PARIJAT PAL | 23BCC70037 | 23BCC1-A |ADBMS

EXPERIMENT 1.1

Title: Create Department and Course Tables with Normalization (up to 3NF)

Description:
You are designing an academic schema to manage departments and the courses they offer. Normalize the design into 3NF using two tables:

`Departments` and `Courses`. Ensure each course belongs to exactly one department, and department names are not duplicated.

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)

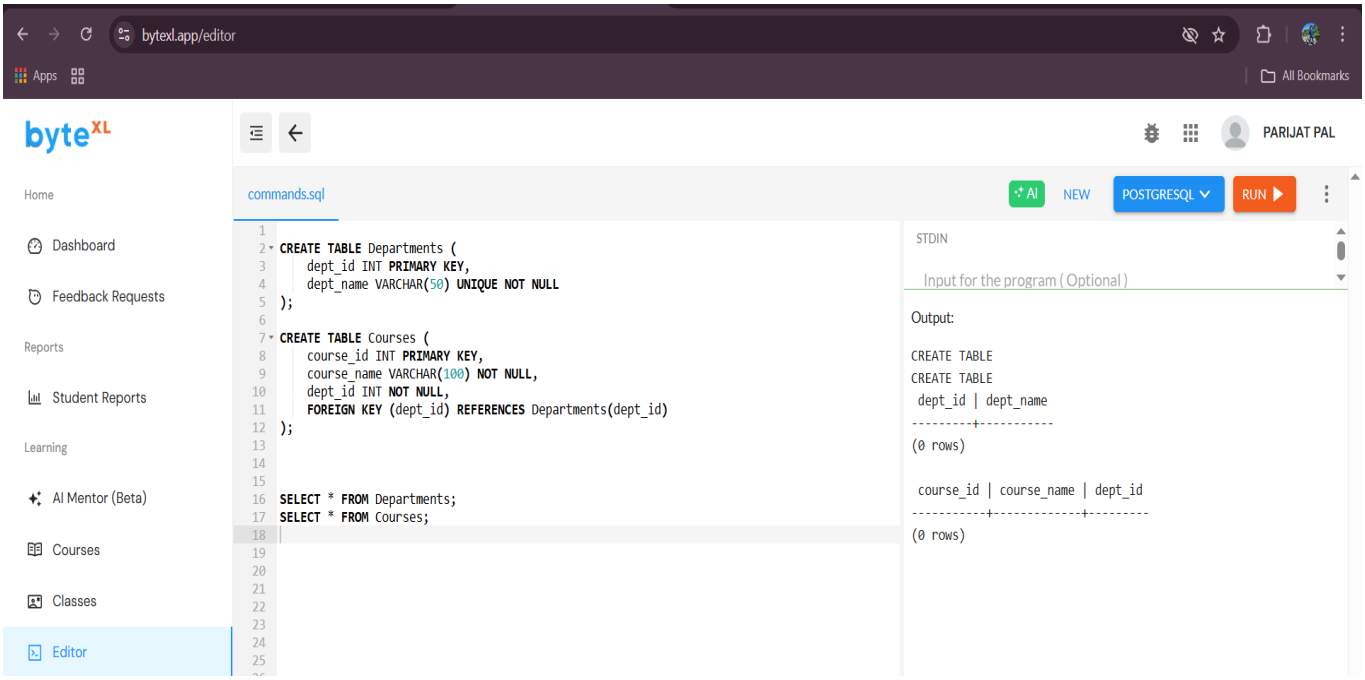
Constraints:

- Each course must be linked to a valid department.
- Department names must not repeat.
- All data should be in 3NF.

Query:

```
CREATE TABLE Departments (
    dept_id INT PRIMARY KEY,
    dept_name VARCHAR(50) UNIQUE NOT NULL);
CREATE TABLE Courses (
    course_id INT PRIMARY KEY,
    course_name VARCHAR(100) NOT NULL,
    dept_id INT NOT NULL,
    FOREIGN KEY (dept_id) REFERENCES Departments(dept_id));
SELECT * FROM Departments;
SELECT * FROM Courses;
```

Output:



Learning Outcome:

Design tables with primary and foreign keys.

Maintain data integrity by enforcing constraints like PRIMARY KEY, FOREIGN KEY, and UNIQUE.