



Experiment – 1

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Semester: 5th
Subject Name: ADBMS

UID: 23BCS14195
Section/Group: KRG_1B
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1. Aim:

Q1) Author-Book Relationship Using Joins and Basic SQL Operations.

- Design two tables — one for storing author details and the other for book details.
- Ensure a foreign key relationship from the book to its respective author.
- Insert at least three records in each table. Perform an INNER JOIN to link each book with its author using the common author ID.
- Select the book title, author name, and author's country.
- **Expected Output:** Each book title along with its author's name and country.

Q2) Department-Course Subquery and Access Control

- Design normalized tables for departments and the courses they offer, maintaining a foreign key relationship.
- Insert five departments and at least ten courses across those departments.
- Use a subquery to count the number of courses under each department
- Display only departments that offer more than 2 courses.

2. DBMS code:

Q1)

```
CREATE DATABASE ADBMS_2027;
```

```
CREATE TABLE TBL_AUTHOR(AUTHOR_ID INT PRIMARY KEY,  
AUTHOR_NAME VARCHAR(30), AUTHOR_COUNTRY VARCHAR(30));
```

```
CREATE TABLE TBL_BOOK(BOOK_ID INT PRIMARY KEY,  
BOOK_TITLE VARCHAR(30),  
AUTHOR_ID INT,  
FOREIGN KEY (AUTHOR_ID) REFERENCES TBL_AUTHOR(AUTHOR_ID));
```

```
INSERT INTO TBL_AUTHOR (AUTHOR_ID, AUTHOR_NAME, AUTHOR_  
COUNTRY) VALUES  
(1, 'C.J. Date', 'UK'),  
(2, 'Silberschatz', 'India'),  
(3, 'A. Tanenbaum', 'China');
```

```
INSERT INTO TBL_BOOK (BOOK_ID, BOOK_TITLE, AUTHOR_ID) VALUES  
(101, 'Database Systems', 1),  
(102, 'Operating Systems', 2),  
(103, 'Computer Networks', 3),  
(104, 'Advanced Databases', 1);
```

```
SELECT * FROM TBL_BOOK;  
SELECT * FROM TBL_AUTHOR;  
SELECT B.BOOK_TITLE , A.AUTHOR_NAME, A.AUTHOR_COUNTRY  
FROM TBL_BOOK AS B  
INNER JOIN  
TBL_AUTHOR AS A  
ON  
B.AUTHOR_ID = A.AUTHOR_ID;
```

Q2)

```
CREATE TABLE TBL_DEPARTMENT (DEPT_ID INT PRIMARY KEY, DEPT_  
NAME VARCHAR(30));  
CREATE TABLE TBL_COURSE(COURSE_ID INT PRIMARY KEY,
```



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COURSE_NAME VARCHAR(30), DEPT_ID INT, FOREIGN KEY (DEPT_ID)

REFERENCES TBL_DEPARTMENT(DEPT_ID));

INSERT INTO TBL_DEPARTMENT (DEPT_ID, DEPT_NAME) VALUES

(1, 'Computer Science'),

(2, 'Electrical Engineering'),

(3, 'Mechanical Engineering'),

(4, 'Civil Engineering'),

(5, 'Mathematics');

INSERT INTO TBL_COURSE (COURSE_ID, COURSE_NAME, DEPT_ID)

VALUES

(101, 'Data Structures', 1),

(102, 'Algorithms', 1),

(103, 'Operating Systems', 1),

(104, 'Circuits', 2),

(105, 'Digital Logic', 2),

(106, 'Thermodynamics', 3),

(107, 'Fluid Mechanics', 3),

(108, 'Surveying', 4),

(109, 'Calculus', 5),

(110, 'Linear Algebra', 5),

(111, 'Discrete Math', 5);

SELECT DEPT_NAME

FROM TBL_DEPARTMENT

WHERE DEPT_ID IN (

SELECT DEPT_ID

FROM TBL_COURSE

GROUP BY DEPT_ID

HAVING COUNT() > 2*

);

3. Output:

Q1)

BOOK_TITLE	AUTHOR_NAME	AUTHOR_COUNTRY
Database Systems	C.J. Date	UK
Advanced Databases	C.J. Date	UK
Operating Systems	Silberschatz	India
Computer Networks	A. Tanenbaum	China

Q2)

Output:

DEPT_NAME
Computer Science
Mathematics