

EXPERIMENT 1.3

Title: Retrieve Departments Offering More Than Two Courses Using Subquery

Description:

Given the

Departments

and

Courses

tables, write a subquery to find the names of departments that offer more than **two courses**.

Input Format:

- Table **Departments** with columns:

- dept_id

(INT, Primary Key)

- dept_name

(VARCHAR(50))

- Table **Courses** with columns:

- course_id

(INT, Primary Key)

- course_name

(VARCHAR(100))

- dept_id

(INT, Foreign Key referencing Departments)

Output Format:

A list of department names (

dept_name

) that offer more than two courses.

Constraints:

- A department must be present in both tables.
- Each course must belong to one department only.

Sample Output:

dept_name
Computer Science
Electrical
Mechanical
Civil
Electronics

(If a department had only 1 or 2 courses, it wouldn't appear in the result.)

Query:

```
SELECT dept_name
FROM Departments
WHERE dept_id IN (
    SELECT dept_id
    FROM Courses
    GROUP BY dept_id
    HAVING COUNT(*) > 2
);
```

Output:



The screenshot displays the byteXL SQL editor interface. On the left is a sidebar with navigation links: Home, Dashboard, Feedback Requests, Reports, Student Reports, Learning, AI Mentor (Beta), Courses, Classes, and Editor (highlighted). The main editor area shows a SQL query in the 'commands.sql' file:

```
49  
50  
51 SELECT dept_name  
52 FROM Departments  
53 WHERE dept_id IN (  
54     SELECT dept_id  
55     FROM Courses  
56     GROUP BY dept_id  
57     HAVING COUNT(course_id) > 2  
58 );  
59  
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73  
74
```

On the right, the 'Output' pane shows the results of the query:

```
STDIN  
Input for the program ( Optional )  
  
Output:  
DROP TABLE  
DROP TABLE  
CREATE TABLE  
CREATE TABLE  
INSERT 0 5  
INSERT 0 15  
    dept_name  
-----  
Computer Science  
Electrical  
Mechanical  
Civil  
Electronics  
(5 rows)
```

Learning Outcome:

We learned how to use a subquery inside a WHERE ... IN clause to filter results based on another table.

We understood how subqueries return intermediate results that feed into a main query.