**5. Queries on Joins and Correlated Sub-queries.**

**JOINS :**

SQL> create table tb1

2 (

3 rno integer,

4 name varchar2(20),

5 marks integer

6 );

Table created.

SQL> create table tb2

2 (

3 rno integer,

4 fee integer

5 );

Table created.

SQL> insert into tb1 values(&rno,'&name',&marks);

Enter value for rno: 501

Enter value for name: Abhi

Enter value for marks: 50

old 1: insert into tb1 values(&rno,'&name',&marks)

new 1: insert into tb1 values(501,'Abhi',50)

1 row created.

SQL> /

Enter value for rno: 502

Enter value for name: Ravi

Enter value for marks: 40

old 1: insert into tb1 values(&rno,'&name',&marks)

new 1: insert into tb1 values(502,'Ravi',40)

1 row created.

SQL> /

Enter value for rno: 503

Enter value for name: Suma

Enter value for marks: 30

old 1: insert into tb1 values(&rno,'&name',&marks)

new 1: insert into tb1 values(503,'Suma',30)

1 row created.

SQL> /

Enter value for rno: 504

Enter value for name: Raj

Enter value for marks: 35

old 1: insert into tb1 values(&rno,'&name',&marks)

new 1: insert into tb1 values(504,'Raj',35)

1 row created.

SQL> /

Enter value for rno: 505

Enter value for name: Ramu

Enter value for marks: 45

old 1: insert into tb1 values(&rno,'&name',&marks)

new 1: insert into tb1 values(505,'Ramu',45)

1 row created.

SQL> select \* from tb1;

RNO NAME MARKS

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

501 Abhi 50

502 Ravi 40

503 Suma 30

504 Raj 35

505 Ramu 45

SQL> insert into tb2 values(&rno,&fee);

Enter value for rno: 501

Enter value for fee: 2000

old 1: insert into tb2 values(&rno,&fee)

new 1: insert into tb2 values(501,2000)

1 row created.

SQL> /

Enter value for rno: 502

Enter value for fee: 3000

old 1: insert into tb2 values(&rno,&fee)

new 1: insert into tb2 values(502,3000)

1 row created.

SQL> /

Enter value for rno: 503

Enter value for fee: 1500

old 1: insert into tb2 values(&rno,&fee)

new 1: insert into tb2 values(503,1500)

1 row created.

SQL> /

Enter value for rno: 504

Enter value for fee: 4000

old 1: insert into tb2 values(&rno,&fee)

new 1: insert into tb2 values(504,4000)

1 row created.

SQL> select \* from tb2;

RNO FEE

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

501 2000

502 3000

503 1500

504 4000

1. **Inner Join:**

SQL> select \* from tb1 inner join tb2 on tb1.rno=tb2.rno;

RNO NAME MARKS RNO FEE

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

501 Abhi 50 501 2000

502 Ravi 40 502 3000

503 Suma 30 503 1500

504 Raj 35 504 4000

SQL> select \* from tb1 join tb2 on tb1.rno=tb2.rno;

RNO NAME MARKS RNO FEE

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

501 Abhi 50 501 2000

502 Ravi 40 502 3000

503 Suma 30 503 1500

504 Raj 35 504 4000

1. **Outer Join :**

SQL> select \* from tb1 left outer join tb2 on tb1.rno=tb2.rno;

RNO NAME MARKS RNO FEE

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

501 Abhi 50 501 2000

502 Ravi 40 502 3000

503 Suma 30 503 1500

504 Raj 35 504 4000

505 Ramu 45

SQL> select \* from tb2 right outer join tb1 on tb2.rno=tb1.rno;

RNO FEE RNO NAME MARKS

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

501 2000 501 Abhi 50

502 3000 502 Ravi 40

503 1500 503 Suma 30

504 4000 504 Raj 35

505 Ramu 45

1. **Natural Join:**

SQL> select \* from tb1 natural join tb2;

RNO NAME MARKS FEE

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

501 Abhi 50 2000

502 Ravi 40 3000

503 Suma 30 1500

504 Raj 35 4000

1. **Cross Join :**

SQL> select \* from tb1 cross join tb2;

RNO NAME MARKS RNO FEE

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

501 Abhi 50 501 2000

502 Ravi 40 501 2000

503 Suma 30 501 2000

504 Raj 35 501 2000

505 Ramu 45 501 2000

501 Abhi 50 502 3000

502 Ravi 40 502 3000

503 Suma 30 502 3000

504 Raj 35 502 3000

505 Ramu 45 502 3000

501 Abhi 50 503 1500

RNO NAME MARKS RNO FEE

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

502 Ravi 40 503 1500

503 Suma 30 503 1500

504 Raj 35 503 1500

505 Ramu 45 503 1500

501 Abhi 50 504 4000

502 Ravi 40 504 4000

503 Suma 30 504 4000

504 Raj 35 504 4000

505 Ramu 45 504 4000

20 rows selected.

SQL> select \* from tb1,tb2;

RNO NAME MARKS RNO FEE

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

501 Abhi 50 501 2000

502 Ravi 40 501 2000

503 Suma 30 501 2000

504 Raj 35 501 2000

505 Ramu 45 501 2000

501 Abhi 50 502 3000

502 Ravi 40 502 3000

503 Suma 30 502 3000

504 Raj 35 502 3000

505 Ramu 45 502 3000

501 Abhi 50 503 1500

RNO NAME MARKS RNO FEE

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

502 Ravi 40 503 1500

503 Suma 30 503 1500

504 Raj 35 503 1500

505 Ramu 45 503 1500

501 Abhi 50 504 4000

502 Ravi 40 504 4000

503 Suma 30 504 4000

504 Raj 35 504 4000

505 Ramu 45 504 4000

20 rows selected.

SQL> select t1.rno,t2.name from tb1 t1,tb1 t2 where t1.rno=t2.rno;

RNO NAME

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

501 Abhi

502 Ravi

503 Suma

504 Raj

505 Ramu

**4.2) Queries on Controlling Data: Commit, Rollback, and Save point.**

SQL> insert into tb1 values(503,'bhanu',14);

1 row created.

SQL> savepoint a;

Savepoint created.

SQL> insert into tb1 values(533,'Pavani',15);

1 row created.

SQL> savepoint b;

Savepoint created.

SQL> insert into tb1 values(549,'Harika',15);

1 row created.

SQL> select \* from tb1;

RNO NAME MARKS

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

501 Abhi 50

502 Ravi 40

503 Suma 30

504 Raj 35

505 Ramu 45

503 bhanu 14

533 Pavani 15

549 Harika 15

8 rows selected.

SQL> rollback to b;

Rollback complete.

SQL> select \* from tb1;

RNO NAME MARKS

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

501 Abhi 50

502 Ravi 40

503 Suma 30

504 Raj 35

505 Ramu 45

503 bhanu 14

533 Pavani 15

7 rows selected.

SQL> rollback to a;

Rollback complete.

SQL> select \* from tb1;

RNO NAME MARKS

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

501 Abhi 50

502 Ravi 40

503 Suma 30

504 Raj 35

505 Ramu 45

503 bhanu 14

6 rows selected.

**Truncate:**

SQL> delete from tb1;

6 rows deleted.

SQL> select \* from tb1;

no rows selected

SQL> rollback;

Rollback complete.

SQL> select \* from tb1;

RNO NAME MARKS

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

501 Abhi 50

502 ravi 40

503 Suma 30

504 Raju 35

505 Ramu 45

503 Bhanu 14

6 rows selected.

SQL> truncate table tb1;

Table truncated.

SQL> select \* from tb1;

no rows selected

SQL> rollback;

Rollback complete.

SQL> select \* from tb1;

no rows selected

SQL> desc tb1;

Name Null? Type

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

RNO NUMBER(38)

NAME VARCHAR2(20)

MARKS NUMBER(38)

**7. Queries to Build Views.**

**CREATE VIEW**

SQL> create view sail\_view as(select sid,sname from sailors);

View created.

SQL> desc sail\_view

Name Null? Type

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

SID NOT NULL NUMBER(38)

SNAME VARCHAR2(20)

SQL> select \* from tab;

TNAME TABTYPE CLUSTERID

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

STUDENT TABLE

ENROLLED TABLE

EMPLOYEE TABLE

DEPARTMENT TABLE

WORKS\_IN TABLE

SAILORS TABLE

BOATS TABLE

RESERVES TABLE

T2 TABLE

T3 TABLE

T1 TABLE

TNAME TABTYPE CLUSTERID

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

TB1 TABLE

TB2 TABLE

SAIL\_VIEW VIEW

14 rows selected.

SQL> select \* from sail\_view;

SID SNAME

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

22 dustin

29 brutus

31 lubber

32 Andy

64 Horatio

71 Zobra

74 Ravi

85 Art

95 bob

58 Rusty

10 rows selected.

**INSERTION**

SQL> insert into sail\_view values(125,'uday');

1 row created.

SQL> select \* from sail\_view;

SID SNAME

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

22 dustin

29 brutus

31 lubber

32 Andy

64 Horatio

71 Zobra

74 Ravi

85 Art

95 bob

58 Rusty

125 uday

11 rows selected.

SQL> insert into sailors values(421,'Leela',45,8);

1 row created.

SQL> select \* from sail\_view;

SID SNAME

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

22 dustin

29 brutus

31 lubber

32 Andy

64 Horatio

71 Zobra

74 Ravi

85 Art

95 bob

58 Rusty

125 uday

SID SNAME

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

421 Leela

12 rows selected.

SQL> select \* from sailors;

SID SNAME AGE RATING

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

22 dustin 45 7

29 brutus 33 1

31 lubber 55.5 8

32 Andy 25.5 8

64 Horatio 35 7

71 Zobra 16 10

74 Ravi 35 9

85 Art 25 3

95 bob 63 3

58 Rusty 35 10

125 uday

SID SNAME AGE RATING

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

421 Leela 45 8

12 rows selected.

**DELETION :**

SQL> delete from sail\_view where sid=125;

1 row deleted.

SQL> select \* from sailors;

SID SNAME AGE RATING

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

22 dustin 45 7

29 brutus 33 1

31 lubber 55.5 8

32 Andy 25.5 8

64 Horatio 35 7

71 Zobra 16 10

74 Ravi 35 9

85 Art 25 3

95 bob 63 3

58 Rusty 35 10

421 Leela 45 8

11 rows selected.

SQL> select \* from sail\_view;

SID SNAME

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

22 dustin

29 brutus

31 lubber

32 Andy

64 Horatio

71 Zobra

74 Ravi

85 Art

95 bob

58 Rusty

421 Leela

11 rows selected.

**CREATE / REPLACE**

SQL> create or replace view sail\_view as(select sid,rating from sailors);

View created.

SQL> select \* from sail\_view;

SID RATING

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

22 7

29 1

31 8

32 8

64 7

71 10

74 9

85 3

95 3

58 10

421 8

11 rows selected.

**DROP**

SQL> drop view sail\_view;

View dropped.

SQL> desc sail\_view;

ERROR:

ORA-04043: object sail\_view does not exist

SQL> select \* from sail\_view;

select \* from sail\_view

\*

ERROR at line 1:

ORA-00942: table or view does not exist

**READ ONLY:**

SQL>create view sail\_stu as(select rno,name from tb1) WITH READ ONLY;

View created.

SQL> insert into sail\_stu values(45,'ooha');

insert into sail\_stu values(45,'ooha')

\*

ERROR at line 1:

ORA-01733: virtual column not allowed here

**CHECK OPTION:**

SQL> create view sail\_stu1 as select \* from tb1 where marks<=100 WITH CHECK OPTION;

View created.

SQL> insert into sail\_stu1 values(12,'Padma',101);

insert into sail\_stu1 values(12,'Padma',101)

\*

ERROR at line 1:

ORA-01402: view WITH CHECK OPTION where-clause violation

SQL> create force view vi\_stu as select \* from dummy;

Warning: View created with compilation errors.

SQL> update sail\_view

2 set name='Teja'

3 where rno = 501;

update sail\_view

\*

ERROR at line 1:

ORA-00942: table or view does not exist

SQL> ed

Wrote file afiedt.buf

1 update sail\_stu

2 set name='Teja'

3\* where rno = 501

SQL> /

set name='Teja'

\*

ERROR at line 2:

ORA-01733: virtual column not allowed here

SQL> ed

Wrote file afiedt.buf

1 update sail\_stu1

2 set name='Karthik'

3\* where rno = 501

SQL> /

0 rows updated.