Cast Member

Name
salary
city
state
street
zip

performed by

Name	(FK)
title	(FK)

Cast Member_phone

phone
Name (FK)

Sketch

title
length
seq (FK)

written by

title	(FK)
Name	(FK)

Writer

Name
start date

Show

seq
live date
season (U)
Name (FK)

Host

Name
birth date

Rerun

date
seq (FK)

Employees

employee_ID
employee_name
emp_phone_number
Office Number (FK)

Sales Office

Office Number
Number&Street
City
State
Zip

listing

listed_date
price
Property_ID (FK)

Properties

Property_ID
Property_type
State
Number&Street
City
Zip
Office Number (FK)
owner_ID (FK)

owners

owner_ID
owner_name

CS 340 – HW 2

FK = Foreign Key
PK = Primary Key

Problem 3: (10 pts) **Label** all primary and foreign keys in the database to below. Suppose each of the following operations is applied to the database. Discuss *all* integrity constraints (key, entity, domain, referential) violated by each operation, if any.

(a) Insert < 150, 'CS162', 'Fall', 2020, 'Smith' > into SECTION.

Course CS162 in Section table course-number column, it isn't there.

Give an error because its not in the course table.

STUDENT (PK)

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

COURSE (PK)

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

(b) Delete < 17, 112, 'B' > from GRADE_REPORT.

No error, because Grade-Report refers to section & student tables for Section_Identif & they are all there.

SECTION (PK) (FK)

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

(c) Insert < 'CS3380', 'CS3320'> into PREREQUISITE.

No error because in course-number in Course table both values are store.

GRADE_REPORT

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

PREREQUISITE (FK)

Course_number	Prerequisite_number (FK)
CS3380	CS3320
CS3380	MATH2410
CS3320	CS1310

(d) Modify the Course_number of the SECTION tuple with Section_identifier 85 to 'MATH2444'.

Error since course-number: MATH2444 is not visible in the COURSE table.

referential constraint

result

CS 340 – HW 2

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8	85	A
8	92	A
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CS3380	MATH2410
CS3320	CS1310

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referential constraint