

Exercise 1

A university DB contains information about professors (identified by SIN) and courses (identified by course ID). Professors teach courses; each of the following situations concerns the Teaches relationship set.

List all candidate keys of the Teaches relationship set.

- a. Professors can teach the same course in several semesters, and each offering must be recorded.

Ans:

Keys:

-professor: SIN is as Primary key.

-course: course ID(CID) is as Primary key.

-semester: semester ID(SID) is as Primary key.

Relationship: {SIN, CID, SID}.

- b. Professors can teach the same course in several semesters, but only the most recent such offering needs to be records.

Ans:

keys:{SIN,CID}

Assume the above Situation (b) applies in all subsequent situations.

List all the keys possible in each of the following situations.

- a. Every professor teaches a course, and every course is taught by some professor

Ans:

Candidate keys:{SIN,CID}

- b. Every professor teaches exactly one course, and every course is taught by exactly one professor.

Keys:{SIN} or {CID}