An **INNER JOIN** in SQL is a type of join operation used to combine rows from two or more tables based on a related column between them. It retrieves only the rows that have matching values in both tables. If there is no match, the row is not included in the result set.

**Syntax**

SELECT columns

FROM table1

INNER JOIN table2

ON table1.column\_name = table2.column\_name;

**Key Features**

1. **Match Condition**: Rows are included in the result set only if the specified condition in the ON clause is true.
2. **Common Columns**: Typically used on primary-foreign key relationships or columns with similar data values.
3. **Filter Rows**: Eliminates rows from either table that do not have corresponding matches in the other table.

**Example**

Consider two tables:

1. Employees:

| **EmployeeID** | **Name** | **DepartmentID** |
| --- | --- | --- |
| 1 | Alice | 101 |
| 2 | Bob | 102 |
| 3 | Charlie | 103 |

1. Departments:

| **DepartmentID** | **DepartmentName** |
| --- | --- |
| 101 | HR |
| 102 | IT |

**Query:**

SELECT Employees.Name, Departments.DepartmentName

FROM Employees

INNER JOIN Departments

ON Employees.DepartmentID = Departments.DepartmentID;

**Result:**

| **Name** | **DepartmentName** |
| --- | --- |
| Alice | HR |
| Bob | IT |

**Notes**

* The ON clause specifies the condition for the join.
* If a row in either table does not have a match, it is excluded from the result set. To include unmatched rows, you would use LEFT JOIN, RIGHT JOIN, or FULL JOIN.

Inner joins are one of the most common operations in relational databases, allowing you to retrieve related data from multiple tables efficiently.