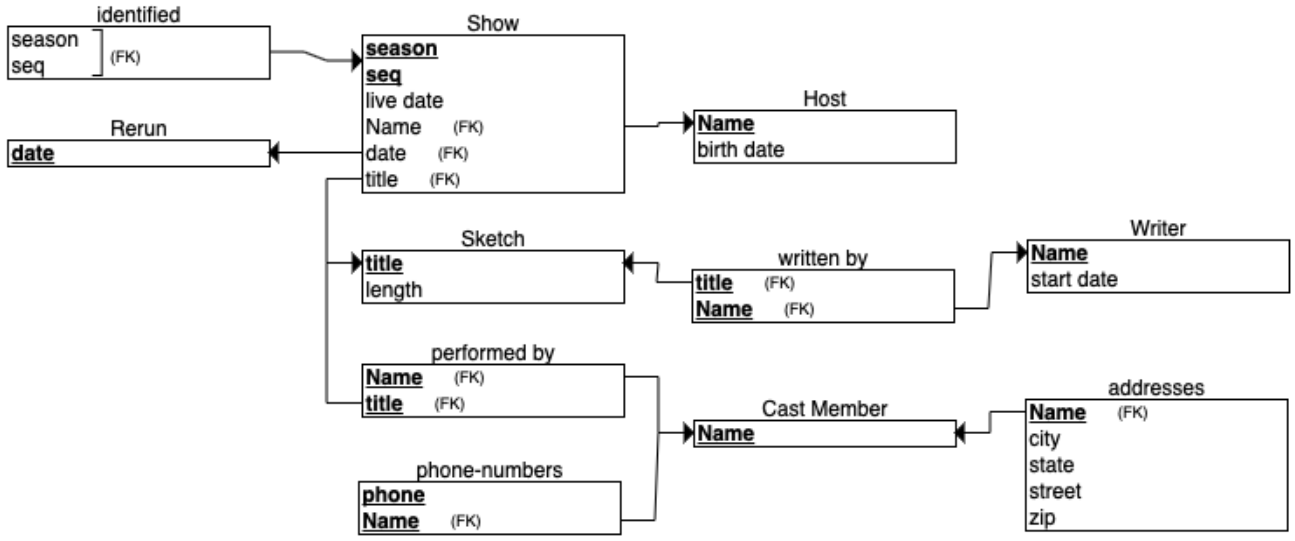
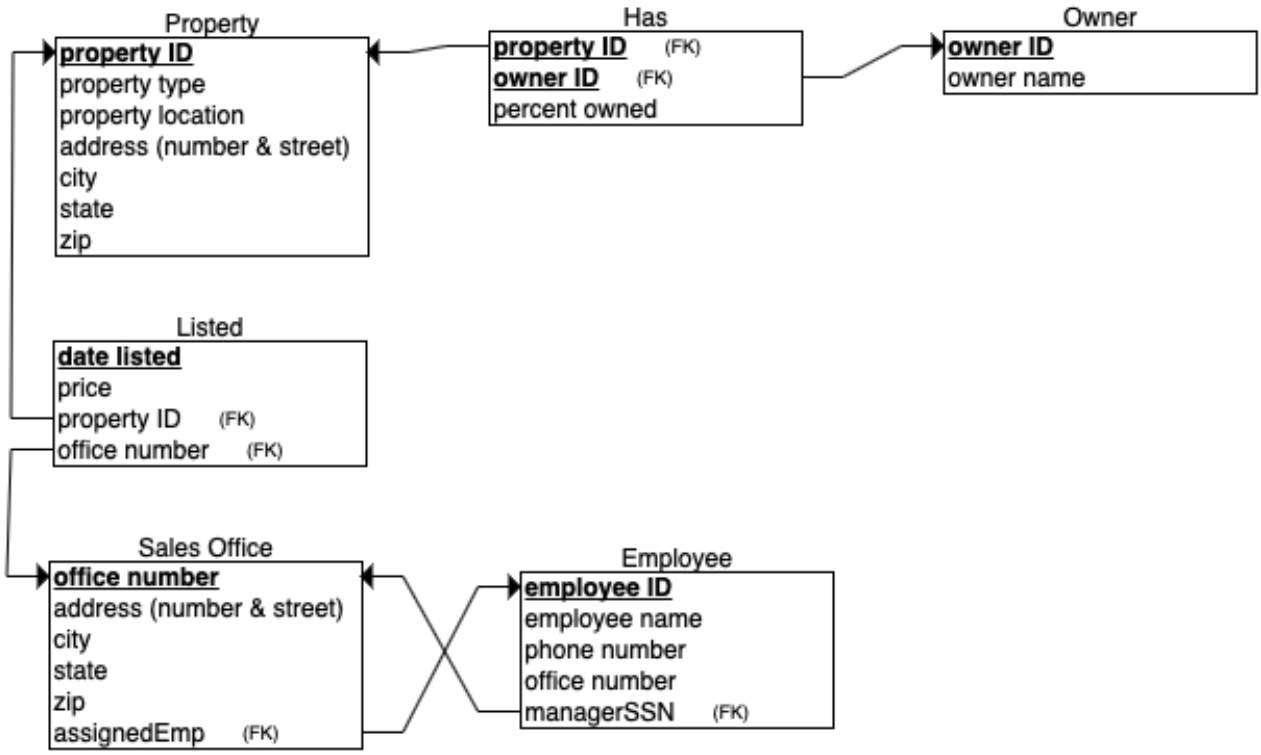
Andrea Tongsak
Fall Term 2021
CS 340: HW 2 Relational Schema

Problem 1

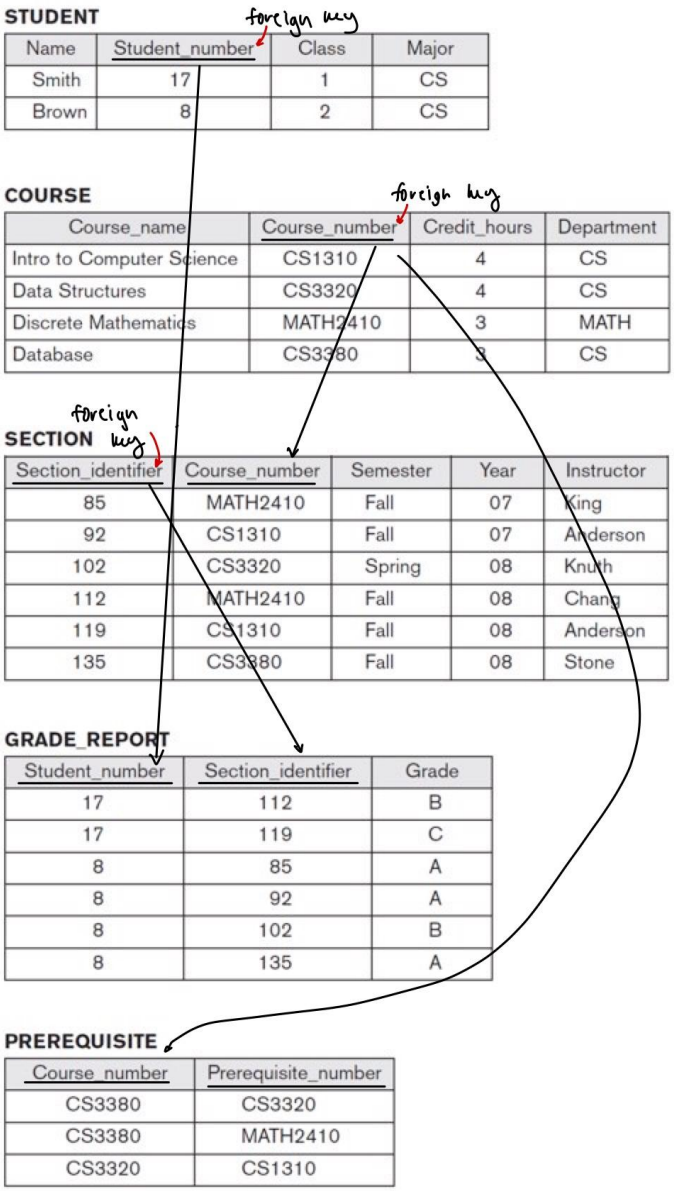


Problem 2


Property
property ID
property type
property location
address (number & street)
city
state
zip
Has
property ID (FK)
owner ID (FK)
percent owned
Owner
owner ID
owner name
Listed
date listed
price
property ID (FK)
office number (FK)
Sales Office
office number
address (number & street)
city
state
zip
assignedEmp (FK)
Employee
employee ID
employee name
phone number
office number
managerSSN (FK)

Problem 3

Our primary key attributes will be underlined and the foreign keys will be indicated with an arrow.



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

a) Insert < 150, ‘CS162’, ‘Fall’, 2020, ‘Smith’ >

This would be violating the *domain* constraint. The year format 2020 would not fit correctly into the section.

b) Delete < 17, 122, ‘B’ >
This would be violating *referential* integrity. because several tuples depend on that particular row in the grade report table.

c) Insert < ‘CS3380’, ‘CS3320’ > into PREREQUISITE
This would be a duplicate into the PREREQUISITE column, which means it violates the *key* constraint. The value of the key attributes already exist.

d) Modify the course_number of the SECTION tuple with Section_identifier 85 to ‘MATH2444’.
Since this would be an update action, there wouldn’t be any integrity constraints that would be violated. Instead, this would propagate to cause the rest of the updates automatically. This is needed in order not to violate any integrity constraints.