

NAME	Kavy Zinta
UID	23BCS11350
Submitted to	Archana Kumari
Class	622-A

AIM:-

The aim of this lab is to design, implement, and manage a relational database schema for an academic institution. This involves applying principles of database normalization, manipulating data, and performing complex queries and access control.

Code:-

```
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)
);
```

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);

dept_id	dept_name
4	Civil
1	Computer Science
2	Electrical
5	Electronics
3	Mechanical

course_id	course_name	dept_id
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

```

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

```

dept_name
Civil
Computer Science
Electrical
Electronics
Mechanical