
19	21	2		

SQL> DELETE FROM EMPLOYEE WHERE DEPT_ID=2;

2 rows deleted.

SQL> INSERT INTO EMPLOYEE VALUES(99, 'Dinesh', 21, 2);

1 row created.

SQL> select * from employee;

EMP_ID EMP_NAME		AGE	DEPT_ID
98 DineshReddy	20	1	
99 Dinesh	21	2	

SQL> insert all

- 2 into department values(1,'CSE')
- 3 into department values(2,'ECE')

4 into department values(3,'EEE')
5 select 1 from dual;
3 rows created.
SQL> select * from department;
DEPT_ID DEP
1 CSE
2 ECE
3 EEE
SQL> SELECT E.EMP_ID,E.EMP_NAME,E.AGE,D.DEPT_NAME FROM EMPLOYEE E JOIN DEPARTMENT D ON E.DEPT_ID = D.DEPT_ID; EMP_ID EMP_NAME AGE DEP
98 DineshReddy 20 CSE
99 Dinesh 21 ECE
SQL> INSERT INTO EMPLOYEE VALUES(100,'D',22,3);
1 row created.
SQL>SELECT
EMPLOYEE.EMP_ID,EMPLOYEE.EMP_NAME,DEPARTMENT.DEPT_NAME FROM
EMPLOYEE, DEPARTMENT WHERE
EMPLOYEE.DEPT_ID=DEPARTMENT.DEPT_ID;

EMP_ID EMP_NAME DEP 98 DineshReddy CSE 99 Dinesh ECE 100 D EEE SQL> ALTER TABLE EMPLOYEE ADD CONSTRAINT PK PRIMARY KEY (EMP_ID); Table altered. SQL> ALTER TABLE EMPLOYEE ADD CONSTRAINT FKEY FOREIGN KEY (DEPT_ID) REFERENCES DEPARTMENT (DEPT_ID); Table altered. SQL> select * from employee; EMP_ID EMP_NAME AGE DEPT_ID -----98 DineshReddy 20 1 99 Dinesh 21 2

SQL> select * from department;

22 3

DEPT_ID DEP

100 D

```
1 CSE
    2 ECE
    3 EEE
SQL> INSERT INTO EMPLOYEE VALUES(101, 'Venkata', 19,4);
INSERT INTO EMPLOYEE VALUES(101, 'Venkata', 19,4)
ERROR at line 1:
ORA-02291: integrity constraint (SYSTEM.FKEY) violated - parent key not found
SQL> INSERT INTO DEPARTMENT VALUES(4,'Mech');
INSERT INTO DEPARTMENT VALUES(4,'Mech')
ERROR at line 1:
ORA-12899: value too large for column "SYSTEM"."DEPARTMENT"."DEPT_NAME"
(actual: 4, maximum: 3)
SQL> INSERT INTO DEPARTMENT VALUES(4,'Mec');
1 row created.
SQL> INSERT INTO EMPLOYEE VALUES(101, 'Venkata', 19,4);
1 row created.
```

SQL> DELETE FROM DEPARTMENT WHERE DEPT_ID=4;

DELETE FROM DEPARTMENT WHERE DEPT_ID=4 ERROR at line 1: ORA-02292: integrity constraint (SYSTEM.FKEY) violated - child record found SQL> ALTER TABLE EMPLOYEE DROP CONSTRAINT FKEY; Table altered. SQL> ALTER TABLE EMPLOYEE ADD CONSTRAINT FKEY FOREIGN KEY (DEPT_ID) REFERENCES DEPARTMENT (DEPT_ID) ON DELETE CASCADE; Table altered. SQL> select * from employee; EMP_ID EMP_NAME AGE DEPT_ID 98 DineshReddy 20 1 99 Dinesh 21 2 100 D 22 3 101 Venkata 19 4

DEPT_ID DEP

SQL> select * from department;

1 CSE

2 ECE					
3 EEE					
4 Mec					
SQL> DELETE FROM DE	PARTM	ENT W	HERE DEP	T_ID=3 OF	R DEPT_ID=4
2 rows deleted.					
SQL> select * from employ	ree;				
EMP_ID EMP_NAME			DEPT_ID	,	
98 DineshReddy	20	1			
99 Dinesh	21	2			
SQL> select * from departn	nent;				
DEPT_ID DEP					
1 CSE					
2 ECE					
SQL> spool off;					

Output:-

```
SQL> spool on
SQL> CREATE TABLE EMPLOYEE(EMP ID INT NOT NULL,EMP NAME VARCHAR(20) ,AGE INT,DEPT ID INT,CHECK (AGE>=18));
Table created.
SQL> desc employee;
                                           Null? Type
EMP ID
                                           NOT NULL NUMBER(38)
EMP NAME
                                                    VARCHAR2(20)
AGE
                                                    NUMBER(38)
DEPT ID
                                                    NUMBER(38)
SQL> INSERT INTO EMPLOYEE VALUES(98, DineshReddy',20,1);
1 row created.
SQL> INSERT INTO EMPLOYEE VALUES(19, Dinesh',17,1);
INSERT INTO EMPLOYEE VALUES(19, Dinesh 1,17,1)
ERROR at line 1:
ORA-02290: check constraint (SYSTEM.SYS C006998) violated
SQL> ALTER TABLE EMPLOYEE ADD CONSTRAINT UNIQUE_NAME UNIQUE(EMP_NAME);
Table altered.
SQL> INSERT INTO EMPLOYEE VALUES(99, DineshReddy',20,1);
INSERT INTO EMPLOYEE VALUES(99, DineshReddy , 20,1)
ERROR at line 1:
ORA-00001: unique constraint (SYSTEM.UNIQUE NAME) violated
```

```
SQL> ALTER TABLE EMPLOYEE DROP CONSTRAINT UNIQUE NAME:
SQL> INSERT INTO EMPLOYEE VALUES(99, DineshReddy, 20,2);
1 row created.
SQL> ALTER TABLE EMPLOYEE MODIFY EMP_NAME NOT NULL;
SQL> INSERT INTO EMPLOYEE VALUES(19,'',21,2);
INSERT INTO EMPLOYEE VALUES(19,'',21,2)
ERROR at line 1:
DRA-01400: cannot insert NULL into ("SYSTEM"."EMPLOYEE"."EMP_NAME")
SQL> ALTER TABLE EMPLOYEE MODIFY EMP_NAME NULL;
Table altered.
SQL> INSERT INTO EMPLOYEE VALUES(19,'',21,2);
Table created.
SQL> desc department;
Name
                                                   Null?
                                                             Type
                                                   NOT NULL NUMBER(38)
VARCHAR2(3)
DEPT_ID
DEPT_NAME
SQL> desc employee;
                                                   Null?
EMP_ID
EMP_NAME
                                                   NOT NULL NUMBER(38)
VARCHAR2(20)
```

```
EMP_NAME
                                                                       VARCHAR2(20)
                                                                      NUMBER(38)
NUMBER(38)
 AGE<sup>-</sup>
 DEPT_ID
SQL> select * fr<mark>om employee;</mark>
    EMP ID EMP NAME
                                                    AGE
                                                             DEPT_ID
          98 DineshReddy
                                                      20
                                                                      1
          99 DineshReddy
                                                      20
                                                                      2
          19
                                                                      2
                                                      21
SQL> DELETE FROM EMPLOYEE WHERE DEPT ID=2;
2 rows deleted.
SQL> INSERT INTO EMPLOYEE VALUES(99, Dinesh',21,2);
1 row created.
SQL> select * from employee;
    EMP_ID EMP_NAME
                                                    AGE DEPT_ID
          98 DineshReddy
                                                      20
          99 Dinesh
                                                      21
                                                                      2
SQL> insert all

2 into department values(1,°CSE°)

3 into department values(2,°ECE°)

4 into department values(3,°EEE°)

5 select 1 from dual;
3 rows created.
SQL> select * from department;
   DEPT_ID DEP
           1 CSE
2 ECE
           3 EEE
```

```
SQL> SELECT E.EMP ID,E.EMP NAME,E.AGE,D.DEPT NAME FROM EMPLOYEE E JOIN DEPARTMENT D ON E.DEPT ID = D.DEPT ID;
   EMP_ID EMP_NAME
                                      AGE DEP
                                       20 CSE
       98 DineshReddy
       99 Dinesh
                                       21 ECE
SQL> INSERT INTO EMPLOYEE VALUES(100, D',22,3);
 row created.
SQL> SELECT EMPLOYEE.EMP_ID,EMPLOYEE.EMP_NAME,DEPARTMENT.DEPT_NAME FROM EMPLOYEE,DEPARTMENT WHERE EMPLOYEE.DEPT ID=DEPARTMENT.DEPT_ID;
   EMP_ID EMP_NAME
       98 DineshReddy
       99 Dinesh
      100 D
SQL> ALTER TABLE EMPLOYEE ADD CONSTRAINT PK PRIMARY KEY (EMP_ID);
Table altered.
SQL> ALTER TABLE EMPLOYEE ADD CONSTRAINT FKEY FOREIGN KEY (DEPT ID) REFERENCES DEPARTMENT (DEPT ID);
Table altered.
SQL> select * from employee;
   EMP ID EMP NAME
                                      AGE
                                             DEPT_ID
       98 DineshReddy
       99 Dinesh
      100 D
SQL> select * from department;
  DEPT_ID DEP
        2 ECE
3 EEE
```

```
SQL> INSERT INTO EMPLOYEE VALUES(101,'Venkata',19,4);
INSERT INTO EMPLOYEE VALUES(101, Venkata ,19,4)
ERROR at line 1:
ORA-02291: integrity constraint (SYSTEM.FKEY) violated - parent key not found
SQL> INSERT INTO DEPARTMENT VALUES(4, 'Mech');
INSERT INTO DEPARTMENT VALUES(4, 'Mech')
ERROR at line 1:
ORA-12899: value too large for column "SYSTEM"."DEPARTMENT"."DEPT NAME"
(actual: 4, maximum: 3)
SQL> INSERT INTO DEPARTMENT VALUES(4,'Mec');
1 row created.
SQL> INSERT INTO EMPLOYEE VALUES(101, Venkata', 19,4);
1 row created.
SQL> DELETE FROM DEPARTMENT WHERE DEPT_ID=4;
DELETE FROM DEPARTMENT WHERE DEPT_ID=4
ERROR at line 1:
ORA-02292: integrity constraint (SYSTEM.FKEY) violated - child record found
SQL> ALTER TABLE EMPLOYEE DROP CONSTRAINT FKEY;
Table altered.
SQL> ALTER TABLE EMPLOYEE ADD CONSTRAINT FKEY FOREIGN KEY (DEPT_ID) REFERENCES DEPARTMENT (DEPT_ID) ON DELETE CASCADE;
Γable altered.
```

```
SQL> select * from employee;
                                         AGE DEPT_ID
   EMP_ID EMP_NAME
        98 DineshReddy
                                          20
       99 Dinesh
100 D
                                           21
                                                        2
                                           22
                                                       4
       101 Venkata
                                           19
SQL> select * from department;
   DEPT ID DEP
         1 CSE
2 ECE
3 EEE
         4 Mec
SQL> DELETE FROM DEPARTMENT WHERE DEPT_ID=3 OR DEPT_ID=4;
2 rows deleted.
SQL> select * from employee;
   EMP_ID EMP_NAME
                                         AGE DEPT_ID
        98 DineshReddy
                                          20
        99 Dinesh
                                           21
                                                        2
SQL> select * from department;
  DEPT_ID DEP
         1 CSE
2 ECE
SQL> spool off;
```

Result:-

Successfully executed the commands using keys and shown the constraints.

DBMS Lab Record

Submitted By:

NAME -A. Venkata DineshReddy

REGISTRATION NO. -RA1911028010098

SUBJECT NAME- Database Management System

SUBJECT CODE - 18CSC303J

BRANCH - Computer Science And

Engineering

Specialization - Cloud Computing

FACULTY NAME - Dr.S.Suresh



Title of Experiment

AIM: To execute commands using the basic select statements.

SQL Command:

```
SOL>
      CREATE TABLE MANAGERS (EMP NO INT, ENAME VARCHAR (15), JOB
VARCHAR (15), MGR INT, HIREDATE DATE, SAL INT, COMM INT, DEPTNO INT, PRIMARY
KEY (EMP NO));
 SQL> insert into managers values(7369, 'SMITH', 'CLERK', 7902, '17-DEC-
80',800,'',20);
 1 row created.
 SQL> insert into managers values(7499, 'ALLEN', 'SALESMAN', 7698, '20-
FEB-81',1600,300,30);
 1 row created.
 SQL> insert into managers values(7521, 'WARD', 'SALESMAN', 7698, '22-FEB-
81',1250,500,30);
 1 row created.
 SQL> insert into managers values (7566 , 'JONES' , 'MANAGER' ,7839
,'02-APR-81' , 2975 ,'' ,20 );
 1 row created.
```

```
SQL> insert into managers values (7654 , 'MARTIN' , 'SALESMAN' ,7698 ,
'28-SEP-81' , 1250 ,1400 ,30 );
1 row created.
SQL> insert into managers values (7698, 'BLAKE', 'MANAGER', 7839, '01-MAY-
81',2580,'',30);
1 row created.
SQL> insert into managers values(7782 , 'CLARK' , 'MANAGER' ,7839 ,
'09-JUN-81' , 2450 ,'' ,10 );
1 row created.
SQL> insert into managers values(7788 , 'SCOTT' ,'ANALYST' ,7566 ,
'19-APR-87' , 3000 ,'' ,20 );
1 row created.
SQL> insert into managers values (7839, 'KING', 'PRESIDENT', '', '17-NOV-
81',5000,'',10);
1 row created.
SQL> insert into managers values (7844, 'TURNER', 'SALESMAN', '7698', '08-
SEP-81',1500,'0',30);
1 row created.
SQL> insert into managers values(7876,'ADMAS','CLERK',7788,'23-MAY-
87',1100,'',20);
```

1 row created.

```
SQL> insert into managers values(7900, 'JAMES', 'CLERK', 7698, '03-DEC-
81',950,'',30);
1 row created.
SQL> insert into managers values(7902 , 'FORD' , 'ANALYST' ,7566 ,
'03-DEC-81', 3000,'',20);
1 row created.
SQL> insert into managers values(7934 , 'MILLER' ,'CLERK' ,7782 ,
'23-JAN-82' , 1300 ,'' ,10 );
1 row created.
SQL> desc managers;
 Name
                                      Null? Type
 EMP NO
                                      NOT NULL NUMBER (38)
 ENAME
                                               VARCHAR2 (15)
 JOB
                                               VARCHAR2 (15)
                                               NUMBER (38)
 MGR
 HIREDATE
                                               DATE
 SAL
                                               NUMBER (38)
 COMM
                                               NUMBER (38)
 DEPTNO
                                               NUMBER (38)
SQL> select * from managers;
```

bon serect from managers

EMP NO ENAME

JOB

MGR HIREDATE

	COMM	DEPTNO		
800	7369	SMITH	CLERK	7902 17-DEC-80
		20		
1600	7499	ALLEN	SALESMAN	7698 20-FEB-81
	300	30		
1250	7521	WARD	SALESMAN	7698 22-FEB-81
	500	30		
SAL	EMP_NO	ENAME	JOB	MGR HIREDATE
	COMM	DEPTNO		
2975	7566	JONES	MANAGER	7839 02-APR-81
		20		
1250		MARTIN 30	SALESMAN	7698 28-SEP-81
2580	7698	BLAKE	MANAGER	7839 01-MAY-81

	EMP_NO	ENAME	JOB	MGR HIREDATE
SAL				
		DEPTNO		
		DEFINO		
		CLARK	MANAGER	7839 09-JUN-81
2450				
		10		
3000	7788	SCOTT	ANALYST	7566 19-APR-87
		20		
	7839	KING	PRESIDENT	17-NOV-81
5000				
		10		
07.7	EMP_NO	ENAME	JOB	MGR HIREDATE
SAL				
	COMM	DEPTNO		
	7844	TURNER	SALESMAN	7698 08-SEP-81
1500				
	0	30		
	7076	a DMa C	QI EDY	7700 00 1711 07
1100	/8/6	ADMAS	CLERK	7788 23-MAY-87

7900 JAMES CLERK 7698 03-DEC-81 950 30 EMP_NO ENAME JOB MGR HIREDATE SAL COMM DEPTNO _____ 7902 FORD ANALYST 7566 03-DEC-81 3000 20 7934 MILLER CLERK 7782 23-JAN-82 1300 10 14 rows selected. SQL> UPDATE MANAGERS SET SAL=((SAL*0.1)+SAL); 14 rows updated. SQL> select * from managers; EMP_NO ENAME JOB MGR HIREDATE SAL

COMM DEPTNO

880	7369	SMITH	CLERK	7902 17-DEC-80
		20		
1760	7499	ALLEN	SALESMAN	7698 20-FEB-81
	300	30		
1375	7521	WARD	SALESMAN	7698 22-FEB-81
	500	30		
SAL	EMP_NO	ENAME	JOB	MGR HIREDATE
	COMM	DEPTNO		
3273	7566	JONES	MANAGER	7839 02-APR-81
		20		
1275	7654	MARTIN	SALESMAN	7698 28-SEP-81
1375	1400	30		
2838	7698	BLAKE	MANAGER	7839 01-MAY-81
		30		

SAL	EMP_NO	ENAME	JOB	MGR HIREDATE
		DEPTNO		
2695		CLARK	MANAGER	7839 09-JUN-81
	7788	10 SCOTT	ANALYST	7566 19-APR-87
3300		20		
5500	7839		PRESIDENT	17-NOV-81
		10		
SAL	EMP_NO	ENAME	JOB	MGR HIREDATE
		DEPTNO		
1650		TURNER	SALESMAN	7698 08-SEP-81
	0	30		
1210	7876	ADMAS	CLERK	7788 23-MAY-87

1045	7900	JAMES	CLERK	7698 03-DEC-81	
			30		
I SAL	EMP_NO	ENAME	JOB	MGR HIREDATE	
	COMM	DEP	TNO		
3300		FORD	ANALYST	7566 03-DEC-81	
			20		
1430	7934	MILLER	CLERK	7782 23-JAN-82	
			10		
14 ro	ows sel	lected.			
SQL> delete from managers where SAL < 2750;					
9 rows deleted.					
SQL> select * from managers;					
SAL	EMP_NO	ENAME	JOB	MGR HIREDATE	
	COMM	DEP			

3273	7566	JONES	MANAGER	7839 02-APR-81
		20		
2838	7698	BLAKE	MANAGER	7839 01-MAY-81
2030		30		
	7788	SCOTT	ANALYST	7566 19-APR-87
3300		20		
SAL	EMP_NO	ENAME	JOB	MGR HIREDATE
	 -			
	COMM	DEPTNO		
5500	7839	KING	PRESIDENT	17-NOV-81
		10		
2222	7902	FORD	ANALYST	7566 03-DEC-81
3300	7902	FORD 20	ANALYST	7566 03-DEC-81

SQL> insert into managers values(7369,'SMITH','CLERK',7902,'17-DEC80',800,'',20);

1 row created.

```
SQL> insert into managers values(7499,'ALLEN','SALESMAN',7698,'20-
FEB-81',1600,300,30);
1 row created.
SQL> insert into managers values (7521, 'WARD', 'SALESMAN', 7698, '22-FEB-
81',1250,500,30);
 1 row created.
SQL> insert into managers values(7654 , 'MARTIN' , 'SALESMAN' ,7698 ,
'28-SEP-81' , 1250 ,1400 ,30 );
1 row created.
SQL> insert into managers values(7782 , 'CLARK' , 'MANAGER' ,7839 ,
'09-JUN-81' , 2450 ,'' ,10 );
1 row created.
SQL> insert into managers values (7844, 'TURNER', 'SALESMAN', '7698', '08-
SEP-81',1500,'0',30);
1 row created.
SQL> insert into managers values(7876,'ADMAS','CLERK',7788,'23-MAY-
87',1100,'',20);
1 row created.
SQL> insert into managers values(7900, 'JAMES', 'CLERK', 7698, '03-DEC-
81',950,'',30);
```

1 row created.

1 r	ow creat	ced.		
SQL>	> select	t * from manage.	rs;	
SAL	EMP_NO	ENAME	JOB	MGR HIREDA
	COMM	DEPTNO		
3273		JONES	MANAGER	7839 02-APR-
		20		
2838	7698	BLAKE	MANAGER	7839 01-MAY-
		30		
3300	7788	SCOTT	ANALYST	7566 19-APR-
		20		
SAL	EMP_NO	ENAME	JOB	MGR HIREDA

5500	7839	KING	PRESIDENT	17-NOV-81
		10		
3300	7902	FORD	ANALYST	7566 03-DEC-81
3300		20		
800	7369	SMITH	CLERK	7902 17-DEC-80
800		20		
SAL	EMP_NO	ENAME	JOB	MGR HIREDATE
	-			
	COMM	DEPTNO		
	COMM	DEPTNOALLEN	SALESMAN	7698 20-FEB-81
1600	COMM		SALESMAN	7698 20-FEB-81
1600	COMM 7499 300	ALLEN	SALESMAN	7698 20-FEB-81 7698 22-FEB-81
	COMM 7499 300	ALLEN 30		
1600	COMM 7499 300 7521 500	ALLEN 30 WARD		
1600	COMM 7499 300 7521 500	ALLEN 30 WARD	SALESMAN	7698 22-FEB-81
	COMM			

EMP_NO ENAME JOB

MGR HIREDATE

	_			
	COMM	DEPTNO		
2450	7782	CLARK	MANAGER	7839 09-JUN-81
		10		
1500	7844	TURNER	SALESMAN	7698 08-SEP-81
	0	30		
1100	7876	ADMAS	CLERK	7788 23-MAY-87
		20		
SAL	EMP_NO	ENAME	JOB	MGR HIREDATE
	COMM	DEPTNO		
950	7900	JAMES	CLERK	7698 03-DEC-81
		30		
1300	7934	MILLER	CLERK	7782 23-JAN-82
		10		

SQL> SELECT ENAME AS NAME, SAL*12 AS ANNUALSALARY FROM MANAGERS;

NAME	ANNUALSALARY
JONES	39276
BLAKE	34056
SCOTT	39600
KING	66000
FORD	39600
SMITH	9600
ALLEN	19200
WARD	15000
MARTIN	15000
CLARK	29400
TURNER	18000

NAME	ANNUALSALARY
ADMAS	13200
JAMES	11400
MILLER	15600

14 rows selected.

SQL> SELECT CONCAT (ENAME, JOB) AS CONCATENATEDSTRING FROM MANAGERS;

CONCATENATEDSTRING

JONESMANAGER

BLAKEMANAGER

SCOTTANALYST

KINGPRESIDENT

FORDANALYST
SMITHCLERK
ALLENSALESMAN
WARDSALESMAN
MARTINSALESMAN
CLARKMANAGER
TURNERSALESMAN
CONCATENATEDSTRING
ADMASCLERK
JAMESCLERK
MILLERCLERK
14 rows selected.
II Iono delecca.
SQL> SELECT ENAME FROM MANAGERS WHERE JOB='CLERK';
ogly belief birthe from minimound when oob celetic ,
TENTA MIT
ENAME
SMITH
ADMAS
JAMES
MILLER
SQL> SELECT ENAME FROM MANAGERS WHERE HIREDATE > '30-SEP-81';
ENAME
SCOTT
KING

FORD

```
ADMAS
JAMES
MILLER
6 rows selected.
SQL> SELECT ENAME FROM MANAGERS WHERE EMP_NO IN
(7369, 7839, 7934, 7788);
ENAME
_____
SMITH
SCOTT
KING
MILLER
SQL> SELECT ENAME FROM MANAGERS WHERE JOB NOT LIKE 'MANAGER';
ENAME
_____
SCOTT
KING
FORD
SMITH
ALLEN
WARD
MARTIN
TURNER
ADMAS
JAMES
```

MILLER

```
11 rows selected.
 SQL> SELECT ENAME FROM MANAGERS WHERE DEPTNO NOT IN (30,40,10);
ENAME
 _____
JONES
SCOTT
FORD
SMITH
ADMAS
 SQL> SELECT ENAME FROM MANAGERS WHERE HIREDATE BETWEEN '30-JUN-81'
AND '31-DEC-81';
ENAME
 _____
KING
FORD
MARTIN
TURNER
JAMES
 SQL> SELECT DISTINCT (JOB) AS DESIGNATIONS FROM MANAGERS;
DESIGNATIONS
 _____
CLERK
SALESMAN
PRESIDENT
MANAGER
```

ANALYST

```
SQL> select ename name from managers where comm='False';
select ename name from managers where comm='False'
ERROR at line 1:
ORA-01722: invalid number
SQL> select ename name from managers where comm is not null;
NAME
_____
ALLEN
WARD
MARTIN
TURNER
SQL> SELECT ENAME AS NAME, JOB AS DESIGNATION FROM MANAGERS WHERE
JOB='PRESIDENT';
NAME
      DESIGNATION
-----
KING
             PRESIDENT
SQL> select * from managers where job is null;
no rows selected
SQL> SELECT ENAME AS NAME FROM MANAGERS WHERE COMM IS NULL;
NAME
```

JONES	
BLAKE	
SCOTT	
KING	
FORD	
SMITH	
CLARK	
ADMAS	
JAMES	
MILLER	
10 rows selected.	
SQL> SELECT ENAME FROM MANAGERS WHERE ENAME LIKE '%S' OR 'S%';	ENAME LIKE
ENAME	
JONES	
SCOTT	
SMITH	
ADMAS	
JAMES	
SQL>	
SQL> SELECT ENAME AS NAME FROM MANAGERS WHERE ENAME LIKE '	_I% ';
NAME	
KING	

MILLER

SQL> select ename as name, job, deptNo, hireDate from managers order by hireDate;

NAME	JOB	DEPTNO	HIREDATE
SMITH	CLERK	20	17-DEC-80
ALLEN	SALESMAN	30	20-FEB-81
WARD	SALESMAN	30	22-FEB-81
JONES	MANAGER	20	02-APR-81
BLAKE	MANAGER	30	01-MAY-81
CLARK	MANAGER	10	09-JUN-81
TURNER	SALESMAN	30	08-SEP-81
MARTIN	SALESMAN	30	28-SEP-81
KING	PRESIDENT	10	17-NOV-81
FORD	ANALYST	20	03-DEC-81
JAMES	CLERK	30	03-DEC-81
NAME	JOB	DEPTNO	HIREDATE
MILLER	CLERK	10	23-JAN-82
SCOTT	ANALYST	20	19-APR-87
ADMAS	CLERK	20	23-MAY-87

¹⁴ rows selected.

SQL> select emp_No,ename as name,job,sal as annualSalary from managers order by sal;

EMP_NO	NAME	JOB	ANNUALSALARY
7369	SMITH	CLERK	800
7900	JAMES	CLERK	950

7876	ADMAS	CLERK	1100
7654	MARTIN	SALESMAN	1250
7521	WARD	SALESMAN	1250
7934	MILLER	CLERK	1300
7844	TURNER	SALESMAN	1500
7499	ALLEN	SALESMAN	1600
7782	CLARK	MANAGER	2450
7698	BLAKE	MANAGER	2838
7566	JONES	MANAGER	3273
EMP_NO	NAME	JOB	ANNUALSALARY
7788	SCOTT	ANALYST	3300
7902	FORD	ANALYST	3300
7839	KING	PRESIDENT	5500

¹⁴ rows selected.

SQL> select emp_NO,ename as name,job,sal as annualSalary from
managers order by sal desc;

EMP_NO	NAME	JOB	ANNUALSALARY
7839	KING	PRESIDENT	5500
7788	SCOTT	ANALYST	3300
7902	FORD	ANALYST	3300
7566	JONES	MANAGER	3273
7698	BLAKE	MANAGER	2838
7782	CLARK	MANAGER	2450
7499	ALLEN	SALESMAN	1600
7844	TURNER	SALESMAN	1500
7934	MILLER	CLERK	1300

7521	WARD	SALESMAN	1250
7654	MARTIN	SALESMAN	1250
EMP_NO	NAME	JOB	ANNUALSALARY
7876	ADMAS	CLERK	1100
7900	JAMES	CLERK	950
7369	SMITH	CLERK	800

14 rows selected.

SQL> select ename,deptNO,sal from(select * from managers order by
deptNO asc,sal desc);

ENAME	DEPTNO	SAL
KING	10	5500
CLARK	10	2450
MILLER	10	1300
SCOTT	20	3300
FORD	20	3300
JONES	20	3273
ADMAS	20	1100
SMITH	20	800
BLAKE	30	2838
ALLEN	30	1600
TURNER	30	1500
ENAME	DEPTNO	SAL
WARD	30	1250
MARTIN	30	1250

JAMES 30 950

14 rows selected.

SQL> spool off

Output:-

```
SQL> spool on
SQL> spool fifth.lst
SQL> CREATE TABLE MANAGERS(EMP_NO INT,ENAME VARCHAR(15),JOB VARCHAR(15),MGR INT,HIREDATE DATE,SAL INT,COMM INT,DEPTNO INT,PRIMARY KEY (EMP_NO));
Table created.
SQL> insert into managers value('7369',SMITH,CLERK,'7902',17-DEC-80,800,'',20);
Insert into managers value('7369',SMITH,CLERK,'7902',17-DEC-80,800,'',20)
ERROR at line 1:
ORA-00928: missing SELECT keyword

SQL> insert into managers values('7369',SMITH,CLERK,'7002',17-DEC-80,800,'',20);
insert into managers values('7369',SMITH,CLERK,'7002',17-DEC-80,800,'',20)

ERROR at line 1:
ORA-00934: column not allowed here

SQL> spool off
SQL> spool off
SQL> spool on
SQL> spool five.lst
SQL> spool five.lst
SQL> spool five.lst
SQL> spool five.lst
SQL> insert into managers values('7369,'SMITH','CLERK',7902,'17-DEC-80',800,'',20);

1 row created.

SQL> insert into managers values(7499,'ALLEN','SALESMAN',7698,'20-FEB-81',1600,300,30);

1 row created.
```

```
SQL> insert into managers values(7499, ALLEN', SALESMAN',7698, 20-FEB-81',1600,300,30);
1 row created.
SQL> insert into managers values(7521,'WARD','SALESMAN',7698,'22-FEB-81',1250,500,30);
1 row created.
;( 20, '', 275 , anagers values(7566 , 'JONES' ,'MANAGER' ,7839 ,'02-APR-81' ,
1 row created.
( 30, 1400, 250, 1250 , 1261, insert into managers values; ( 30, 30, 1400, 30); sQL> insert into managers
SQL> insert into managers values(7698, BLAKE', MANAGER',7839, 01-MAY-81',2580,'',30);
1 row created.
(10, '', 2450 anagers values, 7782 , 'CLARK' ,'MANAGER' ,7839 , '09-JUN-81' , 2450 ,'' ,10
1 row created.
SQL> insert into managers values(7788 , 'SCOTT' ,'ANALYST' ,7566 , '19-APR-87' , 3000 ,'' ,20 );
SQL> insert into managers values(7839,'KING','PRESIDENT','','17-NOV-81',5000,'',10);
1 row created.
SQL> insert into managers values(7844,'TURNER','SALESMAN','7698','08-SEP-81',1500,'0',30);
1 row created.
SQL> insert into managers values(7876,'ADMAS','CLERK',7788,'23-MAY-87',1100,'',20);
SQL> insert into managers values(7900,'JAMES','CLERK',7698,'03-DEC-81',950,'',30);
1 row created.
```

```
row created.
QL> desc managers;
Name
                                        NOT NULL NUMBER(38)
VARCHAR2(15)
VARCHAR2(15)
NUMBER(38)
DATE
NUMBER(38)
NUMBER(38)
NUMBER(38)
JOB
MGR
HIREDATE
COMM
QL> select * from managers;
                                        MGR HIREDATE SAL
                                              7902 17-DEC-80
                                                                   800
    7499 ALLEN
300 30
                                              7698 22-FEB-81
                                                                  1250
     COMM DEPTNO
  7566 JONES
                             MANAGER
                                                      7839 02-APR-81
                    20
      7654 MARTIN
1400 30
                             SALESMAN
                                                                              1250
            DEPTNO
      COMM
      7782 CLARK
                                                      7566 19-APR-87
                                                                             3000
                             PRESIDENT
                                                                             5000
    EMP_NO ENAME
COMM DEPTNO
      7844 TURNER
0
                    20
                                                      7698 03-DEC-81
                             JOB
      COMM
      7902 FORD
                                                                                3000
      7902 FORD
                              ANALYST
                                                        7566 03-DEC-81
                                                       7782 23-JAN-82
                                                                               1300
14 rows selected.
SQL> UPDATE MANAGERS SET SAL=((SAL*0.1)+SAL);
SQL> select * from managers;
                                                        MGR HIREDATE
    EMP_NO ENAME
    COMM DEPTNO
      7369 SMITH
                                                       7902 17-DEC-80
                                                                                880
                     20
      7499 ALLEN
300 30
                             SALESMAN
                                                       7698 20-FEB-81
                                                                                1769
      7521 WARD
500
                              SALESMAN
                                                        MGR HIREDATE
    EMP_NO ENAME
      COMM DEPTNO
      7566 JONES
                                                       7839 02-APR-81
                                                                                3273
                              MANAGER
                     20
      7654 MARTIN
                              SALESMAN
                     30
```

MANAGER

7839 01-MAY-81

2838

row created.

EMP_NO	ENAME 		ЈОВ	MGR	HIREDATE	SA L	
		10	MANAGER	7839	09-JUN-81	2695	
7788	SCOTT		ANALYST	7566	19-APR-87	3300	
7839	KING	20	PRESIDENT		17-NOV-81	5500	
5 MD NO	ENIAME	10	708	w.c.s	LITECOATE	541	
EMP_NO COMM		 TNO	JOB	rig K	HIREDATE	SAL	
7844 9	TURNER	30	SALESMAN	7698	08-SEP-81	1650	
7876	ADMAS	20	CLERK	7788	23-MAY-87	1210	
7900	JAMES	30	CLERK	7698	03-DEC-81	1045	
EMP_NO	ENAME		JOB	MGR	HIREDATE	SAL	
COMM	DEP	TNO					
7902	FORD	20	ANALYST	7566	03-DEC-81	3300	
7934	MILLER	10	CLERK	7782	23-JAN-82	1430	
14 rows se							
SQL> delete	e from m	anagers	where SAL < 2750;				
	_						
SQL> delete	from ma	nagers wh	ere SAL < 2750;				
9 rows dele	eted.						
	eted.						
9 rows dele	ted. * from	managers;		MGR HIRE	DATE	SAL	
9 rows dele SQL> select EMP_NO	ted. * from	managers;		MGR HIRE	DATE	SAL 	
9 rows dele SQL> select EMP_NO COMM	eted. * from ENAME DEPT JONES	managers; J			DATE PR-81		
9 rows dele SQL> select EMP_NO COMM 7566	eted. * from ENAME DEPT JONES BLAKE	managers; NO 20	lob	7839 02-A		3273	
9 rows dele SQL> select	eted. * from ENAME DEPT JONES BLAKE SCOTT	managers; NO 	IOB IANAGER	7839 02-A	PR-81	3273 2838	
9 rows dele SQL> select	eted. * from ENAME DEPT JONES BLAKE SCOTT	managers; 	IOB IANAGER IANAGER	7839 02-A	PR-81 AY-81 PR-87	3273 2838	
9 rows dele SQL> select EMP_NO COMM 7566 7698 7788	eted. * from ENAME DEPT JONES BLAKE SCOTT ENAME	managers; 	IOB IANAGER IANAGER	7839 02-A 7839 01-M 7566 19-A	PR-81 AY-81 PR-87	3273 2838 3300	
9 rows dele SQL> select EMP_NO COMM 7566 7698 7788 EMP_NO COMM	eted. * from ENAME DEPT JONES BLAKE SCOTT ENAME DEPT	managers; NO 20 30 A 20	IOB IANAGER IANAGER INALYST	7839 02-A 7839 01-M 7566 19-A MGR HIRE	PR-81 AY-81 PR-87 DATE	3273 2838 3300 SAL	
9 rows dele SQL> select EMP_NO	* from ENAME	managers; NO M 30 M 20 M 20 M	IOB IANAGER IANAGER INALYST IOB PRESIDENT	7839 02-A 7839 01-M 7566 19-A MGR HIRE	PR-81 AY-81 PR-87 DATE	3273 2838 3300 SAL 	
9 rows dele SQL> select EMP_NO	* from ENAME	managers; NO M 30 M 20 M 20 M	IOB IANAGER IANAGER INALYST IOB PRESIDENT	7839 02-A 7839 01-M 7566 19-A MGR HIRE	PR-81 AY-81 PR-87 DATE	3273 2838 3300 SAL 	
9 rows dele SQL> select	* from ENAME DEPT JONES BLAKE SCOTT ENAME DEPT KING FORD	managers; NO	IOB IANAGER IANAGER INALYST IOB PRESIDENT	7839 02-A 7839 01-M 7566 19-A MGR HIRE	PR-81 AY-81 PR-87 DATE	3273 2838 3300 SAL 5500	
9 rows dele SQL> select	* from ENAME DEPT JONES BLAKE SCOTT ENAME DEPT KING FORD	managers; NO	IOB IANAGER IANAGER IOB PRESIDENT	7839 02-A 7839 01-M 7566 19-A MGR HIRE	PR-81 AY-81 PR-87 DATE	3273 2838 3300 SAL 5500	
9 rows delect SQL> select EMP_NO COMM 7566 7698 7788 EMP_NO COMM 7839 7902 SQL> insert	* from I ENAME DEPT JONES BLAKE SCOTT ENAME DEPT KING FORD	managers; NO M 30 A 20 NO P 10 A nagers va	IOB IANAGER IANAGER IOB PRESIDENT	7839 02-A 7839 01-M 7566 19-A MGR HIRE 17-N 7566 03-D	PR-81 AY-81 PR-87 DATE	3273 2838 3300 SAL 5500 3300	³);

SQL> insert into managers values(7521,'WARD','SALESMAN',7698,'22-FEB-81',1250,500,30);

1 row created.

```
, SQL> insert into managers values(7654 , 'MARTIN' ,'SALESMAN' ,7698 , '28-SEP-81' , 1250 ,1400 ,30
1 row created.
SQL> insert into managers values(7782 , 'CLARK' ,'MANAGER' ,7839 , '09-JUN-81' , 2450 ,'' ,10 );
1 row created.
SQL> insert into managers values(7844,'TURNER','SALESMAN','7698','08-SEP-81',1500,'0',30);
SQL> insert into managers values(7876, ADMAS', CLERK',7788, 23-MAY-87',1100,'',20);
1 row created.
SQL> insert into managers values(7900, JAMES', CLERK', 7698, 03-DEC-81', 950, '', 30);
1 row created.
SQL> insert into managers values(7934 , 'MILLER' ,'CLERK' ,7782 , '23-JAN-82' , 1300 ,'' ,10 );
1 row created.
SQL> select * from managers;
   EMP NO ENAME
                         JOB
                                               MGR HIREDATE
                                                                   SAL
            DEPTNO
     COMM
     7566 JONES
                         MANAGER
                                              7839 02-APR-81
                                                                  3273
                  20
     7698 BLAKE
                         MANAGER
                                              7839 01-MAY-81
                                                                  2838
                  30
                         ANALYST
                                              7566 19-APR-87
     7788 SCOTT
                                                                  3300
                  20
   EMP_NO ENAME
                         JOB
                                               MGR HIREDATE
                                                                   SAL
      7839 KING
                              PRESIDENT
                                                                                5500
                                                                                 3300
      7369 SMITH
                               CLERK
                                                        7902 17-DEC-80
                                                                                 800
                                                      MGR HIREDATE
      COMM
       7499 ALLEN
300
                                                        7698 20-FEB-81
                                                                                 1699
                               SALESMAN
      7521 WARD
500
       7654 MARTIN
1400 30
                               SALESMAN
                                                        7698 28-SEP-81
                                                                                 1250
    EMP_NO ENAME
                DEPTNO
      COMM
       7782 CLARK
                                                        7839 09-JUN-81
                               MANAGER
                                                                                 2450
      7844 TURNER
                              CLERK
                                                        7788 23-MAY-87
                                                                                 1100
                     20
```

EMP_NO	ENAME		ЈОВ	MGR	HIREDATE	SAL
сомм	DEPT	NO				
7900	JAMES	30	CLERK	7698	03-DEC-81	950
7934	MILLER	10	CLERK	7782	23-JAN-82	1300

14 rows selected.

SQL> ELECT ENAME AS NAME,SAL*12 AS ANNUALSALARY FROM MANAGERS; SP2-0734: unknown command beginning "ELECT ENAM..." - rest of line ignored. SQL> SELECT ENAME AS NAME,SAL*12 AS ANNUALSALARY FROM MANAGERS;

NAME	ANNUALSALARY
JONES	39276
BLAKE	34056
SCOTT	39600
KING	66000
FORD	39600
SMITH	9600
ALLEN	19200
WARD	15000
MARTIN	15000
CLARK	29400
TURNER	18000
NAME	ANNUALSALARY
ADMAS	13200
JAMES	11400
MTIICD	15600

14 rows selected.

```
SQL> SELECT CONCAT(ENAME, JOB) AS CONCATENATEDSTRING FROM MANAGERS;
CONCATENATEDSTRING
JONESMANAGER
BLAKEMANAGER
SCOTTANALYST
KINGPRESIDENT
FORDANALYST
SMITHCLERK
ALLENSALESMAN
WARDSALESMAN
MARTINSALESMAN
CLARKMANAGER
TURNERSALESMAN
CONCATENATEDSTRING
ADMASCLERK
JAMESCLERK
MILLERCLERK
14 rows selected.
SQL> SELECT ENAME FROM MANAGERS WHERE JOB="CLERK";
ENAME
SMITH
ADMAS
JAMES
MILLER
SQL> SELECT ENAME FROM MANAGERS WHERE HIREDATE > '30-SEP-81';
ENAME
SCOTT
KING
FORD
ADMAS
JAMES
MILLER
SQL> SELECT ENAME FROM MANAGERS WHERE EMP_NO IN (7369,7839,7934,7788);
ENAME
SMITH
SCOTT
KING
MILLER
SQL> SELECT ENAME FROM MANAGERS WHERE JOB NOT LIKE 'MANAGER';
ENAME
scott
KING
FORD
FORD
SMITH
ALLEN
WARD
MARTIN
TURNER
ADMAS
MILLER
11 rows selected.
SQL> SELECT ENAME FROM MANAGERS WHERE DEPTNO NOT IN (30,40,10);
ENAME
JONES
FORD
SMITH
```

```
SQL> SELECT ENAME FROM MANAGERS WHERE HIREDATE BETWEEN '30-JUN-81' AND '31-DEC-81';
ENAME
KING
FORD
MARTIN
TURNER
JAMES
SQL> SELECT DISTINCT(JOB) AS DESIGNATIONS FROM MANAGERS;
DESIGNATIONS
CLERK
SALESMAN
PRESIDENT
MANAGER
ANALYST
SQL> select ename name from managers where comm='False';
select ename name from managers where comm='False'
ERROR at line 1:
ORA-01722: invalid number
SQL> select ename name from managers where comm is not null;
NAME
ALLEN
WARD
MARTIN
TURNER
SQL> SELECT ENAME AS NAME,JOB AS DESIGNATION FROM MANAGERS WHERE JOB='PRESIDENT';
NAME
                DESIGNATION
KING
                PRESIDENT
SQL> select * from managers where job is null;
no rows selected
SQL> SELECT ENAME AS NAME FROM MANAGERS WHERE COMM IS NULL;
NAME
JONES
BLAKE
SCOTT
KING
FORD
SMITH
CLARK
ADMAS
JAMES
MILLER
10 rows selected.
SQL> SELECT ENAME FROM MANAGERS WHERE ENAME LIKE "%S" OR ENAME LIKE "S%";
ENAME
JONES
SCOTT
SMITH
ADMAS
JAMES
```

SQL> SELECT ENAME AS NAME FROM MANAGERS WHERE ENAME LIKE '_I%'; NAME KING MILLER SQL> select ename as name, job, deptNo, hireDate from managers order by hireDate; NAME JOB DEPTNO HIREDATE CLERK SALESMAN SALESMAN MANAGER MANAGER 20 17-DEC-80 SMITH 30 20-FEB-81 ALLEN 30 22-FEB-81 20 02-APR-81 WARD JONES 30 01-MAY-81 BLAKE MANAGER MANAGER SALESMAN SALESMAN PRESIDENT ANALYST 10 09-JUN-81 30 08-SEP-81 CLARK TURNER 30 28-SEP-81 MARTIN 10 17-NOV-81 20 03-DEC-81 KING FORD 30 03-DEC-81 JAMES CLERK JOB NAME DEPTNO HIREDATE

14 rows selected.

MILLER SCOTT ADMAS CLERK ANALYST

CLERK

SQL> select emp_NO,ename as name,job,sal as annualSalary from managers order by sal desc;

10 23-JAN-82 20 19-APR-87 20 23-MAY-87

EMP_NO	NAME	JOB	ANNUALSALARY
7839	VING	PRESIDENT	5500
	SCOTT	ANALYST	3300
7902		ANALYST	3300
7566	JONES	MANAGER	3273
7698	BLAKE	MANAGER	2838
7782	CLARK	MANAGER	2450
7499	ALLEN	SALESMAN	1600
7844	TURNER	SALESMAN	1500
7934	MILLER	CLERK	1300
7521	WARD	SALESMAN	1250
7654	MARTIN	SALESMAN	1250
EMP NO	NAME	ЈОВ	ANNUALSALARY
7876	ADMAS	CLERK	1100
7900	JAMES	CLERK	950
7369	SMITH	CLERK	800

14 rows selected.

SQL> select ename,deptNO,sal from(select * from managers order by deptNO asc,sal desc);

ENAME	DEPTNO	SAL
KING	10	5500
CLARK	19	2450
MILLER	10	1300
SCOTT	29	3300
FORD	20	3300
JONES	20	3273
ADMAS	20	1100
SMITH	20	800
BLAKE	30	2838
ALLEN	30	1600
TURNER	30	1500
ENAME	DEPTNO	SAL
WARD		1250
MARTIN	30	1250
JAMES	30	950
JAMES	26	930
14 rows selected.		
SQL> spool off SQL> edit five.lst		

Result:-

Successfully executed the commands using the basic select statements.

DBMS Lab Record

Submitted By:

NAME -A. Venkata DineshReddy

REGISTRATION NO. -RA1911028010098

SUBJECT NAME- Database Management System

SUBJECT CODE - 18CSC303J

BRANCH - Computer Science And

Engineering

Specialization - Cloud Computing

FACULTY NAME - Dr.S.Suresh



Title of Experiment

AIM: To execute commands using the functions.

SQL Command: SQL> SELECT ADD_MONTHS(SYSDATE,5) FROM DUAL; ADD_MONTH 22-JUL-22 SQL> select last_day (sysdate) from dual; LAST_DAY(28-FEB-22 SQL> select to_date('10-02-09','dd-mm-yy') from dual; TO_DATE(' 10-FEB-09 SQL> select months_between(sysdate,to_date('22-01-22','dd-mm-yy'))from dual;

MONTHS_BETWEEN(SYSDATE,TO_DATE('22-01-22','DD-MM-YY'))

SQL> select next_day(sysdate,'wednesday')from dual;
NEXT_DAY(
23-FEB-22
SQL> select to_char(sysdate,'dy dd mon yyyy') from dual;
TO_CHAR(SYSDATE,'DYDDMONYYYY')
tue 22 feb 2022
SQL> select round(sysdate,'year')from dual;
ROUND(SYS
01-JAN-22
SQL> select round(sysdate, 'month') from dual;
ROUND(SYS
01-MAR-22
SQL> select round(sysdate,'day')from dual;
ROUND(SYS
20-FEB-22

SQL> select trunc(sysdate, 'year') from dual;
TRUNC(SYS

01-JAN-22
SQL> select trunc(sysdate,'month')from dual;
TRUNC(SYS
01-FEB-22
SQL> select trunc(sysdate,'day')from dual;
TRUNC(SYS
20-FEB-22
SQL> select trunc(sysdate)from dual;
TRUNC(SYS
22-FEB-22
SQL> select greatest(sysdate,to_date('02-10-06','dd-mm-yy'),to_date('12-07-12','dd-mm-yy'))from dual;
GREATEST(
22-FEB-22

SQL> select sysdate+25 from dual;
SYSDATE+2
19-MAR-22
SQL> select sysdate-25 from dual;
SYSDATE-2
28-JAN-22
SQL> select sysdate - to_date('22-01-22','dd-mm-yy')from dual;
SYSDATE-TO_DATE('22-01-22','DD-MM-YY')
31.2767708
SQL> select initcap('jesus christ')from dual;
INITCAP('JES
Jesus Christ
SQL> select lower('DIED') from dual;
LOWE

died

SQL> select upper('for Us') from dual;
UPPER(
FOR US
SQL> select ltrim('lordourgod','lord')from dual;
LTRIM
urgod
SQL> select rtrim('godlovesyou','you')from dual;
RTRIM('G
godloves
SQL> select translate('jack','j','b')from dual;
TRAN
back
SQL> select replace('jack and jue','j','bl')from dual;
REPLACE('JACKA
black and blue

SQL> select substr('wages of sin is death',10,3)from dual;
SUB
sin
SQL> select to_date('10-02-09','dd-mm-yy')from dual;
TO_DATE('
10-FEB-09
SQL> select to_char(sysdate,'dy dd mon yyyy')from dual;
TO_CHAR(SYSDATE,'DYDDMONYYYY')
tue 22 feb 2022
SQL> select to_char(12345.5,'L099,999,99')from dual;
TO_CHAR(12345.5,'L099
\$000,123,46
SQL> select to_number('123')from dual;
TO_NUMBER('123')

SQL> select abs(-15) from dual;
ABS(-15)
15
SQL> select ceil(33.645) from dual;
CEIL(33.645)
34
SQL> select cos(180) from dual;
COS(180)
59846007
SQL> select cosh(0) from dual;
COSH(0)
1
SQL> select exp(2) from dual;
EXP(2)

7.3890561

SQL> select floor(100.2) from dual;
FLOOR(100.2)
100
SQL> select ln(5) from dual;
LN(5)
1.60943791
SQL> select log(2,64) from dual;
LOG(2,64)
6
SQL> select mod(17,3) from dual;
MOD(17,3)
2
SQL> select power(5,3) from dual;
POWER(5,3)

SQL> select round(125.67854,2) from dual;
ROUND(125.67854,2)
125.68
SQL> select sin(-19) from dual;
SIN(-19)
14987721
SQL> select sin(90) from dual;
SIN(90)
.893996664
SQL> select sinh(45) from dual;
SINH(45)
1.7467E+19
SQL> select sqrt(7) from dual;
SQRT(7)

2.64575131

SQL> select tan(45) from dual;
TAN(45)
1.61977519
SQL> select tanh(60) from dual;
TANH(60)
1
SQL> select trunc(125.5764,2) from dual;
TRUNC(125.5764,2)
125.57
SQL> select uid from dual;
UID
97
SQL> select user from dual;
USER

SQL> select vsize('hello') from dual;
VSIZE('HELLO')
5
SQL> insert into managers values(7369,'SMITH','CLERK',7902,'17-DEC-80',800,",20);
1 row created.
SQL> select nvl(comm,50)from managers where emp_no=7369;
NVL(COMM,50)
50 SQL> spool off

Output:-

C:\Users\DINESH\AppData\Local\Temp\Rar\$EXa5468.4465\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe

```
SQL> spool on
SQL> spool sixth.lst
SQL> SELECT ADD_MONTHS(SYSDATE,5) FROM DUAL;
ADD MONTH
22-JUL-22
SQL> select last_day (sysdate) from dual;
LAST_DAY(
28-FEB-22
SQL> select to_date('10-02-09','dd-mm-yy') from dual;
TO DATE('
10-FEB-09
SQL> select months_between(sysdate,to_date('22-01-22','dd-mm-yy'))from dual;
MONTHS_BETWEEN(SYSDATE,TO_DATE('22-01-22','DD-MM-YY'))
SQL> select next_day(sysdate,'wednesday')from dual;
NEXT_DAY(
23-FEB-22
SQL> select to_char(sysdate, dy dd mon yyyy') from dual;
TO_CHAR(SYSDATE, 'DYDDMONYYYY')
tue 22 feb 2022
```

```
C:\Users\DINESH\AppData\Local\Temp\Rar$EXa5468.4465\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
```

```
SQL> select round(sysdate,'year')from dual;
ROUND(SYS
01-JAN-22
SQL> select round(sysdate,'month')from dual;
ROUND(SYS
01-MAR-22
SQL> select round(sysdate,'day')from dual;
ROUND(SYS
20-FEB-22
SQL> select trunc(sysdate,'year')from dual;
TRUNC(SYS
01-JAN-22
SQL> select trunc(sysdate,'month')from dual;
TRUNC(SYS
01-FEB-22
SQL> select trunc(sysdate,'day')fr<mark>om</mark> dual;
TRUNC(SYS
20-FEB-22
SQL> select trunc(sysdate)fr<mark>om</mark> dual;
TRUNC(SYS
22-FEB-22
```

C:\Users\DINESH\AppData\Local\Temp\Rar\$EXa5468.4465\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe

```
select\ greatest(sysdate, to\_date('02-10-06', 'dd-mm-yy'), to\_date('12-07-12', 'dd-mm-yy')) from\ dual;
GREATEST(
22-FEB-22
SQL> select sysdate+25 from dual;
SYSDATE+2
19-MAR-22
SQL> select sysdate-25 from dual;
SYSDATE-2
28-JAN-22
SQL> select sysdate - to_date('22-01-22','dd-mm-yy')from dual;
SYSDATE-TO_DATE("22-01-22","DD-MM-YY")
                             31.2767708
SQL> select initcap('jesus christ')from dual;
INITCAP('JES
Jesus Christ
SQL> select lower('DIED') from dual;
LOWE
----
died
SQL> select upper('for Us') from dual;
UPPER(
FOR US
```

```
C:\Users\DINESH\AppData\Local\Temp\Rar$EXa5468.4465\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
SQL> select ltrim('lordourgod','lord')from dual;
LTRIM
urgod
SQL> select rtrim('godlovesyou','you')from dual;
RTRIM('G
godloves
SQL> select translate('jack','j','b')from dual;
TRAN
back
SQL> select replace('jack and jue','j','bl')from dual;
REPLACE("JACKA
black and blue
SQL> select substr('wages of sin is death',10,3)from dual;
SUB
---
sin
SQL> select to_date('10-02-09','dd-mm-yy')from dual;
TO_DATE('
10-FEB-09
SQL> select to_char(sysdate, dy dd mon yyyy)from dual;
TO_CHAR(SYSDATE, DYDDMONYYYY)
tue 22 feb 2022
```

```
C:\Users\DINESH\AppData\Local\Temp\Rar$EXa5468.4465\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
SQL> select to_char(12345.5,'L099,999,99')from dual;
TO_CHAR(12345.5,'L099
          $000,123,46
SQL> select to_number('123')from dual;
TO_NUMBER('123')
             123
SQL> select abs(-15) from dual;
 ABS(-15)
SQL> select ceil(33.645) from dual;
CEIL(33.645)
         34
SQL>
SQL> select cos(180) from dual;
 COS(180)
.59846007
SQL> select cosh(0) from dual;
  COSH(0)
SQL> select exp(2) from dual;
   EXP(2)
 7.3890561
```

```
C:\Users\DINESH\AppData\Local\Temp\Rar$EXa5468.4465\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
SQL> select floor(100.2) from dual;
FLOOR(100.2)
        100
SQL> select ln(5) from dual;
    LN(5)
1.60943791
SQL> select log(2,64) from dual;
LOG(2,64)
SQL> select mod(17,3) from dual;
MOD(17,3)
SQL> select power(5,3) from dual;
POWER(5,3)
      125
SQL> select round(125.67854,2) from dual;
ROUND(125.67854,2)
            125.68
SQL> select sin(-19) from dual;
 SIN(-19)
.14987721
🔃 C:\Users\DINESH\AppData\Local\Temp\Rar$EXa5468.4465\ORACLE CLIENT 11.2\instantclient_11_2\sqlplus.exe
SQL> select sin(90) from dual;
  SIN(90)
.893996664
SQL> select sinh(45) from dual;
 SINH(45)
1.7467E+19
SQL> select sqrt(7) from dual;
  SQRT(7)
2.64575131
SQL> select tan(45) from dual;
```

TAN(45) -----1.61977519

TANH(60)

TRUNC(125.5764,2)

UID ----97

SQL> select tanh(60) from dual;

125.57 SQL> select uid from dual;

SQL> select trunc(125.5764,2) from dual;

Result:-

Successfully executed the commands related to sql functions.

DBMS Lab Record

Submitted By:

NAME -A. Venkata DineshReddy

REGISTRATION NO. -RA1911028010098

SUBJECT NAME- Database Management System

SUBJECT CODE - 18CSC303J

BRANCH - Computer Science And

Engineering

Specialization - Cloud Computing

FACULTY NAME - Dr.S.Suresh



Title of Experiment

AIM: To execute commands using the group functions.

SQL Command:

```
SQL> CREATE TABLE EMP(EMPNO INT, ENAME VARCHAR(20), JOB CHAR(10), MGR
INT, HIREDATE DATE, SAL INT, COMM INT, DEPTNO INT);
Table created.
SQL> CREATE TABLE DEPT(DEPTNO INT, DNAME VARCHAR(20), LOC VARCHAR(20));
Table created.
SQL> INSERT INTO DEPT VALUES (10, 'CSE', 'TECHPARK');
1 row created.
SQL> INSERT INTO DEPT VALUES(20, 'ECE', 'MAIN BLOCK');
1 row created.
 SQL> INSERT INTO DEPT VALUES(30, 'IT', 'UB');
 1 row created.
 SQL> INSERT INTO DEPT VALUES(40, 'MECH', 'KTR');
1 row created.
 SQL> ALTER TABLE EMP ADD CONSTRAINT P_KEY PRIMARY KEY(EMPNO);
```

```
Table altered.
```

SQL> INSERT INTO EMP VALUES(1, 'DineshReddy', 'MANAGER', 98, '15-OCT-2001', 75000, 250, 1);

1 row created.

SQL> INSERT INTO EMP VALUES(2, 'A', 'MANAGER', 98, '15-NOV-2003', 58600, 504, 30);

1 row created.

SQL> INSERT INTO EMP VALUES(3,'B','TECH LEAD',99,'15-JAN-2004',64600,246,20);

1 row created.

SQL> INSERT INTO EMP VALUES(4,'C','CONSULTANT',99,'15-JAN-2004',86600,246,20);

1 row created.

SQL> INSERT INTO EMP VALUES (5, 'D', 'CLERK', 7, '12-JUL-2005', 19800, 463, 10);

1 row created.

SQL> SELECT COUNT(*) FROM EMP;

COUNT (*)

SQL> S	ELECT	COUNT(DISTINCT JOB) FROM EMP;
		ICTJOB)
		4
SQL> S	ELECT	COUNT(COMM) FROM EMP WHERE COMM IS NOT NULL;
COUNT (COMM)	
	5	
SQL> S	ELECT	COUNT (COMM) FROM EMP;
COUNT (
	5	
SQL> S	ELECT	COUNT(NVL(COMM,0)) FROM EMP;
COUNT (NVL(CC	DMM, 0))
		5
SQL> S	ELECT	SUM(SAL) FROM EMP;
SUM(SAL)	
30	4600	

SQL> SELECT MAX(SAL) AS MAXIMUM, MIN(SAL) AS MINIMUM, AVG(SAL) AS AVERAGE FROM EMP;

AVERAGE	MINIMUM	MAXIMUM
60920	19800	86600

SQL> SELECT COUNT(*) FROM EMP WHERE DEPTNO=30;

COUNT(*)

1

SQL> SELECT MAX(SAL) FROM EMP WHERE JOB='CLERK';

MAX(SAL)

19800

SQL> SELECT DEPTNO, COUNT(*) FROM EMP GROUP BY DEPTNO;

COUNT(*)	DEPTNO
1	1
1	30
2	20
1	10

SQL> SELECT JOB, COUNT(*) FROM EMP GROUP BY JOB ORDER BY COUNT(*)
DESC;

MANAGER	2
TECH LEAD	1
CONSULTANT	1

CLERK 1

SQL> SELECT SUM(SAL), MAX(SAL), MIN(SAL), AVG(SAL) FROM EMP ORDER BY JOB;

SUM(SAL)	MAX(SAL)	MIN(SAL)	AVG(SAL)	
304600	86600	19800	60920	

SQL> SELECT JOB, SUM(SAL), MAX(SAL), MIN(SAL), AVG(SAL) FROM EMP GROUP BY JOB;

JOB	SUM(SAL)	MAX(SAL)	MIN(SAL)	AVG(SAL)
CONSULTANT	86600	86600	86600	86600
CLERK	19800	19800	19800	19800
MANAGER	133600	75000	58600	66800
TECH LEAD	64600	64600	64600	64600

SQL> SELECT JOB, SUM(SAL), MAX(SAL), MIN(SAL), AVG(SAL) FROM EMP GROUP BY JOB, DEPTNO HAVING DEPTNO=20 AND AVG(SAL)>1000;

JOB	SUM(SAL)	MAX(SAL)	MIN(SAL)	AVG(SAL)
TECH LEAD	64600	64600	64600	64600
CONSULTANT	86600	86600	86600	86600

SQL> SELECT JOB, SUM(SAL) FROM EMP GROUP BY JOB HAVING JOB NOT LIKE 'PRESIDENT' AND SUM(SAL)>5000;

JOB		SUM(SAL)							
CONSU	LTANT	86600							
CLERK		19800							
MANAG	ER	133600							
TECH	LEAD	64600							
SQL>	SELECT	JOB, COUN	T(*), AVG(SAL)	FROM	EMP	GROUP	ВҮ	JOB	HAVING

COUNT(*)>=2;

 JOB
 COUNT(*)
 AVG(SAL)

 ----- -----

 MANAGER
 2
 66800

SQL> spool off

Output:-

```
SQL> CREATE TABLE EMP(EMPNO INT,ENAME VARCHAR(20),JOB CHAR(10), MGR INT,HIREDATE DATE,SAL INT,COMM INT,DEPTNO INT);
Table created.
SQL> CREATE TABLE DEPT(DEPTNO INT,DNAME VARCHAR(20),LOC VARCHAR(20));
Table created.
SQL> INSERT INTO DEPT VALUES(10, 'CSE', 'TECHPARK');
1 row created.
SQL> INSERT INTO DEPT VALUES(20, 'ECE', 'MAIN BLOCK');
1 row created.
SQL> INSERT INTO DEPT VALUES(30,'IT','UB');
1 row created.
SQL> INSERT INTO DEPT VALUES(40, MECH', KTR');
1 row created.
SQL> ALTER TABLE EMP ADD CONSTRAINT P_KEY PRIMARY KEY(EMPNO);
Table altered.
SQL> INSERT INTO EMP VALUES(1, DineshReddy', MANAGER',98, 15-OCT-2001',75000,250,1);
1 row created.
SQL> INSERT INTO EMP VALUES(2,'A','MANAGER',98,'15-NOV-2003',58600,504,30);
1 row created.
SQL> INSERT INTO EMP VALUES(3, B', TECH LEAD', 99, 15-JAN-2004', 64600, 246, 20);
```

1 row created.

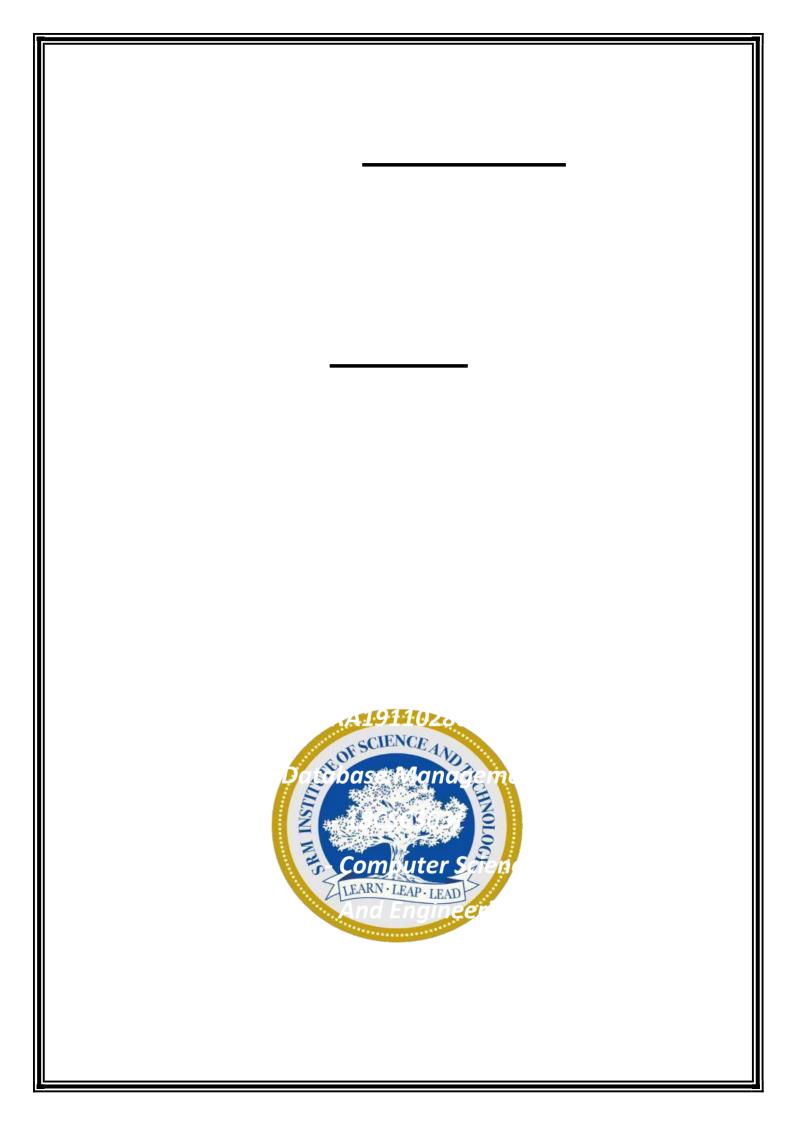
```
SQL> INSERT INTO EMP VALUES(4,'C','CONSULTANT',99,'15-JAN-2004',86600,246,20);
1 row created.
SQL> INSERT INTO EMP VALUES(5, 'D', 'CLERK',7, '12-JUL-2005',19800,463,10);
1 row created.
SQL> SELECT COUNT(*) FROM EMP;
 COUNT(*)
       5
SQL> SELECT COUNT(DISTINCT JOB) FROM EMP;
COUNT(DISTINCTJOB)
SQL> SELECT COUNT(COMM) FROM EMP WHERE COMM IS NOT NULL;
COUNT(COMM)
SQL> SELECT COUNT(COMM) FROM EMP;
COUNT(COMM)
SQL> SELECT COUNT(NVL(COMM,0)) FROM EMP;
COUNT(NVL(COMM,0))
SQL> SELECT SUM(SAL) FROM EMP;
 SUM(SAL)
   304600
```

```
SQL> SELECT MAX(SAL) AS MAXIMUM,MIN(SAL) AS MINIMUM,AVG(SAL) AS AVERAGE FROM EMP;
  MUMIXAM
           MINIMUM
                      AVERAGE
    86600 19800 60920
SQL> SELECT COUNT(*) FROM EMP WHERE DEPTNO=30;
 COUNT(*)
        1
SQL> SELECT MAX(SAL) FROM EMP WHERE JOB='CLERK';
 MAX(SAL)
    19800
SQL> SELECT DEPTNO,COUNT(*) FROM EMP GROUP BY DEPTNO;
   DEPTNO
            COUNT(*)
       1
       30
                   2
       20
       10
                   1
SQL> SELECT JOB,COUNT(*) FROM EMP GROUP BY JOB ORDER BY COUNT(*) DESC;
JOB
            COUNT(*)
                   2
MANAGER
TECH LEAD
                   1
CONSULTANT
                   1
CLERK
SQL> SELECT SUM(SAL),MAX(SAL),MIN(SAL),AVG(SAL) FROM EMP ORDER BY JOB;
 SUM(SAL) MAX(SAL) MIN(SAL) AVG(SAL)
            86600
   304600
                         19800
                                    60920
```

```
SQL> SELECT JOB,SUM(SAL),MAX(SAL),MIN(SAL),AVG(SAL) FROM EMP GROUP BY JOB;
JOB
           SUM(SAL) MAX(SAL) MIN(SAL) AVG(SAL)
CONSULTANT 86600 86600 86600 86600
CLERK 19800 19800 19800 19800
MANAGER 133600 75000 58600 66800
TECH LEAD 64600 64600 64600
SQL> SELECT JOB,SUM(SAL),MAX(SAL),MIN(SAL),AVG(SAL) FROM EMP GROUP BY JOB,DEPTNO HAVING DEPTNO=20 AND AVG(SAL)>1000;
JOB SUM(SAL) MAX(SAL) MIN(SAL) AVG(SAL)
TECH LEAD 64600 64600 64600 64600
CONSULTANT 86600 86600 86600
SQL> SELECT JOB,SUM(SAL) FROM EMP GROUP BY JOB HAVING JOB NOT LIKE 'PRESIDENT' AND SUM(SAL)>5000;
JOB SUM(SAL)
CONSULTANT 86600
CLERK 19800
CLERK
MANAGER
MANAGER 133600
TECH LEAD 64600
SQL> SELECT JOB,COUNT(*),AVG(SAL) FROM EMP GROUP BY JOB HAVING COUNT(*)>=2;
JOB
           COUNT(*) AVG(SAL)
MANAGER
              2 66800
```

Result:-

Successfully executed the commands related to group functions.



ADVANCED SELECT STATEMENTS

AIM:

TO WRITE SQL QUERIES TO EXECUTE DIFFERENT ADVANCED SELECT STATEMENTS

SQL COMMANDS:

QUESTIONS Q1 TO Q18 PERTAIN TO A DATABASE WITH THE FOLLOWING TABLES. SUPPLIERS - S (SUPPLYNO, NAME, STATUS, CITY)

PARTS - P (PARTNO, PNAME, COLOUR, WEIGHT, CITY) PROJECTS - J (JOBNO, JNAME, CITY)

SHIPMENT - SPJ (SUPPLYNO, PARTNO, JOBNO, QTY)

THE SIGNIFICANCE OF AN SPJ RECORD IS THAT THE SPECIFIED SUPPLIER SUPPLIES THE SPECIFIED PART TO THE SPECIFIED PROJECT IN THE SPECIFIED QUANTITY (AND THE COMBINATION SUPPLYNO-PARTNO- JOBNO UNIQUELY IDENTIFIES SUCH A RECORD).

Q1) GET FULL DETAILS OF ALL PROJECTS IN LONDON. SQL> SELECT *FROM PROJECTS WHERE CITY ='LONDON';

```
SQL> select *from projects where city ='london';

JOBNO JNAME CITY

25 raid london
27 tape london

SQL>
```

Q2) GET SUPPLYNO FOR SUPPLIERS WHO SUPPLY PROJECT J1. SQL> SELECT SUPPLYNO FROM SHIPMENT WHERE JOBNO=21;

```
SQL> select supplyno from shipment where jobno=21;

SUPPLYNO

1
2
2
```

Q3) GET ALL PART-COLOR/PART-CITY COMBINATIONS. SQL> SELECT DISTINCT COLOUR, CITY FROM PARTS;

```
SQL> select distinct colour,city from parts;

COLOUR CITY

red london

olue rome
green paris
olue paris
```

Q4) GET ALL SUPPLYNO/PARTNO/JOBNO TRIPLES SUCH THAT ALL ARE CO-LOCATED.

SQL> SELECT SUPPLYNO, PARTNO, JOBNO FROM SUPPLIERS, PARTS, PROJECTS WHERE SUPPLIERS. CITY = PARTS. CITY AND PARTS. CITY = PROJECTS. CITY;

```
SQL> select supplyno,partno,jobno from suppliers, parts, projects where suppliers.city = parts.city and parts.city = projects.city  

SUPPLYNO PARTNO JOBNO

5 11 27  
5 11 25  
1 11 27  
1 11 25  
5 14 27  
5 14 27  
5 14 27  
5 14 27  
1 14 25  
1 14 25  
5 16 27  
5 16 27  
5 16 27  
SUPPLYNO PARTNO JOBNO

1 16 25  
12 rows selected.
```

Q5) GET AL SUPPLYNO, PARTNO, JOBNO TRIPLES SUCH THAT THEY ARE NOT ALL COLOCATED.

SQL> SELECT SUPPLYNO, PARTNO, JOBNO FROM SUPPLIERS, PARTS, PROJECTS WHERE NOT(SUPPLIERS.CITY = PARTS.CITY AND PARTS.CITY = PROJECTS.CITY);

```
SQL> select supplyno,partno,jobno from suppliers, parts, projects where not(suppliers.city = parts.city and parts.city = projects.city);

SUPPLYNO PARTNO JOBNO

1 11 21
1 11 22
1 11 23
1 11 26
1 11 26
1 12 21
1 12 23
1 12 23
1 12 23
1 12 26

SUPPLYNO PARTNO JOBNO

SUPPLYNO PARTNO JOBNO

1 12 27
1 13 21
1 13 26
1 13 26
1 13 26
1 13 26
1 13 26
1 13 26
1 13 26
1 13 27
1 14 21
1 14 21
```

Q6) GET PARTNO FOR PARTS SUPPLIED BY A SUPPLIER IN LONDON.

SQL> SELECT DISTINCT PARTNO FROM SHIPMENT, SUPPLIERS WHERE

SHIPMENT.SUPPLYNO = SUPPLIERS.SUPPLYNO AND SUPPLIERS.CITY='LONDON';

Q7) GET ALL PAIRS OF CITIES SUCH THAT A SUPPLIER IN THE FIRST CITY SUPPLIES TO A PROJECT IN THE SECOND CITY.

SQL> SELECT DISTINCT SUPPLIERS.CITY,
PROJECTS.CITY FROM SUPPLIERS,PROJECTS
WHERE EXISTS (SELECT * FROM SHIPMENT
WHERE SHIPMENT.SUPPLYNO =
SUPPLIERS.SUPPLYNO AND SHIPMENT.JOBNO =
PROJECTS.JOBNO);

Q8) GET JOBNO FOR PROJECTS SUPPLIED BY AT LEAST ONE SUPPLIER NOT IN THE SAME CITY.

SQL> SELECT DISTINCT SHIPMENT.JOBNO FROM SHIPMENT, PROJECTS, SUPPLIERS WHERE SHIPMENT.JOBNO=PROJECTS.JOBNO AND SHIPMENT.SUPPLYNO = SUPPLIERS.SUPPLYNO AND

PROJECTS.CITY<>SUPPLIERS.CITY;

Q11)

Q9) GET ALL PAIRS OF PART NUMBERS SUCH THAT SOME SUPPLIER SUPPLIES BOTH THE INDICATED PARTS.

SQL> SELECT DISTINCT A.PARTNO, B.PARTNO FROM SHIPMENT A, SHIPMENT B WHERE A.SUPPLYNO=B.SUPPLYNO AND A.PARTNO>B.PARTNO;

Q10) GET THE TOTAL QUANTITY OF PART P1 SUPPLIED BY S1.

SQL> SELECT SUM(QTY) FROM SHIPMENT WHERE SUPPLYNO =1 AND PARTNO=11;

```
SQL> select sum(qty) from shipment where supplyno =1 and partno=11;

SUM(QTY)
-------
900
```

FOR EACH PART SUPPLIED TO A PROJECT, GET THE PARTNO, JOBNO AND

```
SQL> select distinct shipment.jobno from shipment,projects,suppliers where shipment.jobno=projects.jobno and shipment.supplyno = suppliers.supplyno and projects.city<>suppliers.city;

JOBNO

22
21
26
24
23
27
6 rows selected.
```

CORRESPONDING TOTAL QUANTITY.

SQL> SELECT PARTNO, JOBNO, SUM(QTY) FROM SHIPMENT GROUP BY PARTNO, JOBNO;

```
SQL> select partno,jobno, sum(qty) from shipment group by partno,jobno;

PARTNO JOBNO SUM(QTY)

13 22 200
11 21 200
13 23 200
15 22 100
13 24 500
13 26 600
13 27 400
11 24 700
13 27 400
13 27 600
9 rows selected.
```

Q12) GET PARTNO OF PARTS SUPPLIED TO SOME PROJECT IN AN AVERAGE QUANTITY > 320.

SQL> SELECT PARTNO FROM PARTS WHERE EXISTS (SELECT *FROM PROJECTS WHERE 320< (SELECT AVG(QTY) FROM SHIPMENT WHERE SHIPMENT.PARTNO = PARTS.PARTNO AND SHIPMENT.JOBNO = PROJECTS.JOBNO));

```
SQL> select partno from parts where exists (select *from projects where 320< (select avg(qty) from shipment where shipment.partno = parts.partno and shipment.jobno = pr
ojects.jobno));

PARTNO

11
13
```

Q13) GET PROJECT NAMES FOR PROJECTS SUPPLIED BY SUPPLIER S1.

SQL> select count(*) from (select distinct jobno from shipment where supplyno = 1);

```
SQL> select count(*) from (select distinct jobno from shipment where supplyno = 1);

COUNT(*)

2
```

Q14) GET COLORS OF PARTS SUPPLIED BY S1.

SQL> SELECT PARTS.COLOUR FROM PARTS WHERE PARTS.PARTNO IN(SELECT DISTINCT PARTNO FROM SHIPMENT WHERE SUPPLYNO =1):

Q15) GET JOBNO FOR PROJECTS USING AT LEAST ONE PART AVAILABLE FROM SUPPLIER S1.

SQL> SELECT DISTINCT JOBNO FROM SHIPMENT WHERE PARTNO IN(SELECT PARTNO FROM SHIPMENT WHERE SUPPLYNO = 1);

Q16) GET SUPPLIER NUMBERS FOR SUPPLIERS SUPPLYING AT LEAST ONE PART SUPPLIED BY AT LEAST ONE SUPPLIER WHO SUPPLIES AT LEAST ONE RED PART.

SQL> SELECT DISTINCT SUPPLYNO FROM SHIPMENT WHERE PARTNO IN(SELECT PARTNO FROM SHIPMENT WHERE SUPPLYNO IN (SELECT SUPPLYNO FROM SHIPMENT WHERE PARTNO IN (SELECT PARTNO FROM PARTS WHERE COLOUR='RED'));

```
SQL> select distinct supplyno from shipment where partno in(select partno from shipment where supplyno in (select supplyno from shipment where partno in (select partno from parts where colour='red')));

SUPPLYNO

1
```

Q17) GET SUPPLIER NUMBERS FOR SUPPLIERS WITH A STATUS LOWER THAN THAT OF SUPPLIER S1.

SQL> SELECT SUPPLYNO FROM SUPPLIERS WHERE STATUS < (SELECT STATUS FROM SUPPLIERS WHERE SUPPLYNO=1);

Q18) GET PROJECT NUMBERS FOR PROJECTS NOT SUPPLIED WITH ANY RED PART BY ANY LONDON SUPPLIER.

SQL> SELECT JOBNO FROM PROJECTS WHERE NOT EXISTS(SELECT *FROM SHIPMENT WHERE JOBNO = PROJECTS.JOBNO AND (SUPPLYNO,PARTNO) IN (SELECT SUPPLYNO,PARTNO FROM SUPPLIERS,PARTS WHERE SUPPLIERS.CITY = 'LONDON' AND PARTS.COLOUR = 'RED'));

```
SQL> select jobno from projects where not exists(select *from shipment where jobno = projects.jobno and (supplyno,partno) in (select supplyno,partno from suppliers,part s where suppliers.city = 'london' and parts.colour = 'red'));

JOBNO

22
23
25
26
27
```

Result:

HENCE ADVANCED SELECT STATEMENTS ARE EXECUTED SUCCESSFULLY.

DBMS Lab Record

Submitted By:

NAME -A.Venkata DineshReddy

REGISTRATION NO. -RA1911028010098

SUBJECT NAME- Database Management System

SUBJECT CODE - 18CSC303J

BRANCH - Computer Science And

Engineering

Specialization - Cloud Computing

FACULTY NAME - Dr.S.Suresh



Title of Experiment

AIM: To execute commands using the sql queries.

SQL Command:

```
SQL> create table parts1(pno int,pname varchar(255),qoh int,price
int, olevel int);
 Table created.
 SQL> create table customers1(cno int,cname varchar(255),street
varchar(255), zip varchar(255), phone int);
Table created.
       create table employees1(eno int,ename varchar(255),zip
varchar(255),hdate date);
 Table created.
 SQL> create table zip code(zip varchar(255), city varchar(255));
 Table created.
 SOL>
      create table orders1(ono int,cno int,eno int,received
date, shipped date);
Table created.
 SQL> create table odetails (ono int, pno int, qty int);
```

```
Table created.
SQL> alter table parts1 add primary key(pno);
Table altered.
SQL> alter table customers1 add primary key(cno);
Table altered.
SQL> alter table employees1 add primary key(eno);
Table altered.
SQL> alter table orders1 add primary key(ono);
Table altered.
SQL> alter table orders1 add foreign key(cno) references customers1;
Table altered.
SQL> alter table orders1 add foreign key(eno) references employees1;
Table altered.
SQL> alter table odetails add foreign key(ono) references orders1;
Table altered.
```

```
SQL> alter table odetails add foreign key(pno) references parts1;
Table altered.
SQL> insert into parts1 values(1, 'Monitor', 100, 35000, 10);
1 row created.
SQL> insert into parts1 values(2,'CPU', 200,5000,10);
1 row created.
SQL> insert into customers1 values(1, 'raj', 'poststreet', 'zip1',
9841237896);
1 row created.
SQL> insert into customers1 values(2, 'dinesh', 'mainstreet', 'zip2',
8688802604);
1 row created.
SQL> insert into employees1 values(1, 'd', 'zip1', '10-march-2022');
1 row created.
SQL> insert into employees1 values(2, 'meter', 'zip2', '10-january-
2022');
```

1 row created.

```
SQL> insert into zip code values('zip1', 'london');
1 row created.
SQL> insert into zip code values('zip2', 'paris');
1 row created.
SQL> insert into orders1 values(1,2,1,'10-march-2005','20-march-
2005');
1 row created.
SQL> insert into orders1 values(2,2,2,'30-april-2005','30-june-
2005');
1 row created.
SQL> insert into orders1 values(3,1,2,'27-june-2008','30-june-2008');
1 row created.
SQL> insert into odetails values(1,1,10000);
1 row created.
SQL> insert into odetails values(1,2,10000);
1 row created.
```

SQL> insert into odetails values(2,1,10000);
1 row created.
SQL> insert into odetails values(2,2,30000);
1 row created.
SQL> select customers1.cname from customers1, orders1, odetails, parts1 where customers1.cno=orders1.cno and orders1.ono=odetails.ono and odetails.pno=parts1.pno and parts1.price>30000 group by cname having count(parts1.pno)>=1;
CNAME
dinesh
SQL> select customers1.cname from customers1, orders1, odetails, parts1 where customers1.cno=orders1.cno and orders1.ono=odetails.ono and odetails.pno=parts1.pno and parts1.price<20000;
CNAME
dinesh
SQL> select distinct customers1.cname from customers1, orders1, odetails, parts1 where customers1.cno=orders1.cno and orders1.ono=odetails.ono and odetails.pno=parts1.pno and parts1.price<20000;

CNAME	
dinesh	
where custo	ct customers1.cname from customers1, employees1,orders1 omers1.cno=orders1.cno and orders1.eno=employees1.eno and zip=employees1.zip;
CNAME	
dinesh	
	<pre>ect parts1.pno,parts1.pname,odetails.qty from parts1, ere parts1.pno=odetails.pno order by qty desc;</pre>
PNO	
PNAME	
QTY	
2	
CPU 30000	
1	
Monitor	

PNO	
PNAME	
QTY	
1	
Monitor	
2	
2 CPU	
PNO	
PNAME	
QTY	
10000	
SQL> select	<pre>(shipped-received) as avg_wait_time from orders1;</pre>
AVG_WAIT_TIN	
	10
6	51

SQL> select employees1.eno, employees1.ename, sum(parts1.price) as tot_sales from employees1, odetails, parts1, orders1 where employees1.eno=orders1.eno and orders1.received>'01-january-2005' and orders1.shipped<'31-december-2005' and orders1.ono=odetails.ono and odetails.pno=parts1.pno group by employees1.eno,employees1.ename;

ENO	
ENAME	
TOT_SALES	
1	
d	
40000	
2	
meter	
40000	
40000	
EMO	
ENO	
ENAME	
TOT_SALES	

```
SQL> spool off;
```

Output:-

```
SQL> spool on;
SQL> spool ninth.lst;
SQL> create table parts1(pno int,pname varchar(255),qoh int,price int,olevel int);
Table created.
SQL> create table customers1(cno int,cname varchar(255),street varchar(255),zip varchar(255),phone int);
Table created.
SQL> create table employees1(eno int,ename varchar(255),zip varchar(255),hdate date);
Table created.
SQL> create table zip_code(zip varchar(255),city varchar(255));
Table created.
SQL> create table orders1(ono int,cno int,eno int,received date,shipped date);
Table created.
SQL> create table odetails(ono int,pno int,qty int);
Table created.
SQL> alter table parts1 add primary key(pno);
Table altered.
SQL> alter table customers1 add primary key(cno);
Table altered.
SQL> alter table employees1 add primary key(eno);
Table altered.
SQL> alter table orders1 add primary key(ono);
Table altered.
```

```
SQL> alter table orders1 add foreign key(cno) references customers1;
Table altered.
SQL> alter table orders1 add foreign key(eno) references employees1;
SQL> alter table odetails add foreign key(ono) references orders1;
Table altered.
SQL> alter table odetails add foreign key(pno) references parts1;
Table altered.
SQL> insert into parts1 values(1,'Monitor', 100,35000,10);
1 row created.
SQL> insert into parts1 values(2,'CPU', 200,5000,10);
SQL> insert into customers1 values(1, 'raj', 'poststreet', 'zip1', 9841237896);
1 row created.
SQL> insert into customers1 values(2, 'dinesh', 'mainstreet', 'zip2', 8688802604);
1 row created.
SQL> insert into employees1 values(1, 'd', 'zip1', '10-march-2022');
SQL> insert into employees1 values(2, 'meter', 'zip2', '10-january-2022');
1 row created.
SQL> insert into zip_code values('zip1', 'london');
 row created.
```

SQL> insert into orders1 values(1,2,1,'10-march-2005','20-march-2005');
1 row created.
SQL> insert into orders1 values(2,2,2,'30-april-2005','30-june-2005');
1 row created.
SQL> insert into orders1 values(3,1,2,'27-june-2008','30-june-2008');
1 row created.
SQL> insert into odetails values(1,1,10000);
1 row created.
SQL> insert into odetails values(1,2,10000);
1 row created.
SQL> insert into odetails values(2,1,10000);
1 row created.
SQL> insert into odetails values(2,2,30000);
1 row created.
SQL> select customers1.cname from customers1, orders1, odetails, parts1 where customers1.cno=orders1.cno and orders1.ono=odetails.ono and odetails.pno=parts1.pno and parts1.price>30000 group by cname having count(parts1.pno)>=1;
CNAME
dinesh
SQL> select customers1.cname from customers1, orders1, odetails, parts1 where customers1.cno=orders1.cno and orders1.ono=odetails.ono and odetails.pno=parts1.pno and parts1.price<20000;
CNAME
dinesh dinesh

QL> select distinct customers1.cname from customers1, orders1, odetails, parts1 where customers1.cno=orders1.cno and orders1.ono=odetails.ono and odetails.pn o and parts1.price<20000;	o=parts1.p
NAME	
inesh	
QL> select customers1.cname from customers1, employees1,orders1 where customers1.cno=orders1.cno and orders1.eno=employees1.eno and customers1.zip=employees1	.zip;
NAME	
inesh	
QL> select parts1.pno,parts1.pname,odetails.qty from parts1, odetails where parts1.pno=odetails.pno order by qty desc;	
PNO	
NAME	
QTY	
2 DI	
PU 30000	
onitor 10000	
PNO	
NAME	
QTY	
·	
onitor 10000	
2	

Result:-

Successfully executed the commands related to sql.

DBMS Lab Record

Submitted By:

NAME -A. Venkata DineshReddy

REGISTRATION NO. -RA1911028010098

SUBJECT NAME- Database Management System

SUBJECT CODE - 18CSC303J

BRANCH - Computer Science And

Engineering

Specialization - Cloud Computing

FACULTY NAME - Dr.S.Suresh



Title of Experiment

AIM: To execute commands using the PL/SQL.

SQL Command:

```
SQL> set serveroutput on
SQL> declare
 2 odd number:=0;
 3 i number;
 4 begin
 5 for i in 1..100
 6 loop
 7 if(i mod 2!=0) then
 8 odd:=odd+i;
 9 end if;
10 end loop;
11 dbms_output.put_line('the sum of 100 odd no is'||odd);
12 end;
13 /
the sum of 100 odd no is2500
PL/SQL procedure successfully completed.
SQL> create table employee1(id int, name varchar(255), salary int);
Table created.
```

```
SQL> insert into employee1 values(1, 'Dinesh', 2000);
1 row created.
SQL> insert into employee1 values(2, 'DineshReddy', 4000);
1 row created.
SQL> insert into employee1 values(3, 'D', 7000);
1 row created.
SQL> declare
 2 sal number;
 3 begin
 4 select salary into sal from employee1 where id=2;
 5 if(sal<2500) then
 6 update employee1 set salary=salary*1.25 where id=2;
 7 elsif(sal>=2500 and sal<5000) then
 8 update employee1 set salary=salary*1.2 where id=2;
 9 else
10 update employee1 set salary=salary+1000 where id=2;
11 end if;
12 end;
13
```

14 /

PL/SQL procedure successfully completed.
SQL> select * from employee1;
ID
NAME
SALARY
1
Dinesh
2000
2
DineshReddy
4800
ID
NAME
SALARY

D

7000

SQL> select * from dept;

DEPTNO DNAME	LOC
10 CCE	TECHDADIZ
10 CSE	TECHPARK
20 ECE	MAIN BLOCK
30 IT	UB

KTR

SQL> begin

- 2 UPDATE DEPT SET DNAME='HRD' WHERE DNAME NOT LIKE 'HRD' AND
- 3 DEPTNO=71;

40 MECH

- 4 IF SQL%FOUND THEN
- 5 DBMS_OUTPUT.PUT_LINE('UPDATED');
- 6 ELSIF SQL%NOTFOUND THEN
- 7 DBMS_OUTPUT.PUT_LINE('NAME IS ALREADY HRD');
- 8 END IF;
- 9 END;

10 /

NAME IS ALREADY HRD

PL/SQL procedure successfully completed.

```
SQL> create table emp(eno int, ename varchar(255),sal int, comm int);
Table created.
SQL> insert into emp values(1,'rajesh',75000, 250);
1 row created.
SQL> insert into emp values(2, 'ravi', 100000, 500);
1 row created.
SQL> insert into emp values(2,'dinesh',90000, 400);
1 row created.
SQL> insert into emp values(2,'d',99000, 900);
1 row created.
SQL> declare
 2 cursor emp_comm_sal is select sal,comm from emp;
 3 total_wages number := 0;
 4 begin
 5 for x in emp_comm_sal loop
 6 total_wages := total_wages + x.sal + x.comm;
```

7 end loop;

```
8 dbms_output_put_line('total wages of company is ' || total_wages);
  9 end;
 10 /
 total wages of company is 366050
 PL/SQL procedure successfully completed.
 SQL> select sum(sal+comm) as total_wages from emp;
 TOTAL_WAGES
    366050
 SQL> declare
  2 cursor emp_comm_sal is select sal,comm from emp;
  3 counts number := 0;
  4 begin
  5 for x in emp_comm_sal loop
  6 if x.sal > 2000 then
  7 counts := counts + 1;
  8 end if;
  9 end loop;
 10
 11 dbms_output.put_line('total number of highly paid employees (salary > 2000) are
'||counts);
 12 end;
 13 /
```

```
total number of highly paid employees (salary > 2000) are 4
 PL/SQL procedure successfully completed.
 SQL> select count(*) from emp where sal>2000;
  COUNT(*)
 _____
      4
 SQL> declare
  2 cursor emp_comm_sal is select sal,comm from emp;
  3 counts number := 0;
  4 begin
  5 for x in emp_comm_sal loop
  6 if x.comm > x.sal then
  7 counts := counts + 1;
  8 end if;
  9 end loop;
  10 dbms_output.put_line('total number of employees who get commission that is higher
than their salary are '||counts);
 11 end;
 12 /
 total number of employees who get commission that is higher than their salary
 are 0
```

PL/SQL procedure successfully completed.

SQL> create table employees2(emp_name varchar(255), job varchar(255), hiredate date);
Table created.
SQL> insert into employees2 values('raju', 'manager', '12-march-1980');
1 row created.
SQL> insert into employees2 values('ravi', 'chief executive', '12-march-2010');
1 row created.
SQL> insert into employees2 values('rama', 'senior manager', '22-june-1989');
1 row created.
SQL> DECLARE 2 CURSOR EMP_CUR IS SELECT EMP_NAME,JOB,HIREDATE FROM EMPLOYEES2;
3 TOTALEMP NUMBER := 0;
4 BEGIN
5 FOR X IN EMP_CUR LOOP
6 IF (EXTRACT(YEAR FROM SYSDATE)-EXTRACT(YEAR FROM X.HIREDATE)) > 28
7 THEN
8 DBMS OUTPUT.PUT LINE(X.EMP NAME ' ' X.JOB);

```
9 TOTALEMP := TOTALEMP + 1;
 10 END IF;
 11 END LOOP:
 12 DBMS_OUTPUT.PUT_LINE('TOTAL NO OF EMPLOYEES WITH MORE 28
YEARS OF EXPERIENCE ARE '||TOTALEMP);
 13 END;
 14 /
raju manager
 rama senior manager
 TOTAL NO OF EMPLOYEES WITH MORE 28 YEARS OF EXPERIENCE ARE 2
 PL/SQL procedure successfully completed.
SQL> CREATE OR REPLACE TRIGGER D
 2 BEFORE INSERT ON EMP
 3 FOR EACH ROW
 4 DECLARE
 5 CURSOR C IS SELECT * FROM EMP;
 6 X EMP%ROWTYPE;
 7 BEGIN
 8 OPEN C;
 9 LOOP
 10 FETCH C INTO X;
 11 IF NEW.EMPNO = X.EMPNO THEN
 12 DBMS_OUTPUT.PUT_LINE('YOU ENTERED DUPLICATED NO');
 13 ELSIF NEW.EMPNO IS NULL THEN
 14 DBMS_OUTPUT.PUT_LINE('EMPNO CANT BE NULL');
```

15 END IF;
16 EXIT WHEN C%NOTFOUND;
17 END LOOP;
18 CLOSE C;
19 END;
20 /
Warning: Trigger created with compilation errors.
SQL> insert into emp values(2,'dinesh',90000, 400);
insert into emp values(2,'dinesh',90000, 400)
*
ERROR at line 1:
ORA-04098: trigger 'SYSTEM.D' is invalid and failed re-validation
SQL> spool off;
Output:-

```
SQL> declare
     odd number:=0;
    i number;
    begin
     for i in 1..100
    loop
if(i mod 2!=0) then
odd:=odd+i;
end if;
end loop;
 8
 10
     dbms_output.put_line('the sum of 100 odd no is'||odd);
 11
 12
     end;
 13
the sum of 100 odd no is2500
PL/SQL procedure successfully completed.
SQL> create table employee1(id int, name varchar(255), salary int);
Table created.
SQL> insert into employee1 values(1, 'Dinesh', 2000);
1 row created.
SQL> insert into employee1 values(2, 'DineshReddy', 4000);
1 row created.
SQL> insert into employee1 values(3, 'D', 7000);
1 row created.
```

```
SQL> declare
2 sal number;
      begin
      pegin

select salary into sal from employee1 where id=2;

if(sal<2500) then

update employee1 set salary=salary*1.25 where id=2;

elsif(sal>=2500 and sal<5000) then

update employee1 set salary=salary*1.2 where id=2;
  4
  8
 10
       update employee1 set salary=salary+1000 where id=2;
       end if;
 11
       end;
 12
 13
 14
PL/SQL procedure successfully completed.
SQL> select * from employee1;
            ΙD
NAME
      SALARY
Dinesh
         2000
DineshReddy
        4800
NAME
      SALARY
```

```
7000
SQL> select * from dept;
    DEPTNO DNAME
                                 LOC
        10 CSE
                                 TECHPARK
        20 ECE
                                 MAIN BLOCK
        30 IT
40 MECH
                                 KTR
SQL> begin
    UPDATE DEPT SET DNAME='HRD' WHERE DNAME NOT LIKE 'HRD' AND
    DEPTNO=71;
     IF SQL%FOUND THEN
    DBMS_OUTPUT.PUT_LINE('UPDATED');
 5
    ELSIF SOL%NOTFOUND THEN
 6
    DBMS_OUTPUT.PUT_LINE('NAME IS ALREADY HRD');
 Ω
    END IF;
    END:
  9
 10
NAME IS ALREADY HRD
PL/SQL procedure successfully completed.
```

```
SQL> create table emp(eno int, ename varchar(255),sal int, comm int);
Table created.
SQL>
     insert into emp values(1, rajesh',75000, 250);
1 row created.
SQL> insert into emp values(2,'ravi',100000, 500);
1 row created.
SQL> insert into emp values(2, dinesh ,90000, 400);
1 row created.
SQL> insert into emp values(2,'d',99000, 900);
1 row created.
SQL> declare
    cursor emp_comm_sal is select sal,comm from emp;
    total_wages number := 0;
 4
    begin
    for x in emp_comm_sal loop
 6
    total_wages := total_wages + x.sal + x.comm;
    end loop;
    dbms_output.put_line('total wages of company is ' || total_wages);
 8
 9
     end;
 10
total wages of company is 366050
PL/SQL procedure successfully completed.
SQL> select sum(sal+comm) as total_wages from emp;
TOTAL_WAGES
     366050
```

```
SQL> create table employees2( emp_name varchar(255), job varchar(255), hiredate date);
Table created.
SQL> insert into employees2 values('raju', 'manager', '12-march-1980');
1 row created.
SQL> insert into employees2 values('ravi', 'chief executive', '12-march-2010');
1 row created.
SQL> insert into employees2 values('rama', 'senior manager', '22-june-1989');
1 row created.
SQL> DECLARE
 2 CURSOR EMP CUR IS SELECT EMP NAME, JOB, HIREDATE FROM EMPLOYEES2;
    TOTALEMP NUMBER := 0;
    BEGIN
    FOR X IN EMP_CUR LOOP
 6 IF (EXTRACT(YEAR FROM SYSDATE)-EXTRACT(YEAR FROM X.HIREDATE)) > 28
 8 DBMS_OUTPUT.PUT_LINE(X.EMP_NAME||' '||X.JOB);
    TOTALEMP := TOTALEMP + 1:
    END IF;
10
11 END LOOP;
12 DBMS_OUTPUT.PUT_LINE('TOTAL NO OF EMPLOYEES WITH MORE 28 YEARS OF EXPERIENCE ARE '||TOTALEMP);
    END;
raju manager
rama senior manager
TOTAL NO OF EMPLOYEES WITH MORE 28 YEARS OF EXPERIENCE ARE 2
PL/SQL procedure successfully completed.
```

```
rama senior manager
TOTAL NO OF EMPLOYEES WITH MORE 28 YEARS OF EXPERIENCE ARE 2
PL/SQL procedure successfully completed.
SQL> CREATE OR REPLACE TRIGGER D
2 BEFORE INSERT ON EMP
3 FOR EACH ROW
4 DECLARE
5 CURSOR C IS SELECT * FROM EMP;
         X EMP%ROWTYPE;
         BEGIN
         OPEN C;
   g
         LOOP
        LOOP
FETCH C INTO X;
IF NEW.EMPNO = X.EMPNO THEN
DBMS_OUTPUT.PUT_LINE('YOU ENTERED DUPLICATED NO');
ELSIF NEW.EMPNO IS NULL THEN
DBMS_OUTPUT.PUT_LINE('EMPNO CANT BE NULL');
END IF;
EXIT WHEN C%NOTFOUND;
END LOOP;
CLOSE C;
END:
  10
  11
  12
  14
 17
18
  19
         END;
Warning: Trigger created with compilation errors.
SQL> insert into emp values(2,'dinesh',90000, 400);
insert into emp values(2,'dinesh',90000, 400)
ERROR at line 1:
ORA-04098: trigger 'SYSTEM.D' is invalid and failed re-validation
SQL> spool off;
SQL> edit tenth.lst
```

Result:-

Successfully executed the commands related to PL/SQL.