Experiment 1

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* Aim:

Author-Book Relationship Using Joins and Basic SQL Operations

1. **Create Author and Book Tables using DDL Commands**
2. **Insert Sample Records into Author and Book Tables**
3. **Retrieve Book Titles Along with Author Information Using INNER JOIN**

* Theory:

SQL JOIN clauses combine rows from multiple tables based on a related column, typically a primary key linked to a foreign key. After data is separated into different tables through normalization to reduce redundancy, joins are essential for retrieving a complete data set. The ON keyword specifies how the tables are linked.

* + **INNER JOIN**: Returns only the 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. If there's no match, the right side is NULL.
  + **RIGHT JOIN**: Returns **all** records from the right table and the matched records from the left table.
  + **FULL JOIN**: It includes all rows from both tables, matching them up where possible. If there is no match for a given row, the columns from the other table will be filled with NULL
* SQL Queries:

1. To create two tables- authors and books and show their description:

create table authors\_jayanaath(author\_id int primary key, name varchar(50), country varchar(50));

create table books\_jayanaath(book\_id int primary key,title varchar(100),author\_id int, foreign key(author\_id) references authors\_jayanaath(author\_id));

desc authors\_jayanaath;

desc books\_jayanaath;

1. To insert values into authors and books and display the table:

insert into authors values(1,'Ashish','India'),(2,'Smaran','USA'),(3,'Vaibhav','UK');

insert into books values(101,'Data Science Basics',1),(102,'AI in Education',2),(103,'SQL Simplified',1);

select \* from authors;

select \* from books;

1. To retrieve the titles of all books along with their author's name and country:

select title,name,country from authors a inner join books b on a.author\_id=b.author\_id;

* Result:









  
