CECS 323 HOMEWORK: MANY TO MANY WITH HISTORY

OBJECTIVE: Deciding when to go to a many to many with history versus a many to many without history.

INTRODUCTION: A small university has some sample data for you:

Student Enrollment

Student Number	Student Name	Course Number	Course Description	Grade
12345	Don Brewse	Econ 241	Macroeconomice	B
		QM 261	Intro Stat 1	C
		Acct211	Accounting Principles	B
		Infs 220	Intro to Mircos	A
		Eng 211	Literature	B
23456	Jan Himmel	Infs 272	COBOL	B
		Hist 202	American History	A
		Math 344	Management Calculus	A
		Act 212	Accounting Principles	C
		Mgmt 361	Management Principles	A

Student/Adviser Meetings

Student Number	Adviser	Adviser Office	Meeting Date
12345	Kominski	203H	12/10/2018
23456	Coronado	123D	7/22/2018
12345	Kominski	203H	09/23/2018

Note that those cells that are empty can be treated as if they are filled with the next value above them. For example, the third row of data would read: {12345, “Don Brewse”, “Acct211”, Accounting Principles”, “B”}. Many traditional reports will remove repeating groups of values to reduce the clutter of the report and highlight the similarities between successive rows. If you have not seen this before, it can be a bit confusing.

Assumptions:

- Each Student may take many courses
- Each Course may have many students
- Student Numbers, Course Numbers, Advisor names are unique
- Student names, Course Descriptions are not unique
- Each advisor may advise many students
- Each advisor has one office
- A student can make an appointment with any advisor

PROCEDURE: Create a class model of the above design, and then forward engineer that to a relation scheme diagram. **Then** add more business rules:

- A given student can take a given course more than once to improve a poor grade.

- The college offers each course multiple times. Each such offering is a **section** of that course. A given section is uniquely identified by {year, semester, room number, start time}.
- Each section is also uniquely identified by a section number **within that course**. That is to say {course number, section number} is also a candidate key of the **section**.

Model the new set of circumstances in a **separate** UML model.
Then forward engineer that model into a separate relation scheme diagram.

WHAT TO TURN IN:

- The UML class model for the original business rules.
- The relation scheme diagram for the original business rules.
- The UML class model for the augmented set of business rules.
- Your class definitions in a separate Word document or text file.
- The relation scheme diagram corresponding to the **second** UML class diagram.