**EX.NO.4 SQL - JOIN QUERIES**

**DATE:**

**AIM**:

To execute and verify the SQL commands using Join queries.

**JOINS**:

SQL joins are used to query data from two or more tables, based on a relationship between certain columns in these tables. The JOIN keyword is used in an SQL statement to query data from two or more tables, based on a relationship between certain columns in these tables. Tables in a database are often related to each other with keys. Tables in a database are often related to each other with keys. A primary key is a column (or a combination of columns) with a unique value for each row. Each primary key value must be unique within the table. The purpose is to bind data together, across tables, without repeating all of the data in every table.

**Different SQL JOINs**

**Inner Join**: The inner join keyword return rows when there is at least one match in both tables. Inner join is the same as join.

**SELECT** column\_name(s)  
 **FROM** table\_name1  
 **INNER JOIN** table\_name2  
 **ON** table\_name1.column\_name=table\_name2.column\_name;

**Left Join**: The left join keyword returns all rows from the left table (table\_name1), even if there are no matches in the right table (table\_name2). In some databases left join is called left outer join

**SELECT** column\_name(s)  
 **FROM** table\_name1  
 **LEFT JOIN** table\_name2  
 **ON** table\_name1.column\_name=table\_name2.column\_name;

**Right Join**: The right join keyword Return all rows from the right table (table\_name2), even if there are no matches in the left table (table\_name1). In some databases right join is called right outer join

**SELECT** column\_name(s)  
 **FROM** table\_name1  
 **RIGHT JOIN** table\_name2  
 **ON** table\_name1.column\_name=table\_name2.column\_name;

**Full Join**: The full join keyword return rows when there is a match in one of the tables.

**SELECT** column\_name(s)  
 **FROM** table\_name1  
 **FULL JOIN** table\_name2  
 **ON** table\_name1.column\_name=table\_name2.column\_name;

TABLE 1

create table erecord(id number(10),employee varchar2(20),salary number(10),age number(10));

Table created.

SQL> desc erecord;

Name Null? Type

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

ID NUMBER(10)

EMPLOYEE VARCHAR2(20)

SALARY NUMBER(10)

AGE NUMBER(10)

TABLE 2

create table edept(deptno number(20),staff varchar2(20),phno number(20));

Table created.

SQL> desc edept;

Name Null? Type

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

DEPTNO NUMBER(20)

STAFF VARCHAR2(20)

PHNO NUMBER(20)

SQL> insert into erecord values(&id,'&employee',&salary,&age);

Enter value for id: 1

Enter value for employee: sss

Enter value for salary: 230000

Enter value for age: 21

old 1: insert into erecord values(&id,'&employee',&salary,&age)

new 1: insert into erecord values(1,'sss',230000,21)

1 row created.

SQL> /

Enter value for id: 2

Enter value for employee: ddd

Enter value for salary: 24000

Enter value for age: 24

old 1: insert into erecord values(&id,'&employee',&salary,&age)

new 1: insert into erecord values(2,'ddd',24000,24)

1 row created.

SQL> /

Enter value for id: 3

Enter value for employee: fff

Enter value for salary: 340000

Enter value for age: 31

old 1: insert into erecord values(&id,'&employee',&salary,&age)

new 1: insert into erecord values(3,'fff',340000,31)

1 row created.

SQL> /

Enter value for id: 4

Enter value for employee: ddddd

Enter value for salary: 34578

Enter value for age: 23

old 1: insert into erecord values(&id,'&employee',&salary,&age)

new 1: insert into erecord values(4,'ddddd',34578,23)

1 row created.

SQL> select \*from erecord;

ID EMPLOYEE SALARY AGE

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1 sss 230000 21

2 ddd 24000 24

3 fff 340000 31

4 ddddd 34578 23

SQL>

TABLE 2 INSERT

insert into edept values(&deptno,'&staff',&phno);

Enter value for deptno: 1

Enter value for staff: priya

Enter value for phno: 9876567388

old 1: insert into edept values(&deptno,'&staff',&phno)

new 1: insert into edept values(1,'priya',9876567388)

1 row created.

SQL> /

Enter value for deptno: 2

Enter value for staff: geeths

Enter value for phno: 768547638

old 1: insert into edept values(&deptno,'&staff',&phno)

new 1: insert into edept values(2,'geeths',768547638)

1 row created.

SQL> /

Enter value for deptno: 3

Enter value for staff: yamini

Enter value for phno: 56783676

old 1: insert into edept values(&deptno,'&staff',&phno)

new 1: insert into edept values(3,'yamini',56783676)

1 row created.

SQL> /

Enter value for deptno: 5

Enter value for staff: sarmil

Enter value for phno: 897436263

old 1: insert into edept values(&deptno,'&staff',&phno)

new 1: insert into edept values(5,'sarmil',897436263)

1 row created.

SQL> select \*from edept;

DEPTNO STAFF PHNO

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1 priya 9876567388

2 geeths 768547638

3 yamini 56783676

5 sarmil 897436263

EQUI JOIN

select \*from erecord,edept where id=deptno;

ID EMPLOYEE SALARY AGE DEPTNO

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STAFF PHNO

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

1 sss 230000 21 1

priya 9876567388

2 ddd 24000 24 2

geeths 768547638

3 fff 340000 31 3

yamini 56783676

UNIQUE JOIN> select \*from erecord,edept where id<deptno;

ID EMPLOYEE SALARY AGE DEPTNO

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STAFF PHNO

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

1 sss 230000 21 2

geeths 768547638

1 sss 230000 21 3

yamini 56783676

1 sss 230000 21 5

sarmil 897436263

ID EMPLOYEE SALARY AGE DEPTNO

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

STAFF PHNO

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

2 ddd 24000 24 3

yamini 56783676

2 ddd 24000 24 5

sarmil 897436263

3 fff 340000 31 5

sarmil 897436263

ID EMPLOYEE SALARY AGE DEPTNO

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

STAFF PHNO

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

4 ddddd 34578 23 5

sarmil 897436263

7 rows selected.

SQL>select x.employee,y.salary,x.age from erecord x,erecord y where x.salary>=(select avg(salary) from erecord where x.age=y.age);

EMPLOYEE SALARY AGE

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

sss 230000 21

fff 340000 31

SQL>

create table student1 (regno number(2),name varchar2(6),mark1 number(2),mark2 number(2),result varchar2(4));

Table created.

SQL> insert into student1 values(&regno,'&name',&mark1,&mark2,'&result');

Enter value for regno: 1

Enter value for name: sss

Enter value for mark1: 56

Enter value for mark2: 57

Enter value for result: pass

old 1: insert into student1 values(&regno,'&name',&mark1,&mark2,'&result')

new 1: insert into student1 values(1,'sss',56,57,'pass')

1 row created.

SQL> /

Enter value for regno: 2

Enter value for name: yyy

Enter value for mark1: 89

Enter value for mark2: 56

Enter value for result: pass

old 1: insert into student1 values(&regno,'&name',&mark1,&mark2,'&result')

new 1: insert into student1 values(2,'yyy',89,56,'pass')

1 row created.

SQL> /

Enter value for regno: 3

Enter value for name: xxx

Enter value for mark1: 78

Enter value for mark2: 90

Enter value for result: pass

old 1: insert into student1 values(&regno,'&name',&mark1,&mark2,'&result')

new 1: insert into student1 values(3,'xxx',78,90,'pass')

1 row created.

SQL> /

Enter value for regno: 4

Enter value for name: uuu

Enter value for mark1: 45

Enter value for mark2: 45

Enter value for result: fail

old 1: insert into student1 values(&regno,'&name',&mark1,&mark2,'&result')

new 1: insert into student1 values(4,'uuu',45,45,'fail')

1 row created.

SQL> create table student2(name varchar2(6),grade varchar2(2));

Table created.

SQL> insert into student2 values('&name','&grade');

Enter value for name: sss

Enter value for grade: s

old 1: insert into student2 values('&name','&grade')

new 1: insert into student2 values('sss','s')

1 row created.

SQL> /

Enter value for name: yyy

Enter value for grade: a

old 1: insert into student2 values('&name','&grade')

new 1: insert into student2 values('yyy','a')

1 row created.

SQL> /

Enter value for name: rrr

Enter value for grade: b

old 1: insert into student2 values('&name','&grade')

new 1: insert into student2 values('rrr','b')

1 row created.

SQL> /

Enter value for name: ppp

Enter value for grade: a

old 1: insert into student2 values('&name','&grade')

new 1: insert into student2 values('ppp','a')

1 row created.

SQL> select \* from student1;

REGNO NAME MARK1 MARK2 RESU

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

1 sss 56 57 pass

2 yyy 89 56 pass

3 xxx 78 90 pass

4 uuu 45 45 fail

SQL> select \* from student2;

NAME GR

------ --

sss s

yyy a

rrr b

ppp a

SQL> select student1.name,grade from student1 left outer join student2 on student1.name=student2.name;

NAME GR

------ --

sss s

yyy a

xxx

uuu

LEFT OUTER JOIN

SQL> select \* from student1 left outer join student2 on student1.name=student2.name;

REGNO NAME MARK1 MARK2 RESU NAME GR

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

1 sss 56 57 pass sss s

2 yyy 89 56 pass yyy a

3 xxx 78 90 pass

4 uuu 45 45 fail

RIGHT OUTER JOIN

SQL> select \* from student1 right outer join student2 on student1.name=student2.name;

REGNO NAME MARK1 MARK2 RESU NAME GR

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1 sss 56 57 pass sss s

2 yyy 89 56 pass yyy a

ppp a

rrr b

SQL>