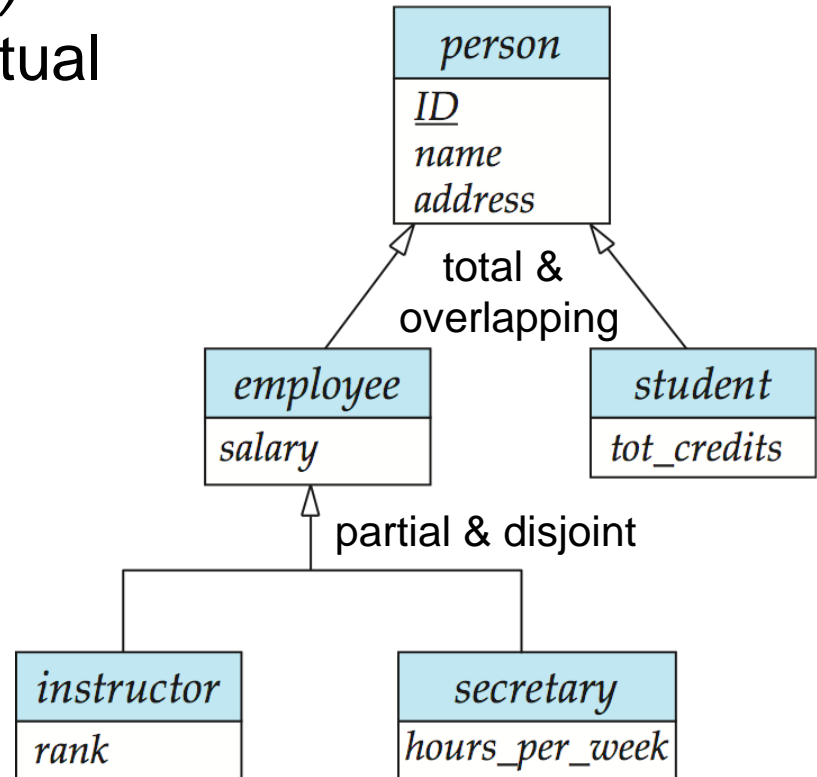


CHAPTER 7

DISCUSSIONS 3

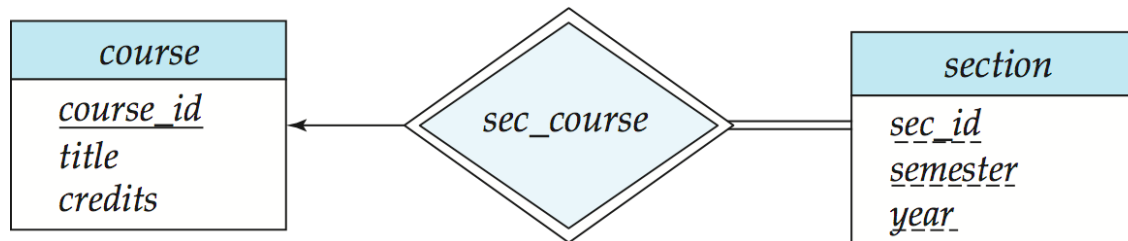
Discussion 7-10

Generate a *logical (relational) schema* for the given conceptual schema.



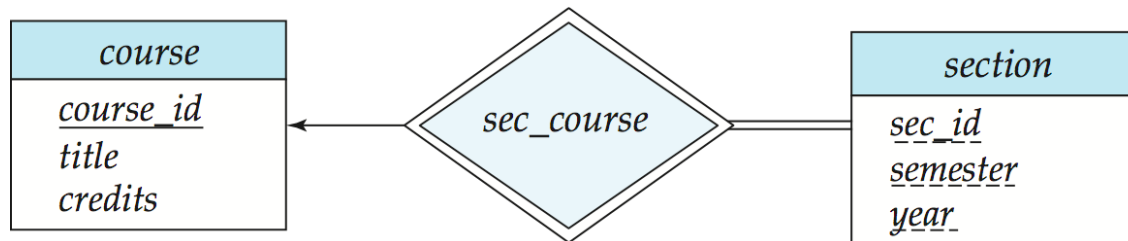
Discussion 7-11

Consider the following ERD with a weak entity set *section*. How would you convert this to a set of relations? Specify *primary* and *foreign key* constraints on the relations.



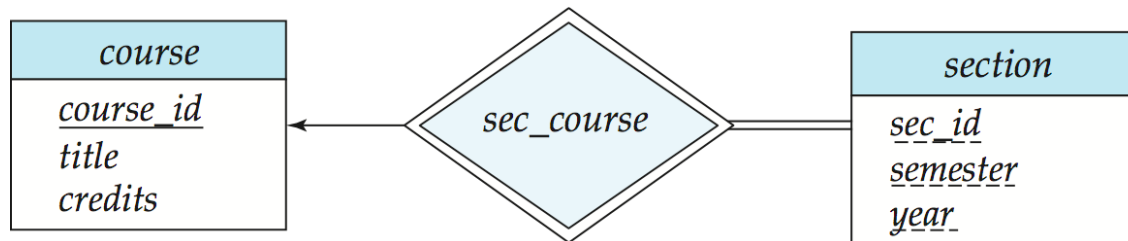
Discussion 7-12

Do the primary and foreign key constraints enforce the *many-to-one* cardinality constraint in relationship *sec_course*? Justify.



Discussion 7-13

Does the foreign key constraint enforce the *total participation* constraint as well? If not, how would you enforce it in SQL?



Discussion 7-14

We wish to create a database for a company that runs training courses. For this, we must store data about the trainees and the instructors. For each course participant (about 5000), identified by a code, we want to store the social security number, surname, age, sex, place of birth, employer's name, address and telephone number, previous employers (and period employed), the courses attended (there are about 200 courses) and the final assessment of each course. We need also to represent the seminars that each participant is attending at present and, for each day, the places and times the classes are held. Each course has a code and a title and any course can be given any number of times. Each time a particular course is given, we will call it an 'edition' of the course. For each edition, we represent the start date, the end date, and the number of participants. If a trainee is a self-employed professional, we need to know his or her area of expertise, and, if appropriate, his or her title. For somebody who works for a company, we store the level and position held. For each instructor (about 300), we will show the surname, age, place of birth, the edition of the course taught, those taught in the past and the courses that the tutor is qualified to teach. All the instructors' telephone numbers are also stored. An instructor can be permanently employed by the training company or can be freelance.