MySQL Joining Tables
A JOIN clause is used to combine rows from two or more tables, based on a related column between them.

Let's look at a selection from the "Orders" table:

OrderID	CustomerID	OrderDate
10308	2	1996-09-18
10309	37	1996-09-19
10310	77	1996-09-20

Then, look at a selection from the "Customers" table:

CustomerID	CustomerName	ContactName	Country
1	Alfreds Futterkiste	Maria Anders	Germany
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Mexico
3	Antonio Moreno Taquería	Antonio Moreno	Mexico

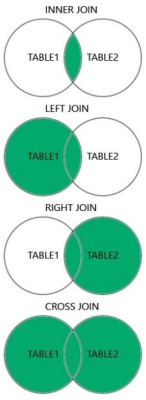
Notice that the "CustomerID" column in the "Orders" table refers to the "CustomerID" in the "Customers" table. The relationship between the two tables above is the "CustomerID" column.

Then, we can create the following SQL statement (that contains an INNER JOIN), that selects records that have matching values in both tables:

Example
```
SELECT Orders.OrderID, Customers.CustomerName, Orders.OrderDate
FROM Orders
INNER JOIN Customers ON Orders.CustomerID=Customers.CustomerID;
```
and it will produce something like this:

OrderID	CustomerName	OrderDate
10308	Ana Trujillo Emparedados y helados	9/18/1996

Supported Types of Joins in MySQL
INNER JOIN: Returns records that have matching values in both tables
LEFT JOIN: Returns all records from the left table, and the matched records from the right table
RIGHT JOIN: Returns all records from the right table, and the matched records from the left table
CROSS JOIN: Returns all records from both tables



The MySQL GROUP BY Statement

The GROUP BY statement groups rows that have the same values into summary rows, like "find the number of customers in each country".

The GROUP BY statement is often used with aggregate functions (COUNT(), MAX(), MIN(), SUM(), AVG()) to group the result-set by one or more columns.

GROUP BY Syntax
```
SELECT column_name(s)
FROM table_name
WHERE condition
GROUP BY column_name(s)
ORDER BY column_name(s);
```

Example

```
SELECT COUNT(CustomerID), Country
FROM Customers
GROUP BY Country;
```

GROUP BY With JOIN Example

The following SQL statement lists the number of orders sent by each shipper:

Example

```
SELECT Shippers.ShipperName, COUNT(Orders.OrderID) AS NumberOfOrders FROM Orders
LEFT JOIN Shippers ON Orders.ShipperID = Shippers.ShipperID
GROUP BY ShipperName;
```

The MySQL HAVING Clause

The HAVING clause was added to SQL because the WHERE keyword cannot be used with aggregate functions.

HAVING Syntax

```
SELECT column_name(s)
FROM table_name
WHERE condition
GROUP BY column_name(s)
HAVING condition
ORDER BY column_name(s);
```

MySQL HAVING Examples

The following SQL statement lists the number of customers in each country. Only include countries with more than 5 customers:

Example

```
SELECT COUNT(CustomerID), Country
FROM Customers
GROUP BY Country
HAVING COUNT(CustomerID) > 5;
```