University Institute of Engineering

Department of Computer Science & Engineering

Experiment: 1

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1. Aim of the practical:

Author-Book Relationship Using Joins and Basic SQL Operations

1. Design two tables — one for storing author details and the other for book details.
2. Ensure a foreign key relationship from the book to its respective author.
3. Insert at least three records in each table.
4. Perform an INNER JOIN to link each book with its author using the common author ID.
5. Select the book title, author name, and author's country.

Sample Output Description: When the join is performed, we get a list where each book title is shown along with its s author's name and their country.

2. Tool Used: SQL Server Management Studio.

3. CODE:

```
CREATE TABLE Authors (
author_id INT PRIMARY KEY,
name VARCHAR(100),
country VARCHAR(100)
);

CREATE TABLE Books (
book_id INT PRIMARY KEY,
title VARCHAR(150),
author_id INT,
    FOREIGN KEY (author_id) REFERENCES Authors(author_id) );
INSERT INTO Authors (author_id, name, country) VALUES
(1, 'A', 'UK'),
(2, 'B', 'USA'),
(3, 'C', 'IND');
```

```
INSERT INTO Books (book_id, title, author_id) VALUES
(101, 'x', 1),
(102, 'Y', 2),
(103, 'Z', 3);

SELECT
    B.title AS Book_Title,
    A.name AS Author_Name,
    A.country AS Author_Country
FROM
    Books B
INNER JOIN
    Authors A ON B.author_id = A.author_id;
```

4. LEARNING OUTCOMES:-

- Learn how to define and create relational database tables using CREATE TABLE syntax.
- Understand the use of data types like INT and VARCHAR.
- Gain practical knowledge of establishing a primary key for uniquely identifying records.
- Understand how to create and enforce foreign key relationships to maintain data integrity between related tables (Books → Authors).
- Develop the ability to use INNER JOIN to combine data from multiple tables based on a common key (e.g., author_id).