Joins in Oracle

What are Joins in Oracle?

Joins in Oracle are used to retrieve data from multiple tables at a time. In relational databases, we are storing related data in multiple tables like employee details, department details, customer details, orders details, products details, etc. To combine data and retrieve data from those multiple tables then we need joins.

Types of Joins in Oracle:

NON – ANSI format joins: (oracle 8i joins)

When we are retrieving data from multiple tables based on the “WHERE” clause condition then we called a NON-ANSI format join. NON-ANSI joins are not portable. They are again classified into three types are as follows.

1. **Equi Join**
2. **Non-Equi Join**
3. **Self Join**

The syntax for NON-ANSI joins:

```
SELECT * FROM TABLE NAME1, TABLE NAME2 WHERE <JOIN CONDITION>;
```

ANSI format joins: (oracle 9i joins)

When we are retrieving data from multiple tables with “on” / “using” clause conditions then we called as the join as ANSI format join. ANSI joins are portability (move from one database to another database) They are again classified as follows.

1. **Inner Join**
2. **Outer Join (Left Outer Join, Right Outer Join, and Full Outer Join)**
3. **Cross Join (or) Cartesian Join**
4. **Natural Join**

Syntax for ANSI joins:

```
SELECT * FROM <TABLE NAME1> <JOIN KEY> <TABLE NAME2 > ON <JOIN CONDITION>;
```

EQUI Join in Oracle:

Retrieving data from multiple tables based on “equal operator (=) ” is called an EQUI join.

When we use EQUI join between two (or) more than two tables the common column (or) common field name is no need to be the same name (but recommend). The common column (or) common field datatype must be matched.

When we perform any join operation between tables there is no need to have a relationship(optional) (i.e. primary key & foreign key relation). EQUI join always retrieves only matching data/matching rows.

Write a Query to retrieve student and the corresponding course details from Course and Student tables by using EQUI join?

```
SELECT * FROM Student, Course WHERE CourseId = CourseId;
```

Correct:

```
SELECT * FROM Student, Course WHERE Student.CourseId = Course.CourseId;
```

Or

```
SELECT * FROM Student S, Course C WHERE S.CourseId = C.CourseId;
```

Rule of Joining Tables in Oracle:

A row in the first table is compared with all rows of the second table.

Example:

Write a Query to retrieve student, course details from tables if CourseId is 20.

```
SELECT * FROM Student S, Course C WHERE S.CourseId = C.CourseId AND C.CourseId = 20;
```

In ANSI Format: INNER JOIN / EQUI JOIN:

Inner join in Oracle is similar to EQUI join i.e. retrieving data from multiple tables with the “ON” clause condition.

Write a Query to retrieve student, course details from Course and Student tables by using INNER JOIN.

```
SELECT * FROM Student INNER JOIN Course ON Student.CourseId = Course.CourseId;
```

WHY DID ANSI JOIN?

These joins are introduced in Oracle 9i. The main advantage of ANSI joins is portability. It means that we can move to join statements from one database to another database without making any changes as it is the join statements are executed in other databases.