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### Oracle's New Syntax For Joins ==>
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* From Oracle 9i onwards , Oracle has provided us new syntax for joins.

* These are called ANSI JOIN SYNTAX.

* Their benefit is that , they make the query more readable as well as support FULL OUTER JOIN which is not supported by traditional syntax of join given by Oracle.

```
# Cross Join ==>
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```

* Syntax:

- Select <col_names> From <table 1> CROSS JOIN <table2>;

* Example:

select ename, dname from emp CROSS JOIN dept;

ENAME	DNAME
JONES	ACCOUNTING
MARTIN	ACCOUNTING
TURNER	ACCOUNTING
ADAMS	ACCOUNTING
JAMES	ACCOUNTING
FORD	ACCOUNTING
MILLER	ACCOUNTING
SMITH	RESEARCH
ALLEN	RESEARCH
JAMES	RESEARCH
FORD	RESEARCH
MILLER	RESEARCH
SMITH	SALES
ALLEN	SALES
WARD	SALES
JAMES	SALES
FORD	SALES
MILLER	SALES
SMITH	OPERATIONS
MARTIN	OPERATIONS
BLACK	OPERATIONS
ADAMS	OPERATIONS
MILLER	OPERATIONS

```
# Equi Join ==>
=====
```

* Syntax:

- Select <col_names> From <table 1> INNER JOIN <table2> On
<table1.col>=<table2.col> [Where <cond>;]

* The keyword INNER is optional , so we also can just write JOIN

```
# WAQ to display ename ,sal and dname of all the employees in the
company.
- select ename,sal,dname from emp inner join dept on emp.deptno =
dept.deptno;
```

ENAME	SAL	DNAME
SMITH	800	RESEARCH
ALLEN	1600	SALES
WARD	1250	SALES
JONES	2975	RESEARCH
MARTIN	1250	SALES
BLACK	2850	SALES
CLARK	2450	ACCOUNTING
SCOTT	3000	RESEARCH
KING	5000	ACCOUNTING
TURNER	1500	SALES
ADAMS	1100	RESEARCH

ENAME	SAL	DNAME
JAMES	950	SALES
FORD	3000	RESEARCH
MILLER	1300	ACCOUNTING

```
# WAQ to display ename ,sal and dname of all the employees who work in
NEW YORK.
- select ename,sal,dname from emp inner join dept on emp.deptno =
dept.deptno where loc = 'NEW YORK';
```

ENAME	SAL	DNAME
CLARK	2450	ACCOUNTING
KING	5000	ACCOUNTING
MILLER	1300	ACCOUNTING

```
# WAQ to display ename , dname, sal and comm of all the employees who
work in CHICAGO and get COMMISSION.
- select ename,sal,dname from emp inner join dept on emp.deptno =
dept.deptno where comm is not null and loc = 'CHICAGO';
```

ENAME	SAL	DNAME
ALLEN	1600	SALES
WARD	1250	SALES
MARTIN	1250	SALES
TURNER	1500	SALES

```
# Self Join ==>
=====
```

* Syntax:

```
- Select <col_names> From <table > <alias 1> JOIN <table> <alias 2> On  
<alias1.col> <alias2.col> [Where <cond>];
```

```
# WAQ to display name of every employee along with his manager's name.
```

```
- select e.ename as employ, m.ename as manager from emp e join emp m on  
e.mgr = m.empno;
```

EMPLOY	MANAGER
-----	-----
FORD	JONES
SCOTT	JONES
JAMES	BLACK
TURNER	BLACK
MARTIN	BLACK
WARD	BLACK
ALLEN	BLACK
MILLER	CLARK
ADAMS	SCOTT
CLARK	KING
BLACK	KING
JONES	KING
SMITH	FORD

```
# WAQ to display name and hiredate of every employee along with his  
manager's name and hiredate , of all those employees who were hired  
after their managers.
```

```
- select e.ename as employ, e.hiredate, m.ename as manager, m.hiredate  
from emp e join emp m on e.mgr = m.empno where e.hiredate > m.hiredate;
```

EMPLOY	HIREDATE	MANAGER	HIREDATE
-----	-----	-----	-----
FORD	03-DEC-81	JONES	02-APR-81
SCOTT	19-APR-87	JONES	02-APR-81
JAMES	01-DEC-81	BLACK	01-MAY-81
TURNER	08-SEP-81	BLACK	01-MAY-81
MARTIN	28-SEP-81	BLACK	01-MAY-81
MILLER	23-JAN-82	CLARK	09-JUN-81
ADAMS	23-MAY-87	SCOTT	19-APR-87

```
# Left Outer Join ==>  
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```

```
* Syntax:
```

```
- SELECT columns FROM table1 LEFT OUTER JOIN table2 ON table1.column =  
table2.column;
```

```
* In this , the NON-DEFICIT TABLE should remain on left of the keyword  
LEFT OUTER JOIN.
```

```
# WAQ to display the complete list of all the departments run by the  
company. Your query should display DEPTNO,DNAME,LOC and ENAME and JOB of  
the employees in the department , if any.
```

```
- select d.deptno, d.dname, d.loc, e.ename, e.job from dept d left outer  
join emp e on d.deptno = e.deptno;
```

DEPTNO	DNAME	LOC	ENAME	JOB
20	RESEARCH	DALLAS	SMITH	CLERK
30	SALES	CHICAGO	ALLEN	SALESMAN
30	SALES	CHICAGO	WARD	SALESMAN
20	RESEARCH	DALLAS	JONES	MANAGER
30	SALES	CHICAGO	MARTIN	SALESMAN
30	SALES	CHICAGO	BLACK	MANAGER
10	ACCOUNTING	NEW YORK	CLARK	MANAGER
20	RESEARCH	DALLAS	SCOTT	ANALYST
10	ACCOUNTING	NEW YORK	KING	PRESIDENT
30	SALES	CHICAGO	TURNER	SALESMAN
20	RESEARCH	DALLAS	ADAMS	CLERK
30	SALES	CHICAGO	JAMES	CLERK
20	RESEARCH	DALLAS	FORD	ANALYST
10	ACCOUNTING	NEW YORK	MILLER	CLERK
40	OPERATIONS	BOSTON		

Right Outer Join ==>

=====

* Syntax:

- SELECT columns FROM table1 RIGHT OUTER JOIN table2 ON table1.column = table2.column;

* In this , the NON -DEFICIT TABLE should remain on right of the keyword RIGHT OUTER JOIN.

WAQ to display the complete list of all the departments run by the company. Your query should display DEPTNO,DNAME,LOC and ENAME and JOB of the employees in the department , if any.

- select d.deptno, d.dname, d.loc, e.ename, e.job from emp e right outer join dept d on e.deptno = d.deptno;

DEPTNO	DNAME	LOC	ENAME	JOB
20	RESEARCH	DALLAS	SMITH	CLERK
30	SALES	CHICAGO	ALLEN	SALESMAN
30	SALES	CHICAGO	WARD	SALESMAN
20	RESEARCH	DALLAS	JONES	MANAGER
30	SALES	CHICAGO	MARTIN	SALESMAN
30	SALES	CHICAGO	BLACK	MANAGER
10	ACCOUNTING	NEW YORK	CLARK	MANAGER
20	RESEARCH	DALLAS	SCOTT	ANALYST
10	ACCOUNTING	NEW YORK	KING	PRESIDENT
30	SALES	CHICAGO	TURNER	SALESMAN
20	RESEARCH	DALLAS	ADAMS	CLERK
30	SALES	CHICAGO	JAMES	CLERK
20	RESEARCH	DALLAS	FORD	ANALYST
10	ACCOUNTING	NEW YORK	MILLER	CLERK
40	OPERATIONS	BOSTON		

Full Outer Join ==>

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* Syntax:

- SELECT columns FROM table1 FULL OUTER JOIN table2 ON table1.column = table2.column;

* This type of join returns all rows from the LEFT-hand table and RIGHT-hand table with nulls in place where the join condition is not met.