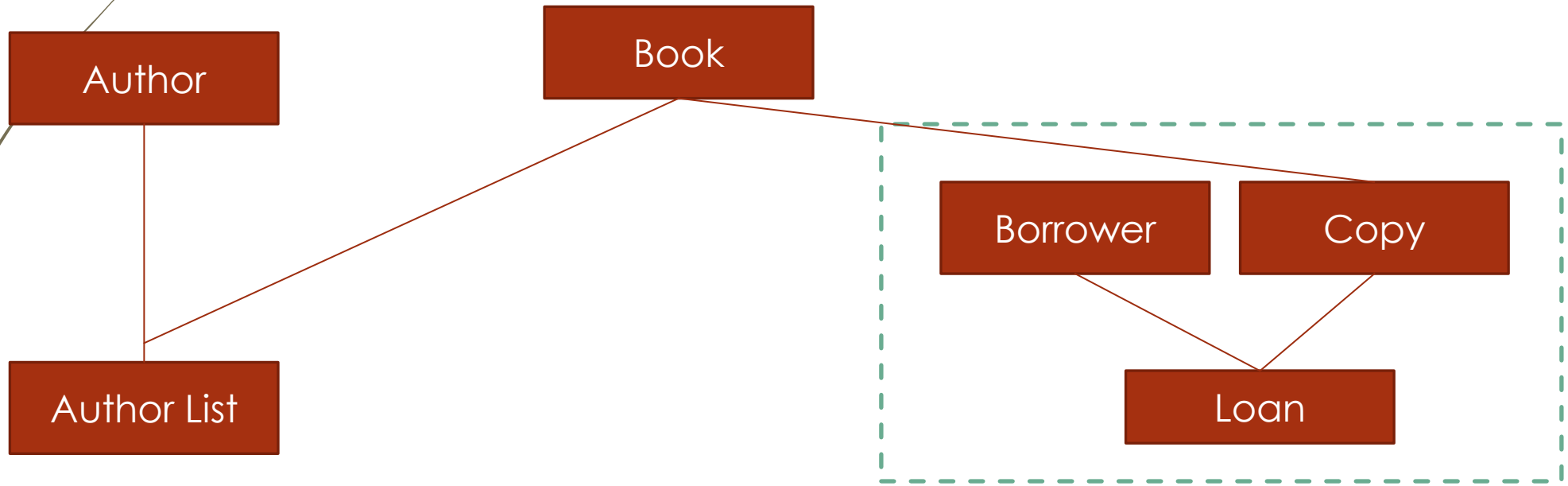
Working with Multiple tables: Joins

- Joins Overview
- Define Join Operator
- Explain role of Primary key and foreign keys in Join
- List different types of Joins

Relational Model Database Diagram

- Join Operator:
  - Combines rows from two or more tables
  - Based on a relationship



Role of Keys

- Primary Key :Uniquely identifies each
- Foreign Key: refers to a primary key of another table

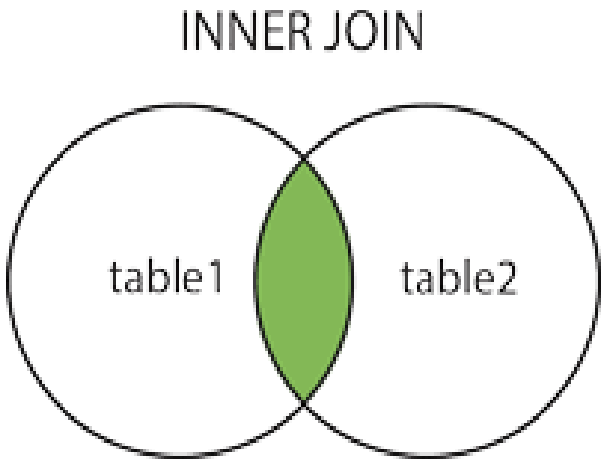
- **Author :** Author_ID as Primary Key
- **Author_List :** Author_ID as a foreign key

Types of Joins

- Inner Join - Gives data that is matching between two tables
- Outer Join
  - Left outer - All data from left table and matching data from right table
  - Right Outer – All data from right table and matching data from left table
  - Full Outer Join – All data from both the tables.

Inner Join

- **Inner Join** compares each row of table1 with each row of table2 to find all pairs of rows which satisfy the join-predicate. When satisfied, column value for each matched pair of rows of A & B are combined into a result row.



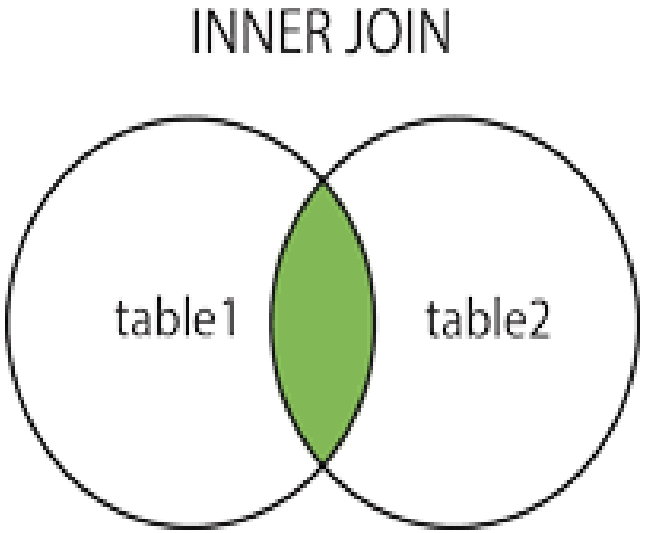
Inner Join

Syntax :

Select columns from **table1**
Inner join **table2**
ON table1.column = table2.column;

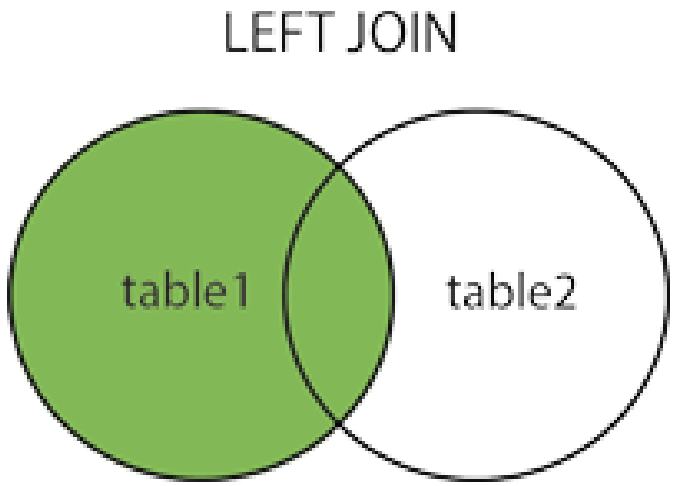
Inner Join Example

```
Select
        a.order_line,
        a.product _id,
        a.customer_id,
        a.sales,
        b.customer_name,
        b.age,
From sales_2015 a
Inner Join Customer_20 b
ON a.customer_id = b.customer_id
Order by customer_id;
```



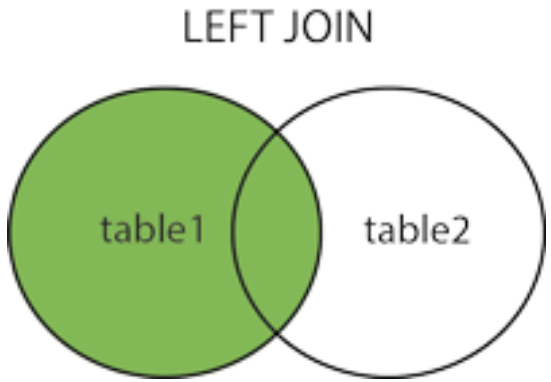
Left Join

- **Left Join** returns all the rows from the left table, even if there are no matches in the right table.



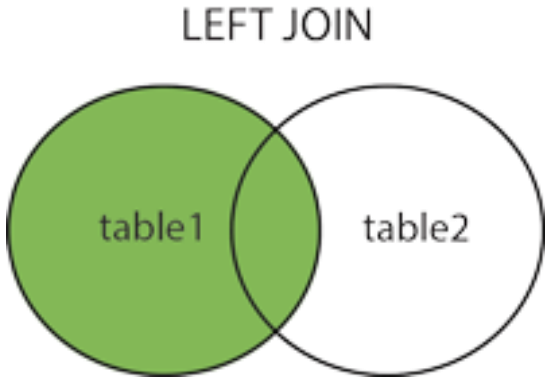
Left Join : Syntax

```
Select table1.column1, table2.column2....
From table1
Left Join table2
ON table1.column_field = table2.column_field;
```



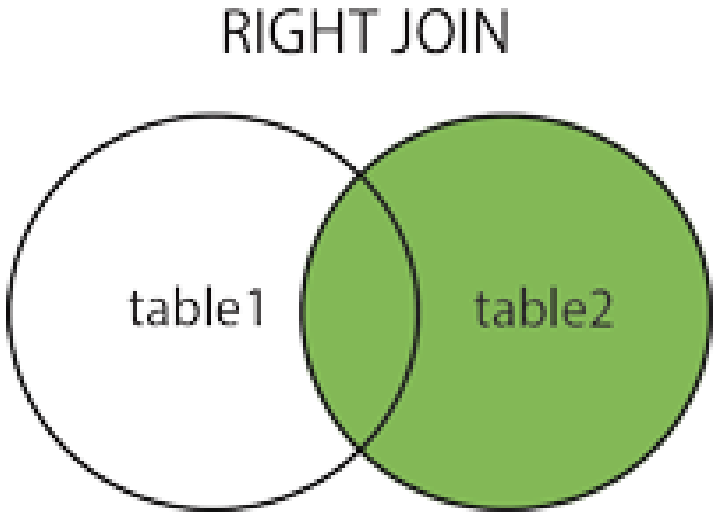
Left Join : Example

```
Select
        a.order_line,
        a.product _id,
        a.customer_id,
        a.sales,
        b.customer_name,
        b.age,
From sales_2015 a
Left Join Customer_20 b
ON a.customer_id = b.customer_id
Order by customer_id;
```



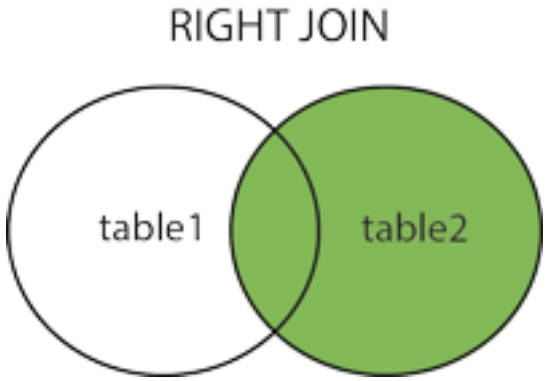
Right Join

- **Right Join** returns all the rows from the right table, even if there are no matches in the left table.



Right Join : Syntax

```
Select table1.column1, table2.column2....
From table1
Right Join table2
ON table1.column_field = table2.column_field;
```



Right Join: Example

```
Select
        a.order_line,
        a.product _id,
        a.customer_id,
        a.sales,
        b.customer_name,
        b.age,
From sales_2015  a
Right Join Customer_20  b
ON a.customer_id = b.customer_id
Order by customer_id;
```