

Chapter 2 Review Questions

Due: Sunday October 4, 2020 @ 11.59pm

1. What is the difference between a database schema and a database state?

A database schema is the skeletal structure that represent the logical view of all the entire datasets defining how the data are organized and how the relations among them are associated. While Database state refers to the content of a database at any point in time.

2. Choose a database application with which you are familiar. Design a schema and show a sample database for that application, using the notation of Figures 1.2 and 2.1. What types of additional information and constraints would you like to represent in the schema? Think of several users of your database and design a view for each.

Salesman				
Salesman_id	Name	City	Commission	
Customer				
Customer_id	Cust_name	City	Grade	Salesman_id

salesman_id	name	city	commission	
5001	James Hoog	New York	0.15	
5002	Nail Knite	Paris	0.13	
5005	Pit Alex	London	0.11	
5006	Mc Lyon	Paris	0.14	
5007	Paul Adam	Rome	0.13	
5003	Lauson Hen	San Jose	0.12	
customer_id	cust_name	city	grade	salesman_id
3002	Nick Rimando	New York	100	5001
3007	Brad Davis	New York	200	5001
3005	Graham Zusi	California	200	5002
3008	Julian Green	London	300	5002
3004	Fabian Johnson	Paris	300	5006

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.

Figure 2.1
Schema diagram for
the database in
Figure 1.2.

STUDENT

Name	Student_number	Class	Major
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COURSE

Course_name	Course_number	Credit_hours	Department
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PREREQUISITE

Course_number	Prerequisite_number
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SECTION

Section_identifier	Course_number	Semester	Year	Instructor
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GRADE_REPORT

Student_number	Section_identifier	Grade
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