

Name:- Gautam Chandrakant Mandaliya

Roll No:- 27

Class:-FYCS

Subject:- Data Base Management system

## PRACTICAL 5:-

### Study of Various Types of JOINS

The screenshot shows the Oracle Live SQL interface. The query entered is `select * from Gautam_DEPT`. The result is a table with 4 rows and 3 columns: DEPT\_NO, ENAME, and LOC.

DEPT_NO	ENAME	LOC
10	ACCOUNTING	NEW YORK
40	OPERATIONS	BOSTON
20	RESEARCH	DALLAS
30	SALES	CHICAGO

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4 rows selected.

The screenshot shows the Oracle Live SQL interface. The query entered is `select * from Gautam_EMP`. The result is a table with 14 rows and 8 columns: EMP\_NO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, and DEPT\_NO.

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO
7902	FORD	ANALYST	7966	03-DEC-81	3000	-	20
7900	JAMES	CLERK	7909	03-DEC-81	950	-	30
7934	MILLER	CLERK	7782	23-JAN-82	1300	-	10
7644	TURNER	SALESMAN	7690	08-SEP-81	1500	0	30
7690	BLAKE	MANAGER	7619	01-MAY-81	2850	-	30
7521	WARD	SALESMAN	7690	22-FEB-81	1250	500	30
7676	ADAMS	CLERK	7788	23-MAY-87	1100	-	20
7639	KING	PRESIDENT	-	17-NOV-81	5000	-	10
7684	MARTIN	SALESMAN	7690	28-SEP-81	1200	1400	30
7499	ALLEN	SALESMAN	7690	20-FEB-81	1600	300	30
7782	CLARK	MANAGER	7619	09-JUN-81	2450	-	10
7566	JONES	MANAGER	7619	02-APR-81	2975	-	20
7788	SCOTT	ANALYST	7966	19-APR-87	3000	-	20
7369	SMITH	CLERK	7962	17-DEC-80	800	-	20

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14 rows selected.

1. **INNER JOIN:-** The INNER JOIN keyword selects all rows from both the tables as long as the condition satisfies.

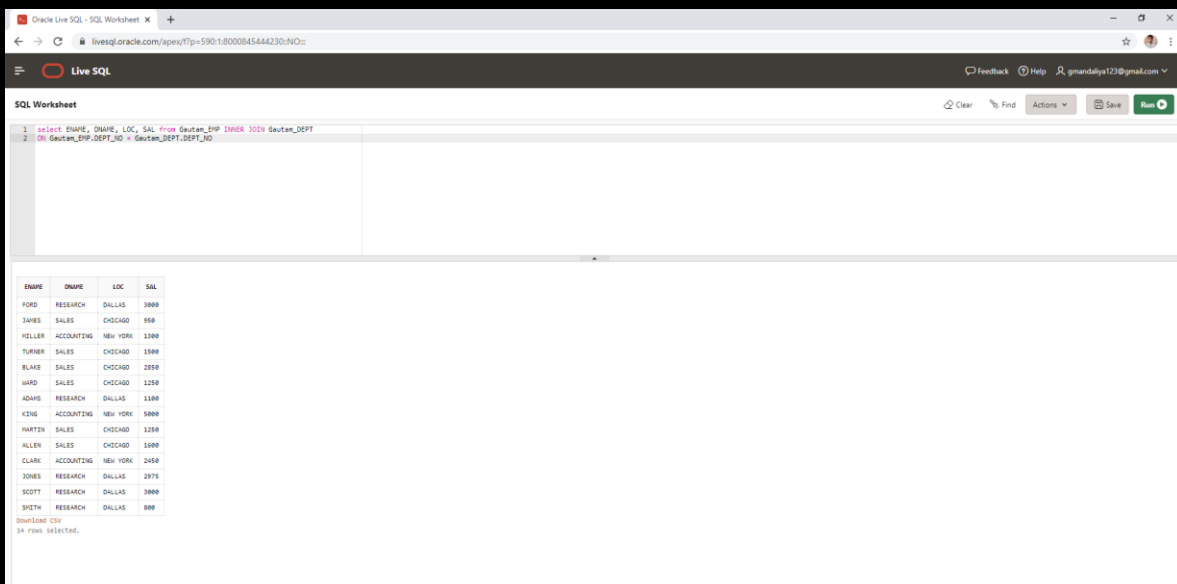
### **SYNTAX:-**

SELECT table1.column1,table1.column2,table2.column1,....

FROM table1 INNER JOIN table2

ON table1.matching\_column = table2.matching\_column;

### **OUTPUT:-**



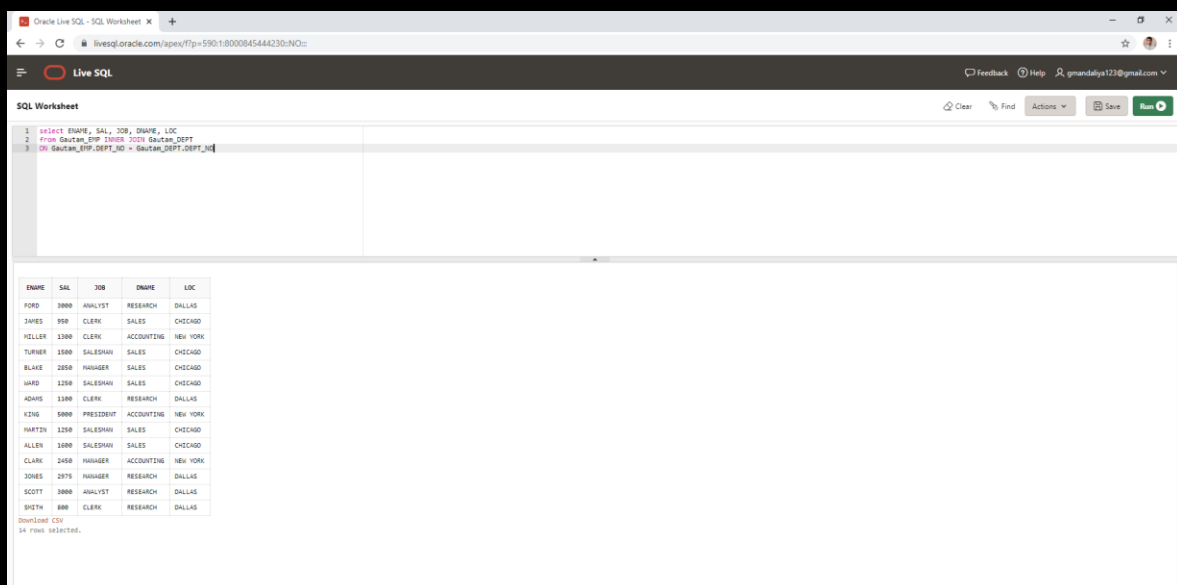
The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 select EMPID, EMPNAME, LOC, SAL from Gaustan_EMP INNER JOIN Gaustan_DEPT
2 ON Gaustan_EMP.DEPT_ID = Gaustan_DEPT.DEPT_ID
```

The output is a table with 14 rows and 4 columns: EMPID, EMPNAME, LOC, and SAL.

EMPID	EMPNAME	LOC	SAL
FORD	RESEARCH	DALLAS	3000
JAMES	SALES	CHICAGO	950
MILLER	ACCOUNTING	NEW YORK	1300
TURNER	SALES	CHICAGO	1500
BLAKE	SALES	CHICAGO	2000
WARD	SALES	CHICAGO	1200
ADAMS	RESEARCH	DALLAS	1100
KING	ACCOUNTING	NEW YORK	5000
MARTIN	SALES	CHICAGO	1200
ALLEN	SALES	CHICAGO	1600
CLARK	ACCOUNTING	NEW YORK	2400
JONES	RESEARCH	DALLAS	2975
SCOTT	RESEARCH	DALLAS	3000
SIMPSON	RESEARCH	DALLAS	800

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14 Rows selected.



The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 select EMPID, SAL, JOB, EMPNAME, LOC
2 from Gaustan_EMP LEFT JOIN Gaustan_DEPT
3 ON Gaustan_EMP.DEPT_ID = Gaustan_DEPT.DEPT_ID
```

The output is a table with 14 rows and 5 columns: EMPID, SAL, JOB, EMPNAME, and LOC.

EMPID	SAL	JOB	EMPNAME	LOC
FORD	3000	ANALYST	RESEARCH	DALLAS
JAMES	950	CLERK	SALES	CHICAGO
MILLER	1300	CLERK	ACCOUNTING	NEW YORK
TURNER	1500	SALESMAN	SALES	CHICAGO
BLAKE	2000	MANAGER	SALES	CHICAGO
WARD	1200	SALESMAN	SALES	CHICAGO
ADAMS	1100	CLERK	RESEARCH	DALLAS
KING	5000	PRESIDENT	ACCOUNTING	NEW YORK
MARTIN	1200	SALESMAN	SALES	CHICAGO
ALLEN	1600	SALESMAN	SALES	CHICAGO
CLARK	2400	MANAGER	ACCOUNTING	NEW YORK
JONES	2975	MANAGER	RESEARCH	DALLAS
SCOTT	3000	ANALYST	RESEARCH	DALLAS
SIMPSON	800	CLERK	RESEARCH	DALLAS

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SQL Worksheet

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```
1 select Emp_dept_no, Emp, Sal, Job, Dname, Loc
2 from Emp_dept_dept 2023 Emp_dept
3 on Emp_dept_dept_no = Emp_dept_dept_no
```

DEPT_NO	ENAME	SAL	JOB	DNAME	LOC
20	FORD	3000	ANALYST	RESEARCH	DALLAS
30	JAMES	950	CLERK	SALES	CHICAGO
10	MILLER	1300	CLERK	ACCOUNTING	NEW YORK
30	TURNER	1500	SALESMAN	SALES	CHICAGO
30	BLAKE	2850	MANAGER	SALES	CHICAGO
30	WARD	1250	SALESMAN	SALES	CHICAGO
20	ADAMS	1300	CLERK	RESEARCH	DALLAS
10	KING	5000	PRESIDENT	ACCOUNTING	NEW YORK
30	MARTIN	1250	SALESMAN	SALES	CHICAGO
30	ALLEN	1600	SALESMAN	SALES	CHICAGO
10	CLARK	2450	MANAGER	ACCOUNTING	NEW YORK
20	JONES	2975	MANAGER	RESEARCH	DALLAS
20	SCOTT	3000	ANALYST	RESEARCH	DALLAS
20	SMITH	800	CLERK	RESEARCH	DALLAS

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SQL Worksheet

Clear Find Actions Save Run

```
1 select Emp_dept_no, Sal, Mgr, Dname
2 from Emp_dept_dept 2023 Emp_dept
3 on Emp_dept_dept_no = Emp_dept_dept_no
```

ENAME	JOB	SAL	MR	DNAME
FORD	ANALYST	3000	7566	RESEARCH
JAMES	CLERK	950	7690	SALES
MILLER	CLERK	1300	7782	ACCOUNTING
TURNER	SALESMAN	1500	7690	SALES
BLAKE	MANAGER	2850	7839	SALES
WARD	SALESMAN	1250	7690	SALES
ADAMS	CLERK	1300	7788	RESEARCH
KING	PRESIDENT	5000	-	ACCOUNTING
MARTIN	SALESMAN	1250	7690	SALES
ALLEN	SALESMAN	1600	7690	SALES
CLARK	MANAGER	2450	7839	ACCOUNTING
JONES	MANAGER	2975	7839	RESEARCH
SCOTT	ANALYST	3000	7566	RESEARCH
SMITH	CLERK	800	7902	RESEARCH

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SQL Worksheet

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```
1 Select ENAME, JOB, SAL, MGR, DNAME
2 From GE_Linear JOIN Gautam_DEPT
3 ON GE.DEPT_NO = Gautam_DEPT.DEPT_NO
```

ENAME	JOB	SAL	MGR	DNAME
JAMES	CLERK	950	7698	SALES
MILLER	CLERK	1300	7782	ACCOUNTING
TURNER	SALESMAN	1500	7698	SALES
BLAKE	MANAGER	2850	7839	SALES
WARD	SALESMAN	1250	7698	SALES
KING	PRESIDENT	5000	-	ACCOUNTING
HARTIN	SALESMAN	1250	7698	SALES
ALLEN	SALESMAN	1600	7698	SALES
CLARK	MANAGER	2450	7839	ACCOUNTING

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SQL Worksheet

Clear Find Actions Save Run

```
1 Select GE.DEPT_NO ENAME, JOB, SAL, MGR, DNAME, Gautam_DEPT.DEPT_NO
2 From GE_Linear JOIN Gautam_DEPT
3 ON GE.DEPT_NO = Gautam_DEPT.DEPT_NO
```

ENAME	JOB	SAL	MGR	DNAME	DEPT_NO
30	CLERK	950	7698	SALES	30
10	CLERK	1300	7782	ACCOUNTING	10
30	SALESMAN	1500	7698	SALES	30
30	MANAGER	2850	7839	SALES	30
30	SALESMAN	1250	7698	SALES	30
10	PRESIDENT	5000	-	ACCOUNTING	10
30	SALESMAN	1250	7698	SALES	30
30	SALESMAN	1600	7698	SALES	30
10	MANAGER	2450	7839	ACCOUNTING	10

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9 rows selected.

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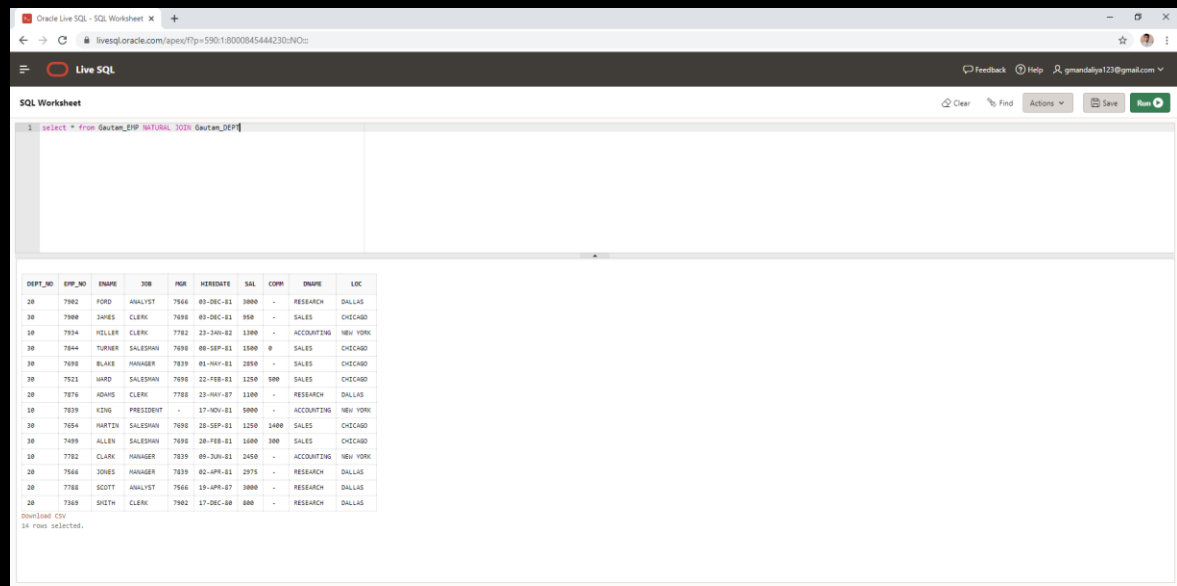
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2. **NATURAL JOIN:-** A natural join is a type of equi join which occurs implicitly by comparing all the same names columns in both tables. The join result has only one column for each pair of equally named columns.

### **SYNTAX:-**

Select \* from table1 natural join table2

### **OUTPUT:-**



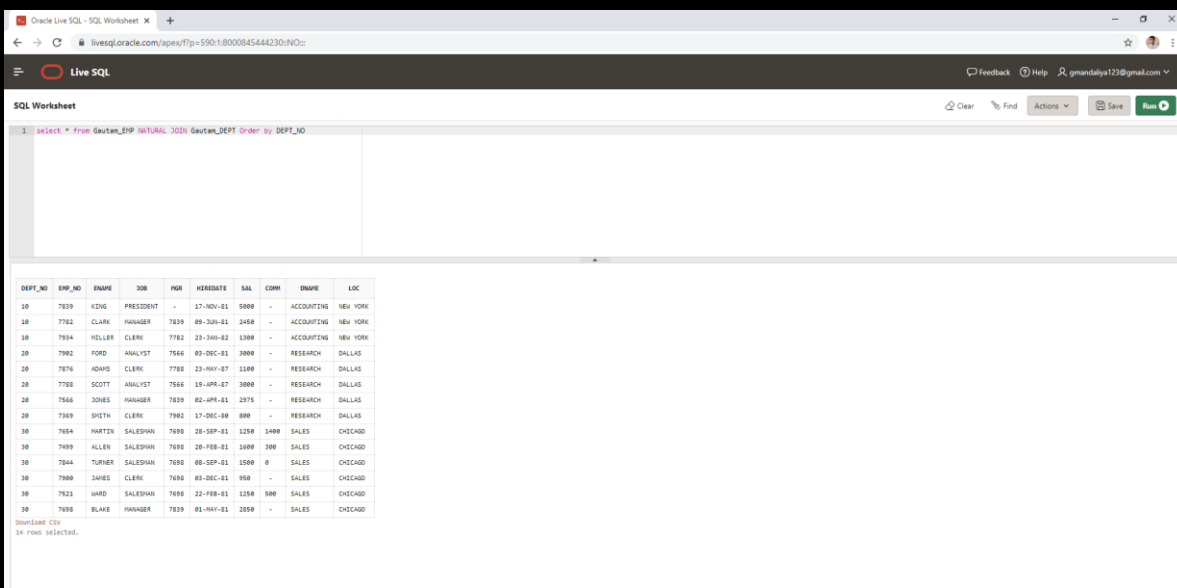
The screenshot shows the Oracle Live SQL interface with the following SQL query in the worksheet:

```
1 select * from Gautam_EMP NATURAL JOIN Gautam_DEPT
```

The output displays 14 rows of data, which is a subset of the EMPLOYEES table. The columns are DEPT\_NO, EMP\_NO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DNAME, and LOC.

DEPT_NO	EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DNAME	LOC
20	7802	FORD	ANALYST	7566	03-DEC-81	3000	-	RESEARCH	DALLAS
30	7800	JAMES	CLERK	7600	03-DEC-81	950	-	SALES	CHICAGO
30	7834	MILLER	CLERK	7782	23-JAN-82	1300	-	ACCOUNTING	NEW YORK
30	7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	SALES	CHICAGO
30	7890	BLAKE	MANAGER	7839	01-MAY-81	2850	-	SALES	CHICAGO
30	7921	WARD	SALESMAN	7698	22-FEB-81	1250	500	SALES	CHICAGO
20	7876	ADAMS	CLERK	7788	23-MAY-87	1100	-	RESEARCH	DALLAS
10	7839	KING	PRESIDENT	-	17-NOV-81	5000	-	ACCOUNTING	NEW YORK
30	7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	SALES	CHICAGO
30	7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	SALES	CHICAGO
10	7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	ACCOUNTING	NEW YORK
20	7866	JONES	MANAGER	7839	02-APR-81	2975	-	RESEARCH	DALLAS
20	7788	SCOTT	ANALYST	7566	19-APR-87	3000	-	RESEARCH	DALLAS
20	7369	SMITH	CLERK	7802	17-DEC-80	800	-	RESEARCH	DALLAS

Download CSV  
14 rows selected.



The screenshot shows the Oracle Live SQL interface with the following SQL query in the worksheet:

```
1 select * from Gautam_EMP NATURAL JOIN Gautam_DEPT order by DEPT_NO
```

The output displays 14 rows of data, sorted by DEPT\_NO. The columns are DEPT\_NO, EMP\_NO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DNAME, and LOC.

DEPT_NO	EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DNAME	LOC
10	7839	KING	PRESIDENT	-	17-NOV-81	5000	-	ACCOUNTING	NEW YORK
10	7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	ACCOUNTING	NEW YORK
10	7834	MILLER	CLERK	7782	23-JAN-82	1300	-	ACCOUNTING	NEW YORK
20	7802	FORD	ANALYST	7566	03-DEC-81	3000	-	RESEARCH	DALLAS
20	7876	ADAMS	CLERK	7788	23-MAY-87	1100	-	RESEARCH	DALLAS
20	7788	SCOTT	ANALYST	7566	19-APR-87	3000	-	RESEARCH	DALLAS
20	7866	JONES	MANAGER	7839	02-APR-81	2975	-	RESEARCH	DALLAS
20	7369	SMITH	CLERK	7802	17-DEC-80	800	-	RESEARCH	DALLAS
30	7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	SALES	CHICAGO
30	7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	SALES	CHICAGO
30	7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	SALES	CHICAGO
30	7890	JAMES	CLERK	7698	03-DEC-81	950	-	SALES	CHICAGO
30	7921	WARD	SALESMAN	7698	22-FEB-81	1250	500	SALES	CHICAGO
30	7800	BLAKE	MANAGER	7839	01-MAY-81	2850	-	SALES	CHICAGO

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SQL Worksheet

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1 Select \* from GE natural join Gauteu\_DEPT

DEPT_NO	EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DMNAME	LOC
30	7900	JAMES	CLERK	7698	03-DEC-81	950	-	SALES	CHICAGO
10	7934	MILLER	CLERK	7782	23-JAN-82	1300	-	ACCOUNTING	NEW YORK
30	7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	SALES	CHICAGO
30	7698	BLAKE	MANAGER	7839	01-MAY-81	2850	-	SALES	CHICAGO
30	7921	WARD	SALESMAN	7698	22-FEB-81	1250	500	SALES	CHICAGO
10	7839	KING	PRESIDENT	-	17-NOV-81	5000	-	ACCOUNTING	NEW YORK
30	7654	MARTIN	SALESMAN	7698	28-SEP-81	1200	1400	SALES	CHICAGO
30	7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	SALES	CHICAGO
10	7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	ACCOUNTING	NEW YORK

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SQL Worksheet

Clear Find Actions Save Run

1 Select \* from GE natural join Gauteu\_DEPT order by DMNAME

DEPT_NO	EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DMNAME	LOC
10	7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	ACCOUNTING	NEW YORK
10	7934	MILLER	CLERK	7782	23-JAN-82	1300	-	ACCOUNTING	NEW YORK
10	7839	KING	PRESIDENT	-	17-NOV-81	5000	-	ACCOUNTING	NEW YORK
30	7654	MARTIN	SALESMAN	7698	28-SEP-81	1200	1400	SALES	CHICAGO
30	7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	SALES	CHICAGO
30	7698	BLAKE	MANAGER	7839	01-MAY-81	2850	-	SALES	CHICAGO
30	7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	SALES	CHICAGO
30	7900	JAMES	CLERK	7698	03-DEC-81	950	-	SALES	CHICAGO
30	7921	WARD	SALESMAN	7698	22-FEB-81	1250	500	SALES	CHICAGO

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**3. OUTER JOIN:-** In an outer join, unmatched rows in one or both tables can be returned.

**a. LEFT OUTER JOIN:-** LEFT JOIN returns only unmatched rows from the left table.

This join returns all the rows of the table on the left side of the join and matching rows for the table on the right side of join.

The rows for which there is no matching row on right side, the result set will contain null.

### SYNTAX:-

```
SELECT table1.column1,table1.column2, table2.column1,...  
FROM table1 LEFT [OUTER] JOIN table2  
ON table1.matching_column = table2.matching_column;
```

### OUTPUT:-

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 select EMP_NO, ENAME, SAL, GE.DEPT_NO, Gautam.DEPT_NO, DNAME  
2 from Gautam_DEPT left outer join GE  
3 on GE.DEPT_NO = Gautam_DEPT.DEPT_NO
```

The output displays a table with 6 columns: EMP\_NO, ENAME, SAL, DEPT\_NO, DEPT\_NO, and DNAME. It contains 11 rows of data, including employees like JAMES, MILLER, TURNER, BLAKE, WARD, KING, MARTIN, ALLEN, and CLARK, along with rows for departments 40 (OPERATIONS) and 20 (RESEARCH) which have null values for the other columns.

EMP_NO	ENAME	SAL	DEPT_NO	DEPT_NO	DNAME
7900	JAMES	950	30	30	SALES
7934	MILLER	1300	10	10	ACCOUNTING
7644	TURNER	1500	30	30	SALES
7690	BLAKE	2850	30	30	SALES
7521	WARD	1250	30	30	SALES
7839	KING	5000	10	10	ACCOUNTING
7654	MARTIN	1250	30	30	SALES
7499	ALLEN	1600	30	30	SALES
7782	CLARK	2450	10	10	ACCOUNTING
-	-	-	-	40	OPERATIONS
-	-	-	-	20	RESEARCH

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Live SQL

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SQL Worksheet

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```

1 select * from GE left outer join Gautam_DEPT
2 on GE.DEPT_NO = Gautam_DEPT.DEPT_NO

```

EMP_NO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_NO	DEPT_NO	DNAME	LOC
7934	MILLER	CLERK	7782	23-JAN-82	1300	-	10	10	ACCOUNTING	NEW YORK
7939	KING	PRESIDENT	-	17-NOV-81	5000	-	10	10	ACCOUNTING	NEW YORK
7782	CLARK	MANAGER	7939	09-JUN-81	2450	-	10	10	ACCOUNTING	NEW YORK
7900	JAMES	CLERK	7698	03-DEC-81	950	-	30	30	SALES	CHICAGO
7844	TURNER	SALESMAN	7698	08-SEP-81	1500	0	30	30	SALES	CHICAGO
7698	BLAKE	MANAGER	7939	01-MAY-81	2850	-	30	30	SALES	CHICAGO
7521	WARD	SALESMAN	7698	22-FEB-81	1250	500	30	30	SALES	CHICAGO
7654	MARTIN	SALESMAN	7698	28-SEP-81	1250	1400	30	30	SALES	CHICAGO
7499	ALLEN	SALESMAN	7698	20-FEB-81	1600	300	30	30	SALES	CHICAGO

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- b. **RIGHT OUTER JOIN:-** This join returns all the rows of the table on the right side of the join and matching rows for the table on the left side of join.

The rows for which there is no matching row on left side, the result-set will contain null.

## **SYNTAX:-**

SELECT table1.column1,table1.column2, table2.column1,....

FROM table1 RIGHT [OUTER] JOIN table2

ON table1.matching\_column = table2.matching\_column;



## OUTPUT:-

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Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```
1 select EMP_NO, ENAME, SAL, GE.DEPT_NO, Gautam.DEPT.DEPT_NO, DNAME
2 from GE right outer join Gautam_DEPT
3 on GE.DEPT_NO = Gautam_DEPT.DEPT_NO
```

EMP_NO	ENAME	SAL	DEPT_NO	DEPT_NO	DNAME
7900	JAMES	950	30	30	SALES
7934	MILLER	1300	10	10	ACCOUNTING
7944	TURNER	1500	30	30	SALES
7990	BLAKE	2850	30	30	SALES
7521	WARD	1250	30	30	SALES
7639	KING	5000	10	10	ACCOUNTING
7654	MARTIN	1250	30	30	SALES
7499	ALLEN	1600	30	30	SALES
7782	CLARK	2450	10	10	ACCOUNTING
-	-	-	-	40	OPERATIONS
-	-	-	-	20	RESEARCH

download CSV  
11 rows selected.

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Oracle Live SQL - SQL Worksheet

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SQL Worksheet

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```
1 select EMP_NO, ENAME, SAL, GE.DEPT_NO, Gautam.DEPT.DEPT_NO, DNAME
2 from Gautam_DEPT right outer join GE
3 on GE.DEPT_NO = Gautam_DEPT.DEPT_NO
```

EMP_NO	ENAME	SAL	DEPT_NO	DEPT_NO	DNAME
7934	MILLER	1300	10	10	ACCOUNTING
7639	KING	5000	10	10	ACCOUNTING
7782	CLARK	2450	10	10	ACCOUNTING
7900	JAMES	950	30	30	SALES
7944	TURNER	1500	30	30	SALES
7990	BLAKE	2850	30	30	SALES
7521	WARD	1250	30	30	SALES
7654	MARTIN	1250	30	30	SALES
7499	ALLEN	1600	30	30	SALES

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Oracle Live SQL - SQL Worksheet X

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SQL Worksheet

Clear Find Actions Save Run

```

1 select * from GE right outer join Gautesn_DEPT
2 on GE.DEPT_NO = Gautesn_DEPT.DEPT_NO

```

EMP_NO	ENAME	JOB	HIR	HIREDATE	SAL	COMM	DEPT_NO	DEPT_NO	ENAME	LOC
7900	JAMES	CLERK	7900	03-DEC-01	950	-	30	30	SALES	CHICAGO
7934	MILLER	CLERK	7762	23-JAN-02	1300	-	10	10	ACCOUNTING	NEW YORK
7944	TURNER	SALESMAN	7900	08-SEP-01	1500	0	30	30	SALES	CHICAGO
7990	BLAKE	MANAGER	7939	01-MAY-01	2850	-	30	30	SALES	CHICAGO
7921	WARD	SALESMAN	7900	22-FEB-01	1250	500	30	30	SALES	CHICAGO
7929	KING	PRESIDENT	-	17-NOV-01	9800	-	10	10	ACCOUNTING	NEW YORK
7964	HARTON	SALESMAN	7900	28-SEP-01	1200	1400	30	30	SALES	CHICAGO
7499	ALLEN	SALESMAN	7900	20-FEB-01	1600	300	30	30	SALES	CHICAGO
7782	CLARK	MANAGER	7939	09-JUN-01	2450	-	10	10	ACCOUNTING	NEW YORK
-	-	-	-	-	-	-	-	-	40	OPERATIONS
-	-	-	-	-	-	-	-	-	20	RESEARCH

Download CSV  
11 rows selected.

- c. **FULL OUTER JOIN:-** FULL JOIN creates the result-set by combining result of both LEFT JOIN and RIGHT JOIN. The result-set will contain all the rows from both the tables. The rows for which there is no matching, the result-set will contain NULL values.

### **SYNTAX:-**

SELECT table1.column1,table1.column2, table2.column1,...  
FROM table1 FULL [OUTER] JOIN table2  
ON table1.matching\_column = table2.matching\_column;

### **OUTPUT:-**

Oracle Live SQL - SQL Worksheet X

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Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```

1 select EMP_NO, ENAME, SAL, GE.DEPT_NO, Gautesn_DEPT.DEPT_NO, ENAME
2 from Gautesn_DEPT full outer join GE
3 on GE.DEPT_NO = Gautesn_DEPT.DEPT_NO

```

EMP_NO	ENAME	SAL	DEPT_NO	DEPT_NO	ENAME
7900	JAMES	950	30	30	SALES
7934	MILLER	1300	10	10	ACCOUNTING
7944	TURNER	1500	30	30	SALES
7990	BLAKE	2850	30	30	SALES
7921	WARD	1250	30	30	SALES
7929	KING	9800	10	10	ACCOUNTING
7964	HARTON	1200	30	30	SALES
7499	ALLEN	1600	30	30	SALES
7782	CLARK	2450	10	10	ACCOUNTING
-	-	-	-	40	OPERATIONS
-	-	-	-	20	RESEARCH

Download CSV  
13 rows selected.

The screenshot shows the Oracle Live SQL interface. The SQL query entered is:

```
1 select * from GE Full outer join Gautan_DEPT
2 on GE.DEPT_ID = Gautan_DEPT.DEPT_ID
```

The results table displays 11 rows of data. The columns are: EMP\_ID, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPT\_ID, DEPT\_NAME, and LOC. The data is as follows:

EMP_ID	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPT_ID	DEPT_NAME	LOC
7990	JAMES	CLERK	7998	03-DEC-01	950	-	30	SALES	CHICAGO
7934	MILLER	CLERK	7782	23-JAN-02	1300	-	10	ACCOUNTING	NEW YORK
7844	TURNER	SALESMAN	7998	08-SEP-01	1500	0	30	SALES	CHICAGO
7698	BLAKE	MANAGER	7939	01-MAY-01	2850	-	30	SALES	CHICAGO
7521	WARD	SALESMAN	7698	22-FEB-01	1250	500	30	SALES	CHICAGO
7839	KING	PRESIDENT	-	17-NOV-01	5000	-	10	ACCOUNTING	NEW YORK
7654	MARTIN	SALESMAN	7698	28-SEP-01	1200	1400	30	SALES	CHICAGO
7499	ALLEN	SALESMAN	7698	20-FEB-01	1600	300	30	SALES	CHICAGO
7782	CLARK	MANAGER	7939	09-JUN-01	2450	-	10	ACCOUNTING	NEW YORK
+	+	+	+	+	+	+	40	OPERATIONS	BOSTON
+	+	+	+	+	+	+	20	RESEARCH	DALLAS

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11 rows selected.

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#### 4. CROSS JOIN:- The CARTESIAN JOIN is also known as CROSS JOIN.

In a CARTESIAN JOIN there is a join for each row of one table to every row of another table. This usually happens when the matching column or WHERE condition is not specified.

#### SYNTAX:-

SELECT \* FROM TABLE1, TABLE2;

OR

SELECT \* FROM TABLE1 CROSS JOIN TABLE2;

EXAMPLE: SELECT \* FROM EMP CROSS JOIN DEPT;

## OUTPUT:-

Oracle Live SQL - SQL Worksheet

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Live SQL

SQL Worksheet

1 Select ENAME, JOB, SAL, MGR, DNAME  
2 from OE, Gaufam\_DEPT  
3 WHERE GE.DEPT\_NO > Gaufam\_DEPT.DEPT\_NO

ENAME	JOB	SAL	MGR	DNAME
HARTIN	SALESMAN	1250	7698	ACCOUNTING
ALLEN	SALESMAN	1600	7698	ACCOUNTING
BLAKE	MANAGER	2850	7639	ACCOUNTING
TURNER	SALESMAN	1500	7698	ACCOUNTING
JAMES	CLERK	950	7698	ACCOUNTING
WARD	SALESMAN	1250	7698	ACCOUNTING
HARTIN	SALESMAN	1250	7698	RESEARCH
ALLEN	SALESMAN	1600	7698	RESEARCH
BLAKE	MANAGER	2850	7639	RESEARCH
TURNER	SALESMAN	1500	7698	RESEARCH
JAMES	CLERK	950	7698	RESEARCH
WARD	SALESMAN	1250	7698	RESEARCH

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Live SQL

SQL Worksheet

1 Select ENAME, JOB, SAL, MGR, DNAME  
2 from OE, Gaufam\_DEPT  
3 WHERE Gaufam\_DEPT.DEPT\_NO > GE.DEPT\_NO

ENAME	JOB	SAL	MGR	DNAME
JAMES	CLERK	950	7698	OPERATIONS
WARD	SALESMAN	1250	7698	OPERATIONS
ALLEN	SALESMAN	1600	7698	OPERATIONS
HARTIN	SALESMAN	1250	7698	OPERATIONS
TURNER	SALESMAN	1500	7698	OPERATIONS
BLAKE	MANAGER	2850	7639	OPERATIONS
KING	PRESIDENT	5000	-	OPERATIONS
CLARK	MANAGER	2450	7639	OPERATIONS
MILLER	CLERK	1300	7782	OPERATIONS
KING	PRESIDENT	5000	-	SALES
CLARK	MANAGER	2450	7639	SALES
MILLER	CLERK	1300	7782	SALES
KING	PRESIDENT	5000	-	RESEARCH
CLARK	MANAGER	2450	7639	RESEARCH
MILLER	CLERK	1300	7782	RESEARCH

download csv  
15 rows selected.

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Live SQL

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SQL Worksheet

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1 Select \* from GE, Gautes\_DEP

EMP_NO	ENAME	JOB	HRA	HIREDATE	SAL	COMM	DEPT_NO	DEPT_NO	ENAME	LOC
7900	JAMES	CLERK	7690	03-DEC-81	950	-	30	10	ACCOUNTING	NEW YORK
7934	KELLER	CLERK	7782	23-JAN-82	1300	-	10	10	ACCOUNTING	NEW YORK
7844	TURNER	SALESMAN	7690	08-SEP-81	1500	0	30	10	ACCOUNTING	NEW YORK
7690	BLAKE	MANAGER	7839	01-MAY-81	2850	-	30	10	ACCOUNTING	NEW YORK
7521	WARD	SALESMAN	7690	22-FEB-81	1250	500	30	10	ACCOUNTING	NEW YORK
7839	KING	PRESIDENT	-	17-NOV-81	5000	-	10	10	ACCOUNTING	NEW YORK
7654	MARTIN	SALESMAN	7690	28-SEP-81	1250	1400	30	10	ACCOUNTING	NEW YORK
7499	ALLEN	SALESMAN	7690	20-FEB-81	1600	300	30	10	ACCOUNTING	NEW YORK
7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	10	10	ACCOUNTING	NEW YORK
7900	JAMES	CLERK	7690	03-DEC-81	950	-	30	40	OPERATIONS	BOSTON
7934	KELLER	CLERK	7782	23-JAN-82	1300	-	10	40	OPERATIONS	BOSTON
7844	TURNER	SALESMAN	7690	08-SEP-81	1500	0	30	40	OPERATIONS	BOSTON
7690	BLAKE	MANAGER	7839	01-MAY-81	2850	-	30	40	OPERATIONS	BOSTON
7521	WARD	SALESMAN	7690	22-FEB-81	1250	500	30	40	OPERATIONS	BOSTON
7839	KING	PRESIDENT	-	17-NOV-81	5000	-	10	40	OPERATIONS	BOSTON
7654	MARTIN	SALESMAN	7690	28-SEP-81	1250	1400	30	40	OPERATIONS	BOSTON
7499	ALLEN	SALESMAN	7690	20-FEB-81	1600	300	30	40	OPERATIONS	BOSTON
7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	10	40	OPERATIONS	BOSTON
7900	JAMES	CLERK	7690	03-DEC-81	950	-	30	20	RESEARCH	DALLAS
7934	KELLER	CLERK	7782	23-JAN-82	1300	-	10	20	RESEARCH	DALLAS
7844	TURNER	SALESMAN	7690	08-SEP-81	1500	0	30	20	RESEARCH	DALLAS
7690	BLAKE	MANAGER	7839	01-MAY-81	2850	-	30	20	RESEARCH	DALLAS
7521	WARD	SALESMAN	7690	22-FEB-81	1250	500	30	20	RESEARCH	DALLAS

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SQL Worksheet

Clear Find Actions Save Run

1 Select \* from GE, Gautes\_DEP

7521	WARD	SALESMAN	7690	22-FEB-81	1250	500	30	20	RESEARCH	DALLAS
7839	KING	PRESIDENT	-	17-NOV-81	5000	-	10	20	RESEARCH	DALLAS
7654	MARTIN	SALESMAN	7690	28-SEP-81	1250	1400	30	20	RESEARCH	DALLAS
7499	ALLEN	SALESMAN	7690	20-FEB-81	1600	300	30	20	RESEARCH	DALLAS
7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	10	20	RESEARCH	DALLAS
7900	JAMES	CLERK	7690	03-DEC-81	950	-	30	30	SALES	CHICAGO
7934	KELLER	CLERK	7782	23-JAN-82	1300	-	10	30	SALES	CHICAGO
7844	TURNER	SALESMAN	7690	08-SEP-81	1500	0	30	30	SALES	CHICAGO
7690	BLAKE	MANAGER	7839	01-MAY-81	2850	-	30	30	SALES	CHICAGO
7521	WARD	SALESMAN	7690	22-FEB-81	1250	500	30	30	SALES	CHICAGO
7839	KING	PRESIDENT	-	17-NOV-81	5000	-	10	30	SALES	CHICAGO
7654	MARTIN	SALESMAN	7690	28-SEP-81	1250	1400	30	30	SALES	CHICAGO
7499	ALLEN	SALESMAN	7690	20-FEB-81	1600	300	30	30	SALES	CHICAGO
7782	CLARK	MANAGER	7839	09-JUN-81	2450	-	10	30	SALES	CHICAGO

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5. **SELF JOIN:-** As the name signifies, in SELF JOIN a table is joined to itself. That is, each row of the table is joined with itself and all other rows depending on some conditions. In other words we can say that it is a join between two copies of the same table.

### **SYNTAX:-**

```
SELECT a.coulmn1 , b.column2
FROM table_name a, table_name b
WHERE some_condition;
```

### **OUTPUT:-**

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
1 select e2.ename EMPLOYEE, e1.ename MANAGER
2 from Gaetan_EMP e1, Gaetan_EMP e2
3 where e1.EMP_ID = e2.MGR
```

The query results are displayed in a table with two columns: EMPLOYEE and MANAGER. The table contains 13 rows of data, representing self-joins of the EMPLOYEE table on itself based on the manager-employee relationship.

EMPLOYEE	MANAGER
FORD	JONES
JAMES	BLAKE
MILLER	CLARK
TURNER	BLAKE
BLAKE	KING
WARD	BLAKE
ADAMS	SCOTT
HARTEN	BLAKE
ALLEN	BLAKE
CLARK	KING
JONES	KING
SCOTT	JONES
SMITH	FORD

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13 rows selected.

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