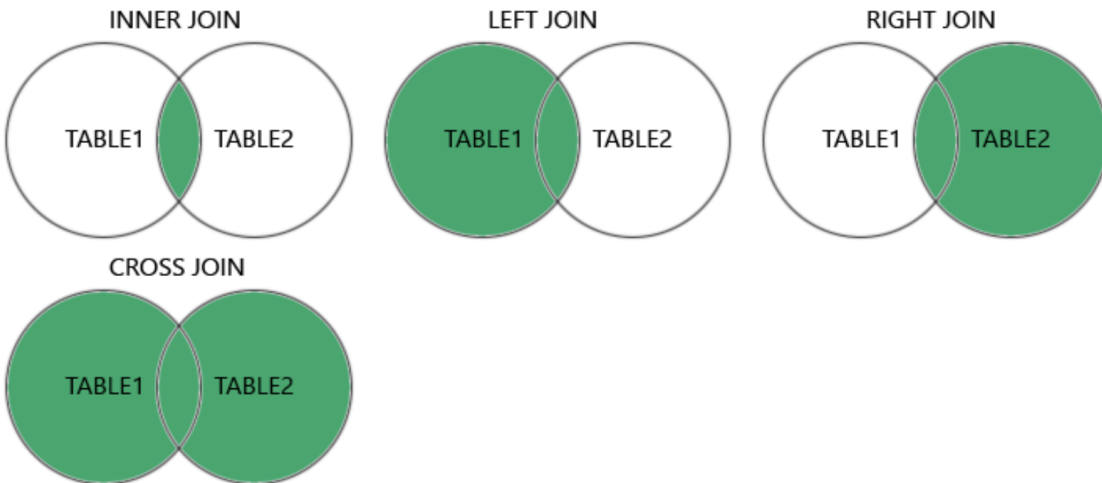


## JOIN OPERATION



## Create Database

```
CREATE DATABASE CompanyDB;  
USE CompanyDB;
```

## Create Tables

```
CREATE TABLE Employees (  
    EmployeeID INT PRIMARY KEY,  
    FirstName VARCHAR(50),  
    LastName VARCHAR(50),  
    DepartmentID INT  
);  
  
CREATE TABLE Departments (  
    DepartmentID INT PRIMARY KEY,  
    DepartmentName VARCHAR(50)  
);
```

## Insert Values

```
INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID)  
VALUES
```

```
(1, 'John', 'Doe', 1),  
(2, 'Jane', 'Smith', 2),  
(3, 'Alice', 'Johnson', 3),  
(4, 'Bob', 'Brown', NULL);
```

```
INSERT INTO Departments (DepartmentID, DepartmentName) VALUES  
(1, 'HR'),  
(2, 'Engineering'),  
(3, 'Marketing'),  
(4, 'Sales');
```

## INNER JOIN

An **INNER JOIN** returns records that have matching values in both tables.

```
SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName,  
Departments.DepartmentName  
FROM Employees  
INNER JOIN Departments ON Employees.DepartmentID =  
Departments.DepartmentID;
```

## LEFT JOIN

A **LEFT JOIN** returns all records from the left table (Employees), and the matched records from the right table (Departments). The result is **NULL** from the right side if there is no match.

```
SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName,  
Departments.DepartmentName  
FROM Employees  
LEFT JOIN Departments ON Employees.DepartmentID = Departments.DepartmentID;
```

## RIGHT JOIN

A **RIGHT JOIN** returns all records from the right table (Departments), and the matched records from the left table (Employees). The result is **NULL** from the left side when there is no match.

```
SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName,  
Departments.DepartmentName  
  
FROM Employees  
  
RIGHT JOIN Departments ON Employees.DepartmentID =  
Departments.DepartmentID;
```

## CROSS JOIN

A **CROSS JOIN** returns the Cartesian product of the two tables, i.e., it returns all possible combinations of rows from the two tables.

```
SELECT Employees.EmployeeID, Employees.FirstName, Employees.LastName,  
Departments.DepartmentName
```

```
FROM Employees
```

```
CROSS JOIN Departments;
```