

IT23303-Database Management Systems**Date: 19/8/25****Session 6-Joins**

Design and implement the following database schema for a university. The system should manage students, faculty, courses, departments, enrollments, attendance, and course-teaching information.

Department(DepartmentID, DeptName, HOD)**Student(StudentID, Name, Gender, DOB, DepartmentID)****Faculty(FacultyID, Name, Email, DepartmentID)****Course(CourseID, CourseName, Credits, DepartmentID)****Enrollment(StudentID, CourseID, Semester, Grade)****Teaches(FacultyID, CourseID, Semester)****Attendance(StudentID, CourseID, Date, Status)**

1. Write a query to display student names along with their department names.
2. List all courses along with the faculty who are teaching them.
3. Display all students and their enrollment details. If a student has not enrolled in any course, still display the student information.
4. Show all courses and the students enrolled in them. If a course has no enrollment, still list the course.
5. Display all faculty and the courses they are teaching. Ensure courses without any faculty assigned are also displayed.
6. List all departments and the students belonging to them. Include departments even if no students are present.
7. Display all faculty details with the department they belong to using a natural join.
8. Retrieve student details along with their attendance records using a natural join.
9. Display student names and their grades where the grade is not equal to 'F'
10. Display all possible pairs of students and courses and later filter to show only valid enrollments.

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Design and implement the following database schema for a hospital. The system should manage patients, doctors, departments, treatments, appointments, and prescriptions.

Department(DepartmentID, DeptName, HeadOfDept)**Doctor(DoctorID, Name, Specialization, Email, DepartmentID)****Patient(PatientID, Name, Gender, DOB, BloodGroup)****Treatment(TreatmentID, TreatmentName, Cost, DepartmentID)****Appointment(PatientID, DoctorID, AppointmentDate, Slot, Status)****Prescription(PrescriptionID, PatientID, DoctorID, DateIssued, Notes)****PatientTreatment(PatientID, TreatmentID, StartDate, EndDate)**

1. Display patient names along with the names of doctors they have appointments with.
2. List all treatments taken by patients along with their start and end dates.
3. Show all patients and their prescriptions, including patients who have not received any prescriptions.
4. Display all doctors and their appointments, including doctors who do not have any appointments scheduled.
5. Display all treatments and the patients who have undergone them, ensuring treatments without any patients are also shown.
6. List all departments and the doctors working in them. Ensure departments with no doctors are also included.
7. Retrieve doctor details along with their department information using a natural join.
8. Display patients and their appointment records using a natural join.
9. Display patient names and treatment details where the treatment cost is greater than 20,000.
10. Display all possible combinations of patients and doctors, and then filter to show only those who have an appointment scheduled.