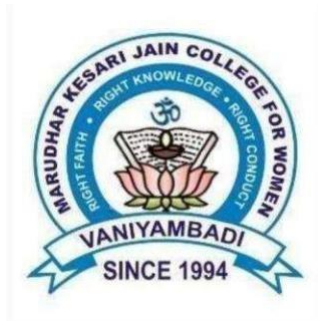


**MARUDHAR KESARI JAIN COLLEGE FOR WOMEN
(AUTONOMOUS) VANIYAMBADI**



2024-2025

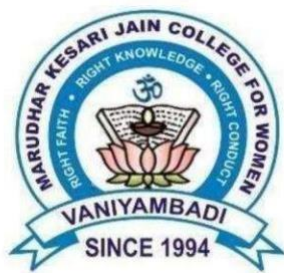
RECORD NOTE BOOK

**PG DEPARTMENT OF COMPUTER
APPLICATIONS**

NAME : _____

REGISTER NUMBER: _____

CLASS : _____



PRACTICAL RECORD NOTE

2024 - 2025

PG DEPARTMENT OF COMPUTER APPLICATIONS
MARUDHAR KESARI JAIN COLLEGE FOR WOMEN,
(AUTONOMOUS)
VANIYAMBADI – 635 751
TIRUPATTUR DIST.

**MARUDHAR KESARI JAIN COLLEGE FOR WOMEN
(AUTONOMOUS) VANIYAMBADI – 635 751. TIRUPATTUR DIST.**



PG DEPARTMENT OF COMPUTER APPLICATIONS

M.C.A

PRACTICAL

(HANDS ON TRAINING USING RDBMS)

Certified that this is a bonafide record of practical work done by

MS.Of.....

Reg . No... in the computer laboratory of

Marudhar Kesari Jain College for Women Autonomous during the year **2024– 2025**.

Subject In – Charge

Head,Department of Computer Applications

Marudhar Kesari Jain College for Women(Autonomous)

Vaniyambadi – 635 751. Tirupattur Dist.

Submitted for **M.C.A Degree** Practical Examination Held On at

Marudhar Kesari Jain College for Women Autonomous Vaniyambadi, Tirupattur Dist.

Internal Examiner

External Examiner

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1.DDL FOR CREATING OBJECTS(TABLES,DATABASE)

```
SQL> create table stud01(Rno number(3)primary key, Name varchar(10),DBMS number(3),  
VB number(3), OS number(3), CRY number(3),RDBMS_LAB number(3),VB_LAB  
number(3));
```

Table created.

```
SQL> desc stud01;
```

Name	Null?	Type

RNO	NOT NULL	NUMBER(3)
NAME		VARCHAR2(10)
DBMS		NUMBER(3)
VB		NUMBER(3)
OS		NUMBER(3)
CRY		NUMBER(3)
RDBMS_LAB		NUMBER(3)
VB_LAB		NUMBER(3)

```
SQL> alter table stud01 add(Total number(3));
```

Table altered.

```
SQL> desc stud01;
```

Name	Null?	Type

RNO	NOT NULL	NUMBER(3)
NAME		VARCHAR2(10)
DBMS		NUMBER(3)
VB		NUMBER(3)
OS		NUMBER(3)
CRY		NUMBER(3)
RDBMS_LAB		NUMBER(3)
VB_LAB		NUMBER(3)
TOTAL		NUMBER(3)

```
SQL> alter table stud01 modify(Name varchar(20));
```

Table altered.

```
SQL> desc stud01;
```

Name	Null?	Type

RNO	NOT NULL	NUMBER(3)
NAME		VARCHAR2(20)
DBMS		NUMBER(3)
VB		NUMBER(3)
OS		NUMBER(3)
CRY		NUMBER(3)
RDBMS_LAB		NUMBER(3)
VB_LAB		NUMBER(3)
TOTAL		NUMBER(3)

SQL> alter table stud01 drop(CRY);

Table altered.

SQL> desc stud01;

Name	Null?	Type

RNO	NOT NULL	NUMBER(3)
NAME		VARCHAR2(20)
DBMS		NUMBER(3)
VB		NUMBER(3)
OS		NUMBER(3)
RDBMS_LAB		NUMBER(3)
VB_LAB		NUMBER(3)
TOTAL		NUMBER(3)

SQL> truncate table stud01;

Table truncated.

SQL> select*from stud01;

no rows selected

SQL> drop table stud01;

Table dropped.

2. DML FOR PERFORMING RETRIVAL OPERATIONS

```
SQL> create table sales02(sales_id number(10),customer_id number(15),product_id
number(20),amount number(7));
```

Table created.

```
SQL> desc sales02;
```

Name	Null?	Type

SALES_ID		NUMBER(10)
CUSTOMER_ID		NUMBER(15)
PRODUCT_ID		NUMBER(20)
AMOUNT		NUMBER(7)

```
SQL> insert into sales02 values(1,101,201,500);
```

1 row created.

```
SQL>insert into sales02 values(2,102,202,1000);
```

1 row created.

```
SQL> insert into sales02 values(3,103,204,15000);
```

1 row created.

```
SQL> insert into sales02 values(4,104,204,20000);
```

1 row created.

```
SQL> insert into sales02 values(5,105,205,25000);
```

1 row created.

```
SQL> select * from sales02;
```

SALES_ID	CUSTOMER_ID	PRODUCT_ID	AMOUNT
----------	-------------	------------	--------

1	101	201	500
2	102	202	1000
3	103	204	15000
4	104	204	20000

SQL> select sales_id,customer_id,amount from sales02 order by amount desc;

SALES_ID	CUSTOMER_ID	AMOUNT
----------	-------------	--------

5	105	25000
4	104	20000
3	103	15000
2	102	1000
1	101	500

SQL> select customer_id,sum(amount)as total_spent from sales02 group by customer_id
having sum(amount)>500;

CUSTOMER_ID	TOTAL_SPENT
-------------	-------------

102	1000
104	20000
105	25000
103	15000

SQL> update sales02 set amount=amount*1.1 where customer_id<105;

4 rows updated.

SQL> select * from sales02 where customer_id<105;

SALES_ID	CUSTOMER_ID	PRODUCT_ID	AMOUNT
1	101	201	550
2	102	202	1100
3	103	204	16500
4	104	204	22000

SQL> delete from sales02 where sales_id=3;

1 row deleted.

SQL> select * from sales02;

SALES_ID	CUSTOMER_ID	PRODUCT_ID	AMOUNT
1	101	201	550
2	102	202	1100
4	104	204	22000
5	105	205	25000

SQL> commit;

Commit complete.

3.DCL FOR SPECIFYING CONSTRAINTS AND AUTHORITIES

SQL> create table student8(rno number(3)Primary key, name varchar(7),dbms number(3), vb number(3),os number(3), cry number(3), rdbms_lab number(3));

Table created.

SQL> desc student8;

Name	Null?	Type

RNO	NOT NULL	NUMBER(3)
NAME		VARCHAR2(7)
DBMS		NUMBER(3)
VB		NUMBER(3)
OS		NUMBER(3)
CRY		NUMBER(3)
RDBMS_LAB		NUMBER(3)

SQL> insert into student8 values(101, 'arthy', 89,78,90,78,94);

1 row created.

SQL> insert into student8 values(102, 'balu', 67,56,78,89,90);

1 row created.

SQL> insert into student8 values(103, 'vishnu', 45,56,67,78,89);

1 row created.

SQL> insert into student8 values(104, 'pavi', 78,89,54,73,82);

1 row created.

SQL> insert into student8 values(105, 'nandhu', 82,93,73,64,54);

1 row created.

SQL> select*from student8;

RNO	NAME	DBMS	VB	OS	CRY	RDBMS_LAB

101	arthy	89	78	90	78	94
102	balu	67	56	78	89	90
103	vishnu	45	56	67	78	89
104	pavi	78	89	54	73	82
105	nandhu	82	93	73	64	54

SQL> savepoint s1;

Savepoint created.

SQL> insert into student8 values(106, 'Rani',77,98,56,90,88);

1 row created.

SQL> select*from student8;

RNO	NAME	DBMS	VB	OS	CRY	RDBMS_LAB
-----	------	------	----	----	-----	-----------

101	arthy	89	78	90	78	94
102	balu	67	56	78	89	90
103	vishnu	45	56	67	78	89
104	pavi	78	89	54	73	82
105	nandhu	82	93	73	64	54
106	Rani	77	98	56	90	88

6 rows selected.

SQL> update student8 set dbms=100 where rno=106;

1 row updated.

SQL> select*from student8;

RNO	NAME	DBMS	VB	OS	CRY	RDBMS_LAB
-----	------	------	----	----	-----	-----------

101	arthy	89	78	90	78	94
102	balu	67	56	78	89	90
103	vishnu	45	56	67	78	89
104	pavi	78	89	54	73	82
105	nandhu	82	93	73	64	54
106	Rani	100	98	56	90	88

6 rows selected.

SQL> savepoint s2;

Savepoint created.

SQL> update student8 set dbms=100 where rno=102;

1 row updated.

SQL> select*from student8;

RNO	NAME	DBMS	VB	OS	CRY	RDBMS_LAB
-----	------	------	----	----	-----	-----------

101	arthu	89	78	90	78	94
102	balu	100	56	78	89	90
103	vishnu	45	56	67	78	89
104	pavi	78	89	54	73	82
105	nandhu	82	93	73	64	54
106	Rani	100	98	56	90	88

6 rows selected.

SQL> rollback to s2;

Rollback complete

.SQL> select*from student8;

RNO	NAME	DBMS	VB	OS	CRY	RDBMS_LAB
-----	------	------	----	----	-----	-----------

101	arthu	89	78	90	78	94
102	balu	67	56	78	89	90
103	vishnu	45	56	67	78	89
104	pavi	78	89	54	73	82
105	nandhu	82	93	73	64	54
106	Rani	100	98	56	90	88

6 rows selected.

SQL> rollback to s1;

Rollback complete.

SQL> select*from student8;

RNO	NAME	DBMS	VB	OS	CRY	RDBMS_LAB
-----	------	------	----	----	-----	-----------

101	arthu	89	78	90	78	94
102	balu	67	56	78	89	90
103	vishnu	45	56	67	78	89
104	pavi	78	89	54	73	82
105	nandhu	82	93	73	64	54

SQL> commit;

Commit complete.

```
SQL> create user bca1 identified by bca1;
```

User created.

```
SQL> grant connect, resource to bca1;
```

Grant succeeded

```
.SQL> grant all on student8 to bca1;
```

Grant succeeded.

```
SQL> grant insert, delete on student8 to bca1;
```

Grant succeeded.

```
SQL> revoke all on student8 from bca1;
```

Revoke succeeded.

```
SQL> revoke insert, delete on student8 from bca1;
```

revoke insert, delete on student8 from bca1 *

ERROR at line: 1

ORA-01927: you cannot REVOKE privileges you did not grant

4. AGGREGATE FUNCTIONS

```
create table employee04(empno number(4),ename varchar(30),salary number(6),gender
varchar(6),designation varchar(20),place varchar(30));
```

Table created.

```
SQL> desc employee04;
```

Name	Null?	Type

EMPNO		NUMBER(4)
ENAME		VARCHAR2(30)
SALARY		NUMBER(6)
GENDER		VARCHAR2(6)
DESIGNATION		VARCHAR2(20)
PLACE		VARCHAR2(30)

```
SQL> insert into employee04 values(101,'abi',19000,'female','hr','vaniyambadi');
```

1 row created.

```
SQL>insert into employee04 values(102,'indu',10000,'female','employee','vaniyambadi');
```

1 row created.

```
SQL> insert into employee04 values(103,'pavi',15000,'female','employee','tpt');
```

1 row created.

```
SQL> insert into employee04 values(104,'nivii',20000,'female','hr','tpt');
```

1 row created.

```
SQL> insert into employee04 values(105,'sofra',25000,'female','manager','ambur');
```

1 row created.

CREATE TABLE USING ANOTHER TABLE

```
SQL> create table employee4_details as select ename,designation,salary from employee04;
```

Table created.

```
SQL> desc employee4_details;
```

Name	Null?	Type

ENAME		VARCHAR2(30)
DESIGNATION		VARCHAR2(20)
SALARY		NUMBER(6)

```
SQL> select ename from employee04 order by ename asc;
```

ENAME

abi

indu

nivii

pavi

sofra

```
SQL> select *from employee04 order by place desc
```

EMPNO	ENAME	SALARY	GENDER	DESIGNATION	PLACE

101	abi	19000	female	hr	vaniyambadi
102	indu	10000	female	employee	vaniyambadi
103	pavi	15000	female	employee	tpt

104	nivii	20000	female	hr	tpt
105	sofra	25000	female	manager	ambur

SQL> select*from employee04 where place ='vaniyambadi';

WHERE CLAUSE

EMPNO	ENAME	SALARY	GENDER	DESIGNATION	PLACE
-------	-------	--------	--------	-------------	-------

101	abi	19000	female	hr	vaniyambadi
102	indu	10000	female	employee	vaniyambadi

SQL> select empno,ename,place from employee04;

EMPNO	ENAME	PLACE
101	abi	vaniyambadi
102	indu	vaniyambadi
103	pavi	tpt
104	nivii	tpt
105	sofra	ambur

SQL> select * from employee04;

EMPNO	ENAME	SALARY	GENDER	DESIGNATION	PLACE
101	abi	19000	female	hr	vaniyambadi
102	indu	10000	female	employee	vaniyambadi
103	pavi	15000	female	employee	tpt
104	nivii	20000	female	hr	tpt

105	sofra	25000	female	manager	ambur
-----	-------	-------	--------	---------	-------

SQL> select place from employee04;

PLACE

vaniyambadi

vaniyambadi

tpt

tpt

ambur

SQL> select distinct place from employee04;

PLACE

ambur

vaniyambadi

tpt

SQL> select* from employee04 where place='ambur' and designation='manager';

EMPNO	ENAME	SALARY	GENDER	DESIGNATION	PLACE
-------	-------	--------	--------	-------------	-------

105	sofra	25000	female	manager	ambur
-----	-------	-------	--------	---------	-------

SQL> select* from employee04 where place='tpt' or designation='employee';

EMPNO	ENAME	SALARY	GENDER	DESIGNATION	PLACE
-------	-------	--------	--------	-------------	-------

102	indu	10000	female	employee	vaniyambadi
-----	------	-------	--------	----------	-------------

103	pavi	15000	female	employee	tpt
-----	------	-------	--------	----------	-----

104	nivii	20000	female	hr	tpt
-----	-------	-------	--------	----	-----

SQL> select* from employee04 where not place='tpt';

EMPNO	ENAME	SALARY	GENDER	DESIGNATION	PLACE
-------	-------	--------	--------	-------------	-------

101	abi	19000	female	hr	vaniyambadi
-----	-----	-------	--------	----	-------------

102	indu	10000	female	employee	vaniyambadi
-----	------	-------	--------	----------	-------------

105	sofra	25000	female	manager	ambur
-----	-------	-------	--------	---------	-------

SQL> select*from employee04 where place='tpt' and (designation='manager' or designation='hr');

EMPNO	ENAME	SALARY	GENDER	DESIGNATION	PLACE
-------	-------	--------	--------	-------------	-------

104	nivii	20000	female	hr	tpt
-----	-------	-------	--------	----	-----

SQL> create table stud01(rno number(5),name varchar(15),m1 number(5),m2 number(5),m3 number(5),total number(4));

Table created.

SQL> desc stud01;

Name	Null?	Type
------	-------	------

RNO		NUMBER(5)
-----	--	-----------

NAME		VARCHAR2(15)
------	--	--------------

M1		NUMBER(5)
----	--	-----------

M2		NUMBER(5)
----	--	-----------

M3	NUMBER(5)
----	-----------

TOTAL NUMBER(4)

```
SQL> insert into stud01 values(1,'yoga',90,90,90,270);
```

1 row created.

```
SQL> insert into stud01 values(2,'priya',80,90,90,260);
```

1 row created.

```
SQL> insert into stud01 values(3,'deepi',80,90,90,260);
```

1 row created.

```
SQL> select*from stud01;
```

RNO	NAME	M1	M2	M3	TOTAL
1	yoga	90	90	90	270
2	priya	80	90	90	260
3	deepi	80	90	90	260

```
SQL> select sum(m1) from stud01;
```

SUM(M1)

250

```
SQL> select avg(m2) from stud01;
```

AVG(M2)

90

```
SQL> select count(*) from stud01;
```

COUNT(*)

3

SQL> select count(name) from stud01;

COUNT(NAME)

3

SQL> select max(m1) from stud01;

MAX(M1)

90

SQL> select min(total) from stud01;

MIN(TOTAL)

260

5. STRING FUNCTIONS

```
SQL> create table employee2(emp_id int primary key,emp_name varchar(100));
```

Table created.

```
SQL> desc employee2;
```

Name	Null?	Type

EMP_ID	NOT NULL	NUMBER(38)
EMP_NAME		VARCHAR2(100)

```
SQL> insert into employee2 (emp_id,emp_name)values(1,'abi');
```

1 row created.

```
SQL> insert into employee2 (emp_id,emp_name)values(2,'arthi');
```

1 row created.

```
SQL> insert into employee2 (emp_id,emp_name)values(3,'deepi');
```

1 row created.

```
SQL> insert into employee2(emp_id,emp_name)values(4,'loki');
```

1 row created.

```
SQL> insert into employee2(emp_id,emp_name)values(5,'roshi');
```

1 row created.

```
SQL> select * from employee2;
```

EMP_ID	EMP_NAME

1	abi
2	arthi

3	deepi
---	-------

4	loki
---	------

5	roshi
---	-------

SQL> select upper(emp_name)from employee2;

UPPER(EMP_NAME)

ABI

ARTHI

DEEPI

LOKI

ROSHI

SQL> select lower(emp_name)from employee2;

LOWER(EMP_NAME)

abi

arthi

deepi

loki

roshi

SQL> select substr (emp_name,1,3)from employee2;

SUBSTR

abi

art

dee

lok

ros

```
SQL> select length(emp_name)from employee2;
```

```
LENGTH(EMP_NAME)
```

3

5

5

4

5

```
SQL> select concat(emp_name,'(employee)')from employee2;
```

```
CONCAT(EMP_NAME,'(EMPLOYEE)')
```

abi(employee)

arthi(employee)

deepi(employee)

loki(employee)

roshi(employee)

```
SQL> select trim('loki')from employee2;
```

TRIM

loki

loki

loki

loki

loki

SQL> select instr(emp_name,'abi')from employee2;

INSTR(EMP_NAME,'ABI')

1

0

0

0

0

SQL> update employee2 set emp_name=upper(emp_name)where emp_id=3;

1 row updated.

SQL> select * from employee2;

Select replace(emp_name,'abi','arthi')from employee2;

REPLACE(EMP_NAME,'ABI','ARTHI')

abi

arthi

deepi

loki

roshi

SQL>select reverse(emp_name) FROM employee5;

REVERSE(EMP_NAME)

iba

ihtra

ipeed

ikol

ihsor

SQL>SELECT LTRIM('deepi')from employee5;

LTRIM

deepi

deepi

deepi

deepi

deepi

SQL> select*from employee5;

EMP_ID

EMP_NAME

1	abi
2	arthi
3	deepi
4	loki
5	roshi

6.VARIOUS OPERATIONS ON VIEW

```
SQL>create table productdetails(pid number(3)primary key, pname varchar(10),pprice
number(20), quantity number(5), mfg_date date);
```

Table created.

```
SQL> desc productdetails;
```

NAME	NULL?	TYPE

PID	NOT NULL	NUMBER(3)
PNAME		VARCHAR2(10)
PPRICE		NUMBER(20)
QUANTITY		NUMBER(5)
MFG_DATE		DATE

```
SQL> insert into productdetails values(1, 'desktop', 6000,5,'16_jan_19');
```

1 row created.

```
SQL> insert into productdetails values(2, 'laptop', 5000,10,'12_jan_18');
```

1 row created.

```
SQL> insert into productdetails values(3, 'mouse', 7000,4,'4_dec_02');
```

1 row created.

```
SQL> insert into productdetails values(4, 'keyboard', 10000,8,'24_feb_02');
```

1 row created.

```
SQL> insert into productdetails values(5, 'computer', 3000,6,'26_sep_03');
```

1 row created.

```
SQL> select*from productdetails;
```

PID	PNAME	PPRICE	QUANTITY	MFG_DATE
-----	-------	--------	----------	----------

1	desktop	6000	5	16-JAN-19
2	laptop	5000	10	12-JAN-18
3	mouse	7000	4	04-DEC-02
4	keyboard	10000	8	24-FEB-02
5	computer	3000	6	26-SEP-03

SQL> create or replace view v1 as select*from productdetails;

View created.

SQL> select*from v1;

PID	PNAME	PPRICE	QUANTITY	MFG_DATE
-----	-------	--------	----------	----------

1	desktop	6000	5	16-JAN-19
2	laptop	5000	10	12-JAN-18
3	mouse	7000	4	04-DEC-02
4	keyboard	10000	8	24-FEB-02
5	computer	3000	6	26-SEP-03

SQL> insert into v1 values(6,'joystick', 2000,30,'1_apr_02');

1 row created.

SQL> insert into v1 values(7,'CPU', 9000,20,'12_mar_22');

1 row created.

SQL> select*from v1 where pname like '%d';

PID	PNAME	PPRICE	QUANTITY	MFG_DATE
-----	-------	--------	----------	----------

4	keyboard	10000	8	24-FEB-02
---	----------	-------	---	-----------

SQL> select*from v1;

PID	PNAME	PPRICE	QUANTITY	MFG_DATE
-----	-------	--------	----------	----------

1	desktop	6000	5	16-JAN-19
---	---------	------	---	-----------

2	laptop	5000	10	12-JAN-18
---	--------	------	----	-----------

3	mouse	7000	4	04-DEC-02
---	-------	------	---	-----------

4	keyboard	10000	8	24-FEB-02
---	----------	-------	---	-----------

5	computer	3000	6	26-SEP-03
---	----------	------	---	-----------

6	joystick	2000	30	01-APR-02
---	----------	------	----	-----------

7	CPU	9000	20	12-MAR-22
---	-----	------	----	-----------

7 rows selected.

SQL> select pid, pname from v1 where pprice between 2000 and 9000;

PID	PNAME
-----	-------

1	desktop
---	---------

2	laptop
---	--------

3	mouse
---	-------

5	computer
---	----------

6	joystick
---	----------

7 CPU

6 rows selected.

SQL> select pid, pname from v1 where pprice > 2000;

PID	PNAME
-----	-------

1	desktop
---	---------

2	laptop
---	--------

3	mouse
---	-------

4	keyboard
---	----------

5	computer
---	----------

7	CPU
---	-----

6 rows selected.

SQL> update v1 set pname='mouse' where pid=3;

1 row updated.

SQL> update v1 set pname='desk' where pid=2;

1 row updated.

SQL> select*from v1;

PID	PNAME	PPRICE	QUANTITY	MFG_DATE
-----	-------	--------	----------	----------

1	desktop	6000	5	16-JAN-19
---	---------	------	---	-----------

2	desk	5000	10	12-JAN-18
---	------	------	----	-----------

3	mouse	7000	4	04-DEC-02
---	-------	------	---	-----------

4	keyboard	10000	8	24-FEB-02
---	----------	-------	---	-----------

5	computer	3000	6	26-SEP-03
6	joystick	2000	30	01-APR-02
7	CPU	9000	20	12-MAR-22

7 rows selected.

SQL> delete from v1 where pid=6;

1 row deleted.

SQL> select*from v1;

PID	PNAME	PPRICE	QUANTITY	MFG_DATE
-----	-------	--------	----------	----------

1	desktop	6000	5	16-JAN-19
2	desk	5000	10	12-JAN-18
3	mouse	7000	4	04-DEC-02
4	keyboard	10000	8	24-FEB-02
5	computer	3000	6	26-SEP-03
7	CPU	9000	20	12-MAR-22

6 rows selected.

SQL> select pname from productdetails where pname like '%d';

PNAME

keyboard

SQL> select pname from productdetails where pname like '%ou%';

PNAME

mouse

SQL> select pname from productdetails where pname like '%op';

PNAME

desktop

SQL> select*from v1 where pname like('desk');

PID	PNAME	PPRICE	QUANTITY	MFG_DATE
-----	-------	--------	----------	----------

2	desk	5000	10	12_JAN_18
---	------	------	----	-----------

7.UNION,INTERSECTION,DIFFERENCE,CARTESIAN

PRODUCT AND DIVISION

SQL> create table table1(id int primary key,name varchar(100),age int);

Table created.

SQL> desc table1;

Name	Null?	Type

ID	NOT NULL	NUMBER(38)
NAME		VARCHAR2(100)
AGE		NUMBER(38)

SQL> create table table2(id int primary key,name varchar(100),age int);

Table created.

SQL> desc table2;

Name	Null?	Type

ID	NOT NULL	NUMBER(38)
NAME		VARCHAR2(100)
AGE		NUMBER(38)

SQL> insert into table1(id,name,age)values(1,'alice',250);

1 row created.

SQL> insert into table1(id,name,age)values(2,'bob',30);

1 row created.

SQL> insert into table1(id,name,age)values(3,'charlie',35);

1 row created.

SQL> select * from table1;

ID	NAME	AGE
1	alice	250
2	bob	30
3	charlie	35

SQL> insert into table2(id,name,age)values(2,'bob',30);

1 row created.

SQL> insert into table2(id,name,age)values(3,'charlie',35);

1 row created.

SQL> insert into table2(id,name,age)values(4,'david',40);

1 row created.

SQL> select id,name,age from table1 union select id,name,age from table2;

ID	NAME	AGE
1	alice	250
2	bob	30
3	charlie	35
4	david	40

SQL> select id,name,age from table1 intersect select id,name,age from table2;

ID	NAME	AGE

1	alice	250
2	bob	30
3	charlie	35

SQL> select id,name,age from table1 where id not in(select id from table2);

ID	NAME	AGE

4	david	40

SQL> select t1.id,t1.name,t2.id,t2.name from table1 t1 cross join table2 t2;

ID	NAME

1	alice
2	bob

ID	NAME

1	alice
3	charlie

ID	NAME

1	alice
4	david

ID	NAME

2	bob

2	bob
---	-----

ID	NAME

2	bob

3	charlie
---	---------

ID	NAME

2	bob

4	david
---	-------

ID	NAME

3	charlie

2	bob
---	-----

ID	NAME

3	charlie

3	charlie
---	---------

ID	NAME

3	charlie
4	david

9 rows selected.

SQL> select t1.name,count(distinct t1.age)as ages from table1 t1 join table2 t2 on
t1.name=t2.name group by t1.name;

NAME	AGES

Bob	1
Charlie	1

8. VARIOUS JOINS AND NESTED QUERIES

```
SQL> create table customer22(cid number(3)primary key, cname varchar(15),address  
varchar(15));
```

Table created.

```
SQL> desc customer22;
```

Name	Null?	Type

CID	NOT NULL	NUMBER(3)
CNAME		VARCHAR2(15)
ADDRESS		VARCHAR2(15)

```
SQL> insert into customer22 values(&cid,&cname,&address);
```

Enter value for cid: 1

Enter value for cname: ammu

Enter value for address: vaniyambadi

```
old 1: insert into customer22 values(&cid,&cname,&address')
```

```
new 1: insert into customer22 values(1,'ammu','vaniyambadi')
```

1 row created.

```
SQL> /
```

Enter value for cid: 2

Enter value for cname: devi

Enter value for address: tirupattur

```
old 1: insert into customer22 values(&cid,&cname,&address')
```

```
new 1: insert into customer22 values(2,'devi','tirupattur')
```


1 row created.

SQL> /

Enter value for cid: 4

Enter value for cname: rani

Enter value for address: ambur

old 1: insert into customer22 values(&cid,'&cname','&address')

new 1: insert into customer22 values(4,'rani','ambur')

1 row created.

SQL> select*from customer22;

CID	CNAME	ADDRESS
-----	-------	---------

1	ammu	vaniyambadi
---	------	-------------

2	devi	tirupattur
---	------	------------

4	rani	ambur
---	------	-------

ORDER TABLE:

SQL> create table order22(oid number(3)primary key, item varchar(15), cid number(3));

Table created.

SQL> desc order22;

Name	Null?	Type
------	-------	------

OID	NOT NULL	NUMBER(3)
-----	----------	-----------

ITEM		VARCHAR2(15)
------	--	--------------

CID		NUMBER(3)
-----	--	-----------

```
SQL> insert into order22 values(&oid, '&item', &cid);
```

Enter value for oid: 101

Enter value for item: mouse

Enter value for cid: 1

```
old 1: insert into order22 values(&oid, '&item', &cid)
```

```
new 1: insert into order22 values(101, 'mouse', 1)
```

1 row created.

```
SQL> /
```

Enter value for oid: 102

Enter value for item: keyboard

Enter value for cid: 2

```
old 1: insert into order22 values(&oid, '&item', &cid)
```

```
new 1: insert into order22 values(102, 'keyboard', 2)
```

1 row created.

```
SQL> /
```

Enter value for oid: 103

Enter value for item: hard disk

Enter value for cid: 3

```
old 1: insert into order22 values(&oid, '&item', &cid)
```

```
new 1: insert into order22 values(103, 'hard disk', 3)
```

1 row created.

```
SQL> select*from order22;
```

OID	ITEM	CID
-----	------	-----

101	mouse	1
-----	-------	---

102	keyboard	2
-----	----------	---

103	hard disk	3
-----	-----------	---

EQUI-JOIN:

SQL> select cname, oid, item from customer22, order22 where customer22.cid=order22.cid;

CNAME	OID	ITEM
-------	-----	------

ammu	101	mouse
------	-----	-------

devi	102	keyboard
------	-----	----------

INNER-JOIN:

SQL> select cname, address,oid, item from customer22 inner join order22 on

customer22.cid=order22.cid;

CNAME	ADDRESS	OID	ITEM
-------	---------	-----	------

ammu	vaniyambadi	101	mouse
------	-------------	-----	-------

devi	tirupattur	102	keyboard
------	------------	-----	----------

OUTER JOIN:

SQL> select cname, item from customer22 left join order22 on customer22.cid=order22.cid;

CNAME	ITEM
-------	------

ammu	mouse
------	-------

devi keyboard

rani

RIGHT JOIN:

SQL> select cname,item from customer22 right join order22 on customer22.cid=order22.cid;

CNAME	ITEM
-------	------

Ammu	mouse
------	-------

devi	keyboard
------	----------

	harddisk
--	----------

FULL JOIN:

SQL> select cname, item from customer22 full join order22 on customer22.cid=order22.cid;

CNAME	ITEM
-------	------

Ammu	mouse
------	-------

devi	keyboard
------	----------

rani	hard disk
------	-----------

NESTED QUERIES:

SQL> create table doctor(did number(5), dname varchar2(20), specialist varchar2(20), salary
number(8));

Table created.

SQL> desc doctor;

Name	Null?	Type
------	-------	------

DID		NUMBER(5)
-----	--	-----------

DNAME		VARCHAR2(20)
-------	--	--------------

SPECIALIST		VARCHAR2(20)
------------	--	--------------

SALARY		NUMBER(8)
--------	--	-----------

SQL> insert into doctor values(201, 'rajesh','stomach', 10000);

1 row created.

SQL> insert into doctor values(202, 'malar', 'fever', 95000);

1 row created.

SQL> insert into doctor values(203, 'vicky', 'heart', 15000);

1 row created.

SQL> insert into doctor values(204, 'saran', 'nerves', 11000);

1 row created.

SQL> insert into doctor values(205, 'deepi', 'skull', 90000);

1 row created.

SQL> insert into doctor values(203, 'kamal', 'kidney', 80000);

1 row created.

SQL> select*from doctor;

DID	DNAME	SPECIALIST	SALARY
-----	-------	------------	--------

201	rajesh	stomach	10000
-----	--------	---------	-------

202	malar	fever	95000
-----	-------	-------	-------

203	vicky	heart	15000
204	saran	nerves	11000
205	deepi	skull	90000
203	kamal	kidney	80000

6 rows selected.

SQL> select*from doctor where did=(select did from doctor where dname like 'v%');

DID	DNAME	SPECIALIST	SALARY

203	vicky	heart	15000

SQL> select*from doctor where specialist=(select specialist from doctor where
dname='saran');

DID	DNAME	SPECIALIST	SALARY

204	saran	nerves	11000

SQL> select*from doctor where salary=(select salary from doctor where dname='malar');

DID	DNAME	SPECIALIST	SALARY

202	malar	fever	95000

SQL> select did, dname,salary from doctor where did in(select did from doctor where
specialist='stomach');

DID	DNAME	SALARY

201	rajesh	10000

```
SQL> select did, dname,salary from doctor where did not in(select did from doctor where
specialist='stomach');
```

DID	DNAME	SALARY
-----	-------	--------

202	malar	95000
-----	-------	-------

205	deepi	90000
-----	-------	-------

204	saran	11000
-----	-------	-------

203	kamal	80000
-----	-------	-------

203	vicky	15000
-----	-------	-------

```
SQL> select dname,specialist from doctor where specialist=(select specialist from doctor
where dname='vicky');
```

DNAME	SPECIALIST
-------	------------

Vicky	heart
-------	-------

```
SQL> select dname,specialist from doctor where specialist!=(select specialist from doctor
where dname='vicky');
```

DNAME	SPECIALIST
-------	------------

rajesh	stomach
--------	---------

malar	fever
-------	-------

saran	nerves
-------	--------

deepi	skull
-------	-------

kamal	kidney
-------	--------

5 rows selected.

9.PROGRAMS ON PL/SQL

```
create table phone(phone_no number(10),username varchar(30),address
varchar(30),constraint phone primary key(phone_no));
```

Table created.

```
SQL> desc phone;
```

Name	Null?	Type

PHONE_NO	NOT NULL	NUMBER(10)
USERNAME		VARCHAR2(30)
ADDRESS		VARCHAR2(30)

```
SQL> insert into phone values(&phone_no,&username,&addres');
```

Enter value for phone_no: 9332221879

Enter value for username: kavi

Enter value for addres: chennai

```
old 1: insert into phone values(&phone_no,&username,&addres')
```

```
new 1: insert into phone values(9332221879,'kavi','chennai')
```

1 row created.

```
SQL> insert into phone values(&phone_no,&username,&addres');
```

Enter value for phone_no: 9876543210

Enter value for username: haritha

Enter value for addres: vnb

```
old 1: insert into phone values(&phone_no,&username,&addres')
```

```
new 1: insert into phone values(9876543210,'haritha','vnb')
```


1 row created.

```
SQL> insert into phone values(&phone_no,&username,&adres');
```

Enter value for phone_no: 9123456780

Enter value for username: jessi

Enter value for adres: tpt

```
old 1: insert into phone values(&phone_no,&username,&adres')
```

```
new 1: insert into phone values(9123456780,'jessi','tpt')
```

1 row created.

```
SQL> select * from phone;
```

PHONE_NO	USERNAME	ADDRESS
9332221879	kavi	chennai
9876543210	haritha	vnb
9123456780	jessi	tpt

```
SQL> set serveroutput on
```

```
SQL> create or replace function search(phone_no1 number) return varchar is address1  
varchar(30);
```

```
2 begin
```

```
3 select address into address1 from phone where phone_no1=phone_no;
```

```
4 return address1;
```

```
5 exception
```

```
6 when no_data_found then
```

```
7 return 'not found';
```

```
8 end;
```

```
9 /
```

Function created.

```
SQL> declare
```

```
2 phone_no1 number;
```

```
3 address2 varchar(30);
```

```
4 begin
```

```
5 phone_no1:&phone_no1;
```

```
6 address2:=search(phone1);
```

```
7 rdbms_output.put_line('address of phoneno"\phno1\\"is"\address2);
```

```
8 end;
```

```
9 /
```

Enter value for phone_no1: 9332221879

```
old 5: phone_no1:&phone_no1;
```

```
new 5: phone_no1:9332221879;
```

```
select * from phone;
```

PHONE_NO	USERNAME	ADDRESS
----------	----------	---------

9332221879	kavi	chennai
------------	------	---------

9876543210	haritha	vnb
------------	---------	-----

9123456780	jessi	tpt
------------	-------	-----

```
SQL> commit;
```

Commit complete.

10.UNDERSTANDING AND CREATING CURSORS.

```
SQL> create table emp23(eno number(5), ename varchar(10), b_sal number(7), hra
number(5), pf number(5), net_sal number(5));
```

Table created.

```
SQL> desc emp23;
```

Name	Null?	Type

ENO		NUMBER(5)
ENAME		VARCHAR2(10)
B_SAL		NUMBER(7)
HRA		NUMBER(5)
PF		NUMBER(5)
NET_SAL		NUMBER(5)

```
SQL> insert into emp23 values(&eno, '&ename', &b_sal, &hra, &pf, &net_sal);
```

Enter value for eno: 101

Enter value for ename: priya

Enter value for b_sal: 10000

Enter value for hra: 300

Enter value for pf: 400

Enter value for net_sal: 9900

old 1: insert into emp23 values(&eno, '&ename', &b_sal, &hra, &pf, &net_sal)

new 1: insert into emp23 values(101, 'priya', 10000, 300, 400, 9900)

1 row created.

SQL> /

Enter value for eno: 102

Enter value for ename: subhi

Enter value for b_sal: 15000Enter value for hra: 500

Enter value for pf: 800

Enter value for net_sal: 20100

old 1: insert into emp23 values(&eno, '&ename', &b_sal, &hra, &pf, &net_sal)

new 1: insert into emp23 values(102, 'subhi', 15000, 500, 800, 20100)

1 row created.

SQL> /

Enter value for eno: 103

Enter value for ename: akshu

Enter value for b_sal: 20000

Enter value for hra: 800

Enter value for pf: 700

Enter value for net_sal: 20100

old 1: insert into emp23 values(&eno, '&ename', &b_sal, &hra, &pf, &net_sal)

new 1: insert into emp23 values(103, 'akshu', 20000, 800, 700, 20100)

1 row created.

SQL> select*from emp23;

ENO	ENAME	B_SAL	HRA	PF	NET_SAL
-----	-------	-------	-----	----	---------

101	priya	10000	300	400	9900
-----	-------	-------	-----	-----	------

102	subhi	15000	500	800	20100
103	akshu	20000	800	700	20100

IMPLICIT CURSOR:

SQL> set serveroutput on;

SQL> declare

2 begin

3 update emp23 set ename='kaviya' where eno=103; 4 if sql% rowcount>1 then

5 dbms_output.put_line('more rows');

6 rollback;

7 else if sql% rowcount=1 then

8 commit;

9 dbms_output.put_line('one row updated');

10 end if;

11 end if;

12 end;

13 /

PL/SQL procedure successfully completed.

SQL> select*from emp23;

ENO	ENAME	B_SAL	HRA	PF	NET_SAL
-----	-------	-------	-----	----	---------

101	priya	10000	300	400	9900
102	subhi	15000	500	800	20100
103	kaviya	20000	800	700	20100

EXPLICIT CURSOR:

SQL> declare

2 ename emp23.ename%type;

3 b_sal emp23.b_sal%type;

4 net_sal emp23.net_sal%type;

5 cursor c1 is select ename, b_sal, net_sal from emp23;

6 begin

7 open c1;

8 loop 9 fetch c1 into ename, b_sal, net_sal;

10 dbms_output.put_line('Name:'||ename);

11 dbms_output.put_line('Basic salary:'||b_sal);

12 dbms_output.put_line('Net salary:'||net_sal);

13 exit when c1%notfound;

14 end loop;

15 close c1;

16 end;

17 /

Name:priya

Basic salary:10000

Net salary:9900

Name:subhi

Basic salary:15000

Net salary:20100

Name:kaviya

Basic salary:20000

Net salary:20100

Name:kaviya

Basic salary:20000

Net salary:20100

PL/SQL procedure successfully completed.

SQL> commit;

Commit complete.

