



Table description:

Instructors: [Cardinality: 4]

Instructors should be uniquely identified by netId, and each instructor can teach zero to many courses.

Courses: [Cardinality: 6]

Courses should be uniquely identified by crn, semester, and year. CRN can be repeated each year. courseNumber should be a three digit integer (100-999). For example, CS 411 will be taking 411 as courseNumber and CS will be considered as deptName. Only past courses exist in the table.

Grades: [Cardinality: 5]

Courses should be uniquely identified by crn, semester, and year. Only past courses exist in the course table, hence every course should have a valid gpa. Each course should have its own enrollment count, saving as studentCnt in the table.

Comments: [Cardinality: 6]

Comments should be uniquely identified by commentID, the comment content can be null.

Users: [Cardinality: 2]

Users should be uniquely identified by email.

Teach: [Cardinality: 5]

Teach is a relationship set between Instructors(entity) and Courses(entity). Each instructor can teach 0 to many courses, while each course can be taught by 1 to many instructors.

Assumptions:**Comments:**

One comment must be left by exactly one user.

One comment must belong to exactly one course.

Users:

One user can write multiple comments or have no comment.

Instructors:

One instructor can teach multiple courses or teach no course

Courses:

One course can be taught by many instructors.

One course should have exactly one grade.

One course can have zero to many comments.

Grade:

One grade is only associated with exactly one course.

Relational schema:

Instructors(netId: VARCHAR(20) [PK],
firstName: VARCHAR(50),
lastName: VARCHAR(50),
deptName: VARCHAR(20))

Courses(crn: VARCHAR(10) [PK],
semester: VARCHAR(10) [PK],
year: INT [PK],
courseName: VARCHAR(25),,
courseNumber: INT,
deptName: VARCHAR(30))

Grades(crn: VARCHAR(10) [PK] [FK to Courses.crn],
semester: VARCHAR(10) [PK] [FK to Courses.semester],
year: INT [PK] [FK to Courses.year],
gpa: REAL,
studentCnt: INT)

Comments(commentID: VARCHAR(20) [PK],
content: VARCHAR(255),
email: VARCHAR(255) [FK to Users.email],
crn: VARCHAR(10) [FK to Courses.crn],
semester: VARCHAR(10) [FK to Courses.semester],
year: INT [FK to Courses.year])

Users(email: VARCHAR(255) [PK],
password: VARCHAR(18))

Teach(crn: VARCHAR(10) [PK] [FK to Courses.crn],
semester: VARCHAR(10) [PK] [FK to Courses.semester],
year: INT [PK] [FK to Courses.year],
netId: VARCHAR(20) [FK to Instructors.netId])