

Sheet 1

- 1.8. Identify some informal queries and update operations that you would expect to apply to the database shown in Figure 1.2.
- 1.9. What is the difference between controlled and uncontrolled redundancy? Illustrate with examples.
- 1.10. Specify all the relationships among the records of the database shown in Figure 1.2.
- 1.11. Give some additional views that may be needed by other user groups for the database shown in Figure 1.2.
- 1.12. Cite some examples of integrity constraints that you think can apply to the database shown in Figure 1.2.
- 1.13. Give examples of systems in which it may make sense to use traditional file processing instead of a database approach.
- 1.14. Consider Figure 1.2.
 - a. If the name of the 'CS' (Computer Science) Department changes to 'CSSE' (Computer Science and Software Engineering) Department and the corresponding prefix for the course number also changes, identify the columns in the database that would need to be updated.
 - b. Can you restructure the columns in the COURSE, SECTION, and PREREQUISITE tables so that only one column will need to be updated?

STUDENT

Name	Student_number	Class	Major
Smith	17	1	CS
Brown	8	2	CS

COURSE

Course_name	Course_number	Credit_hours	Department
Intro to Computer Science	CS1310	4	CS
Data Structures	CS3320	4	CS
Discrete Mathematics	MATH2410	3	MATH
Database	CS3380	3	CS

SECTION

Section_identifier	Course_number	Semester	Year	Instructor
85	MATH2410	Fall	07	King
92	CS1310	Fall	07	Anderson
102	CS3320	Spring	08	Knuth
112	MATH2410	Fall	08	Chang
119	CS1310	Fall	08	Anderson
135	CS3380	Fall	08	Stone

GRADE_REPORT

Student_number	Section_identifier	Grade
17	112	B
17	119	C
8	85	A
8	92	A
8	102	B
8	135	A

PREREQUISITE

Course_number	Prerequisite_number
CS3380	CS3320
CS3380	MATH2410
CS3320	CS1310

Figure 1.2
A database that stores
student and course
information.