HABIB UNIVERSITY

Database Systems

CS/CE 355/373 Fall 2023

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Relational Schema and Schema Diagram Solution

Consider the following UNIVERSITY database:

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

Define its relational Schemas and Schema Diagram, specifying the primary keys and foreign key dependencies

SOLUTION:

Relational Schemas:

1. Student (**Student_number**, Name, Class, Major)
2. Course (**Course_name**, **Course_number**, Credit_hours, Department)
3. Section (**Section_identifier**, Course_number, Semester, Year, Instructor)
4. Grade_Report (**Student_number**, Section_identifier, Grade)
5. Prerequisite (**Course_number**, **Prerequisite_number**)

Schema Diagram: