CS 3200 - Database Design - Sections 2 & 4 - Fall 2022

Homework 04 - ER Modeling

Due Tuesday Nov 1, 2022 @ 11:59 to GradeScope

You will submit this assignment as a single PDF to GradeScope. It is vitally important that you complete the submission process on GradeScope wherein you indicate the location of each of your answers for the assignment. Failure to do so will result in a grade of 0 on the assignment.

All ER Diagrams need to be created in a drawing app such as LucidChart, OmniGraffle, or even PowerPoint; no handwritten/drawn diagrams.

All ER Diagrams must use the notation consistent with the examples done in class. In other words, no crow's foot or UML-style notation.

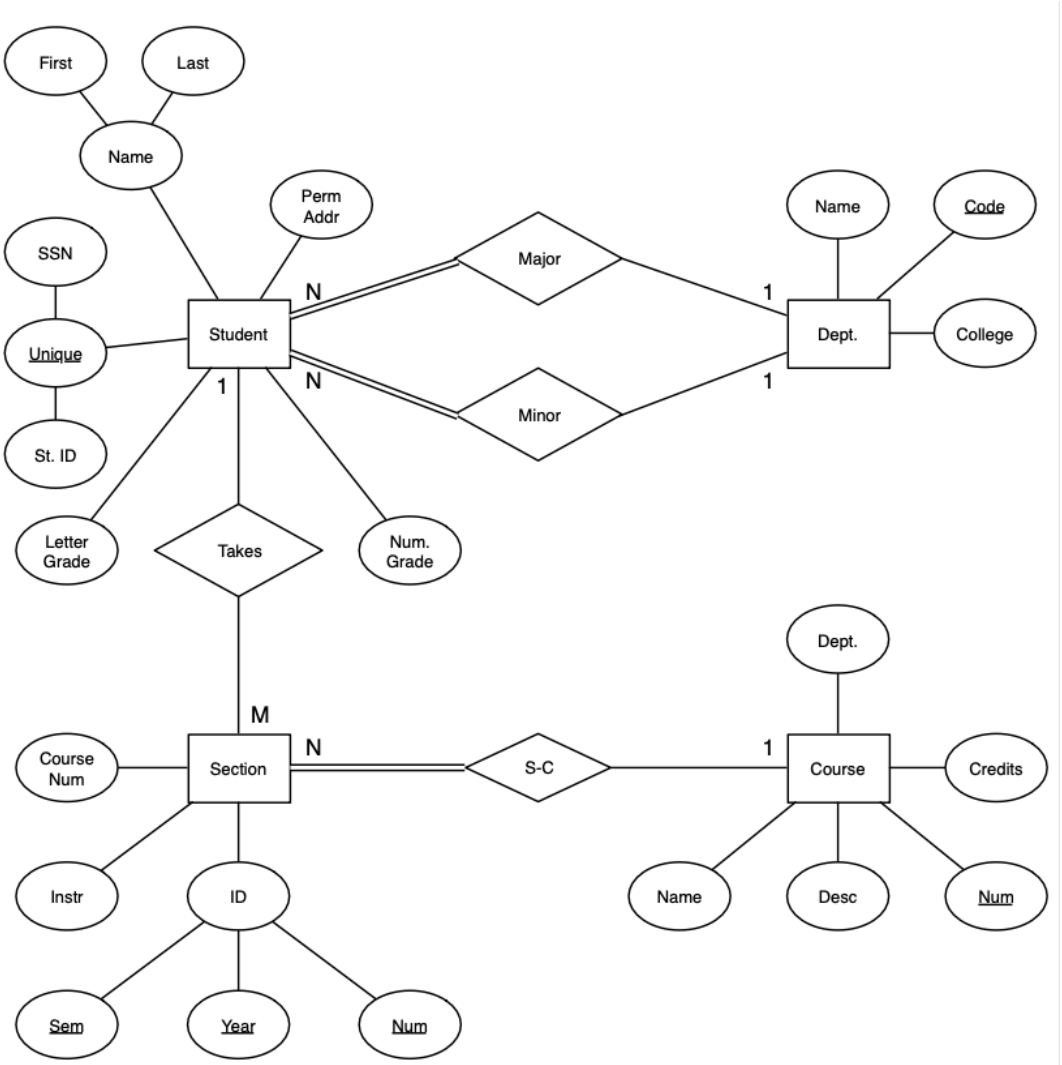
Question 1. Below (in italics), you're given a bulleted, narrative explanation of a system, and below that, you're given an ER diagram. Assume that the narrative is the ground truth for the system under review. Find at least ten mistakes in the ER diagram. You will submit:

1. a brief English description of each of the 10 errors you find, and
2. an updated ER diagram correctly reflecting the requirements from the narrative.

You get equal credit for each corrected mistake; even if correcting a mistake requires several changes to the diagram. For each correction, you will receive half of the points for your textual description of the mistake, as well as justification with respect to the narrative and ERD, and half if you fully correct the issue in your diagram. Please number each textual description, and label the associated change(s) in the diagram, such that your submission is clear and understandable. Each error is worth 6 points (3 for explanation and 3 for proper diagram update.

Narrative:

- *The university keeps track of each student's name, student ID, social security number, per- manent address, major department, and minor department (if any). Some applications need to refer to the city, state, and ZIP code of the student's permanent address, as well as the student's last name. Both SSN and student ID have unique values for each student.*
- *Each department is described by a unique name, a unique department code, and a college name.*
- *Each course has a course name, description, unique course number, credits, and offering de- partment.*
- *Each section has an instructor, semester, year, course, and section number. The section number distinguishes sections of the same course that are taught during the same semester/year.*
- *When a student takes a section of a course, s/he receives a letter grade and a numeric grade. Given a numeric grade from the instructor, the letter grade is assigned based upon the university's standard grade-conversion table.*



Question 1 - Part 1: The 10 errors you found.

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Question 1 - Part 2: Corrected Diagram. You're encouraged to generate this diagram in a tool like LucidChart or Omnigraffle.

Question 2: Just when you thought you might be done with Chinook and Northwind…. they're back. Reverse-map the ER Schema for Chinook below to an ER Diagram using the notation we covered in lecture. (40 points total)