

Assignment 2
Due: 11:59pm, February 20, 2020

Note:

- Name the document as LAST_FIRST_HW1. You can submit a doc, docx or pdf file.
- Show your name and date in the header of your solution document.
- Turn in via Canvas.

Q1:

“Millenium Institute of Information Technology” (MIIT) needs a database. MIIT is an Information Technology (IT) institute with hundreds of students. It is necessary to keep track of all the different classes that are being offered, who is assigned to teach each class, teaching assistant assignments, and which students take each class. Also, it is important to track the progress of each student as they advance.

- (i) Students are given a student number when they join the school. This is stored along with their name, date of birth, address, contact number, and the date they joined the school.
- (ii) All teaching assistants are also students, but clearly, not all students are teaching assistants. In addition to the normal student information, for each teaching assistant, the date that they start working as a teaching assistant must be recorded, along with their status (compensated or volunteer).
- (iii) Each teaching assistant is assigned to one and only one instructor. An instructor can have maximum of two teaching assistants. Not all instructors have teaching assistants.
- (iv) MITT offers several sections (classes) of each course. An instructor may be assigned to teach any number of classes, but each class has one and only one assigned instructor. Some instructors may not be assigned to any class. Each class is offered during a given semester. Semester defines the year and the term that the class will be offered (e.g., Spring 2019).
- (v) There are three levels of courses; beginner-level, intermediate-level, and advanced-level. Student can take multiple classes at the same level in a given semester. Once a student has completed all the required courses for a given level she/he receives a certificate. Each course belongs to one and only one level. Each level has at least three courses. A list of required courses for each level are stored. MITT needs to keep track of all certificates issued to each student and issue dates.

1. Identify all the entities in this company. (5 points)
2. For each entity, list its attributes. (5 points)
3. Describe the possible relationships between the various entities. (5 points)
4. Now you are ready to create a Crow’s Foot notation E-R diagram for this case. For each entity, include the attributes, the primary key, and foreign keys (if any). Name each relationship and diagram both the minimum and maximum cardinalities. If you cannot infer the cardinalities from the case description, make your own assumption. You can use Visio, Word or any other drawing software to draw your ERD. (15 points)