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| --- | --- |
| NAME | RAHUL KUMAR |
| UID | **23BCS13346** |
| SECTION | **622 - B** |
| SUBJECT | **ADBMS** |

**(A) Create Department and Course Tables with Normalization (up to 3NF).**

**(B) Insert Sample Data into Department and Course Tables**

**(C) Retrieve Departments Offering More Than Two Courses Using Subquery**

**(D) Grant SELECT Access on Courses Table Using DCL**

**CODE:**

**-- ================================**

**-- DROP old tables if they exist**

**-- ================================**

**DROP TABLE IF EXISTS Courses;**

**DROP TABLE IF EXISTS Departments;**

**-- ================================**

**-- PART A: CREATE TABLES (3NF)**

**-- ================================**

**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,**

**FOREIGN KEY (dept\_id) REFERENCES Departments(dept\_id)**

**);**

**-- ================================**

**-- PART B: INSERT SAMPLE DATA**

**-- ================================**

**INSERT INTO Departments (dept\_id, dept\_name) VALUES**

**(1, 'Computer Science'),**

**(2, 'Electrical'),**

**(3, 'Mechanical'),**

**(4, 'Civil'),**

**(5, 'Electronics');**

**INSERT INTO Courses (course\_id, course\_name, dept\_id) VALUES**

**(101, 'DBMS', 1),**

**(102, 'Operating Systems', 1),**

**(103, 'Power Systems', 2),**

**(104, 'Digital Circuits', 2),**

**(105, 'Thermodynamics', 3),**

**(106, 'Fluid Mechanics', 3),**

**(107, 'Structural Engineering', 4),**

**(108, 'Surveying', 4),**

**(109, 'Embedded Systems', 5),**

**(110, 'VLSI Design', 5);**

**-- ================================**

**-- PART C: SUBQUERY – Departments with > 2 courses**

**-- ================================**

**SELECT dept\_name**

**FROM Departments**

**WHERE dept\_id IN (**

**SELECT dept\_id**

**FROM Courses**

**GROUP BY dept\_id**

**HAVING COUNT(course\_id) > 2**

**);**

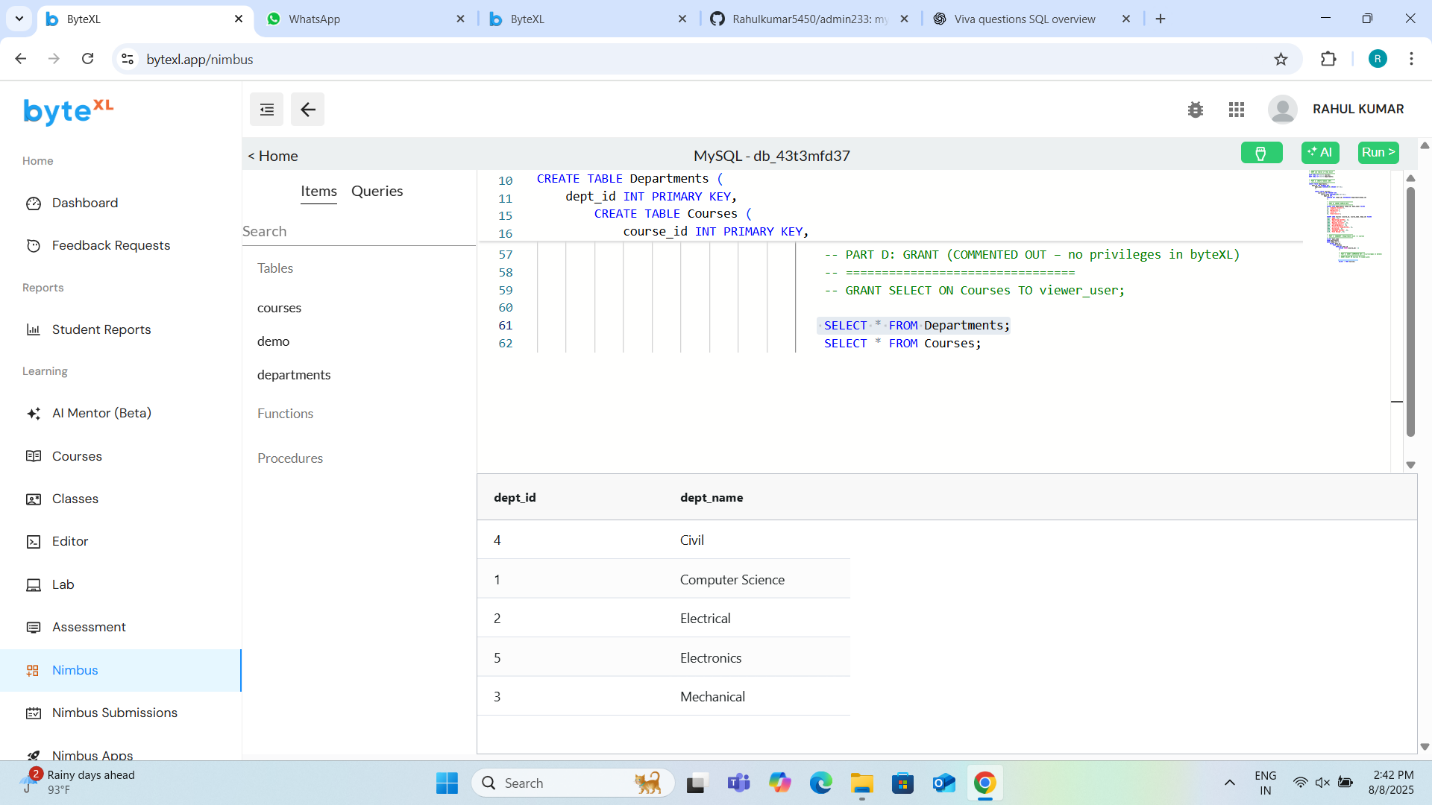
**-- ================================**

**-- PART D: GRANT (COMMENTED OUT – no privileges in byteXL)**

**-- ================================**

**-- GRANT SELECT ON Courses TO viewer\_user;**

**SELECT \* FROM Departments;**

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