

Introduction to Database Systems(CS3700)

Tutorial-2

Topic: Relational Algebra

Date: 7-Sept-2021

Write Relational Algebra queries for the following data retrieval requests on the Academic Institute Relational Schema:

1. Find the empId and name of the CSE professors who joined before 2005.
2. List the courseId(s) of courses with no prerequisites.
3. List the courseId(s) of courses taught by the HOD of the EE dept in the current semester.
4. Find the name and roll no. of the student(s) who enrolled for courses offered by a department which is not his/her parent department in the current semester.
5. Find the name and roll no. of student(s) who have enrolled in a course which is taught by their advisor.
6. Find the list of roll numbers of students who got S grade in all the prerequisites of CS6700.
7. Find the names of the professors who have taught a course at least 2 times, along with courseId(s) of such course(s).
8. List the name(s) of the department(s) that offer only 12 credit courses.
9. Find the employee id and name of the professors who are the senior most in the Physics department.
10. Find the name of the student(s) who have done a course from all the departments of the institute.

Example Relational Scheme with RICs shown

student (rollNo, name, degree, year, sex, deptNo, advisor)

department (deptId, name, hod, phone)

professor (empId, name, sex, startYear, deptNo, phone)

course (courseId, cname, credits, deptNo)

enrollment (rollNo, courseId, sem, year, grade)

teaching (empId, courseId, sem, year, classRoom)

preRequisite (preReqCourse, courseId)

Academic Institute Relational Scheme with RICs