DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING

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Experiment-3

Student Name: Ayush Tiwari	UID: 23BCS11366
Branch: CSE	Section/Group: 23BCS_KRG-3_B
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1. Aim:
   To **create and manage a relational database** that stores information about faculties and their respective subjects, and to **retrieve faculties that offer more than two subjects**.

2. Objective:

   Create two related tables:

   TBL_FACULTY: Stores faculty information (like Engineering, Mathematics, etc.).

   TBL_SUBJECTS: Stores subjects offered under each faculty.

   Link the two tables using a foreign key:

   The FACULTY_REF column in the TBL_SUBJECTS table is a foreign key that refers to FACULTY_ID in the TBL_FACULTY table.

   Insert sample data into both tables to simulate a real-world college or university faculty-subject structure.

   Use a JOIN and GROUP BY with HAVING clause to:

   Count the number of subjects each faculty offers.

   Show only those faculties that offer more than 2 subjects.

3. Code

```sql
-- Create table to hold actual NPV values
CREATE TABLE Year_tbl (
    ID INT,
    YEAR INT,
    NPV INT
);

-- Create table for query requests
CREATE TABLE Queries (
    ID INT,
    YEAR INT
);

-- Insert data into Year_tbl
INSERT INTO Year_tbl (ID, YEAR, NPV)
VALUES
(1, 2018, 100),
(7, 2020, 30),
(13, 2019, 40),
(1, 2019, 113),
(2, 2008, 121),
(3, 2009, 12),
(11, 2020, 99),
(7, 2019, 0);

-- Insert data into Queries
INSERT INTO Queries (ID, YEAR)
VALUES
(1, 2019),
(2, 2008),
(3, 2009),
(7, 2018),
(7, 2019),
(7, 2020),
(13, 2019);

-- Final Query: Return requested (ID, YEAR) with their corresponding NPV if available, else 0
SELECT
    Q.ID,
    Q.YEAR,
    ISNULL(Y.NPV, 0) AS NPV
FROM Queries AS Q
LEFT OUTER JOIN Year_tbl AS Y
    ON Q.ID = Y.ID AND Q.YEAR = Y.YEAR;
```