

Figure 1.3 A sample E-R diagram.

- Entity sets are represented by a rectangular box with the entity set name in the header and the attributes listed below it.
- Relationship sets are represented by a diamond connecting a pair of related entity sets. The name of the relationship is placed inside the diamond.

As an illustration, consider part of a university database consisting of instructors and the departments with which they are associated. Figure 1.3 shows the

APPENDIX **A**



Detailed University Schema

In this appendix, we present the full details of our running-example university database. In Section A.1 we present the full schema as used in the text and the E-R diagram that corresponds to that schema. In Section A.2 we present a relatively complete SQL data definition for our running university example. Besides listing a datatype for each attribute, we include a substantial number of constraints. Finally, in Section A.3 we present sample data that correspond to our schema. SQL scripts to create all the relations in the schema, and to populate them with sample data, are available on the Web site of the book, db-book.com.

A.1 Full Schema

The full schema of the University database as used in the text is shown in Figure A.1. The E-R diagram that corresponds to that schema, and used throughout the text, is shown in Figure A.2.

```
classroom(building, room_number, capacity)
department(dept_name, building, budget)
course(course_id, title, dept_name, credits)
instructor(ID, name, dept_name, salary)
section(course_id, sec_id, semester, year, building, room_number, time_slot_id)
teaches(ID, course_id, sec_id, semester, year)
student(ID, name, dept_name, tot_cred)
takes(ID, course_id, sec_id, semester, year, grade)
advisor(s_ID, i_ID)
time_slot(time_slot_id, day, start_time, end_time)
prereq(course_id, prereq_id)
```

Figure A.1 Schema of the University database.

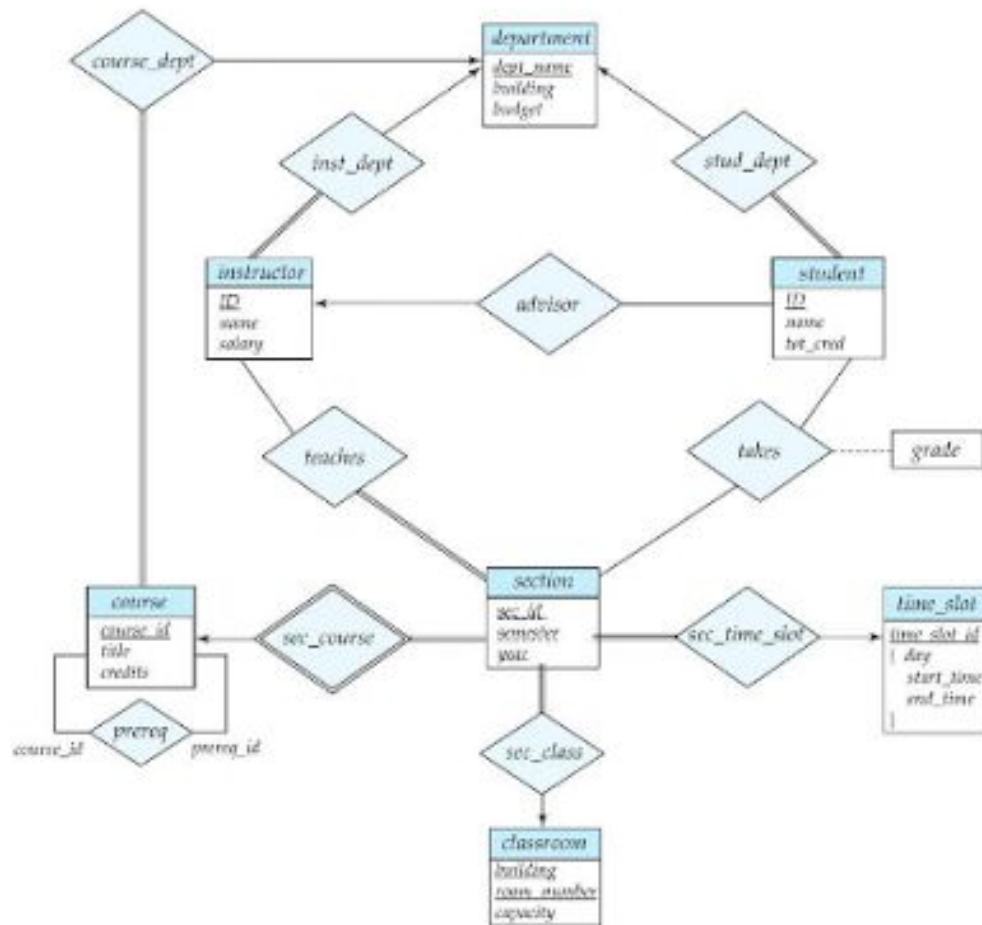


Figure A.2 E-R diagram for a university enterprise.

A.2 DDL

In this section, we present a relatively complete SQL data definition for our example. Besides listing a datatype for each attribute, we include a substantial number of constraints.

```
create table classroom
  (building    varchar (15),
   room_number varchar (7),
   capacity    numeric (4,0),
   primary key (building, room_number));
```



Schema Diagram for University Database

