CompSci 557

Homework #2

Philip Sauvey

Kayla Goetzke

Chapter 3 Homework

3.1) EMPLOYEE TABLE: Primary key – EMP\_CODE, foreign key – STORE\_CODE

STORE TABLE: Primary key – STORE\_CODE, foreign key – REGION\_CODE, EMP\_CODE

REGION TABLE: Primary key – REGION\_CODE, foreign key - none

3.2) Yes, all of the tables exhibit entity integrity because none of the primary keys have a null value and all the values in the primary key are unique.

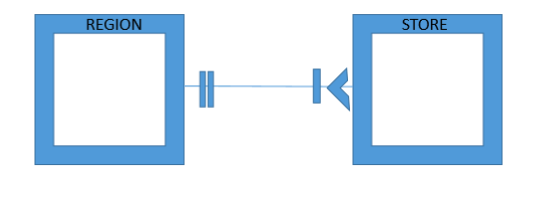
3.3) EMPLOYEE TABLE: Yes it exhibits referential integrity because each STORE\_CODE points to a STORE\_CODE in STORE.

STORE TABLE: Yes, because each REGION\_CODE points to a value in the REGION table for REGION\_CODE. The same applies for the EMP\_CODE. Every value in the STORE table points to an existing value in the EMPLOYEE table.

REGION TABLE: No this table does not have a foreign key.

3.4) STORE and REGION have a M:1 relationship. The REGION can contain more than one store because the REGION\_CODE values in the STORE table occur more than once. However, each STORE can only be located in one REGION; therefore, the STORE and REGION have a M:1 (many-to-one) relationship.

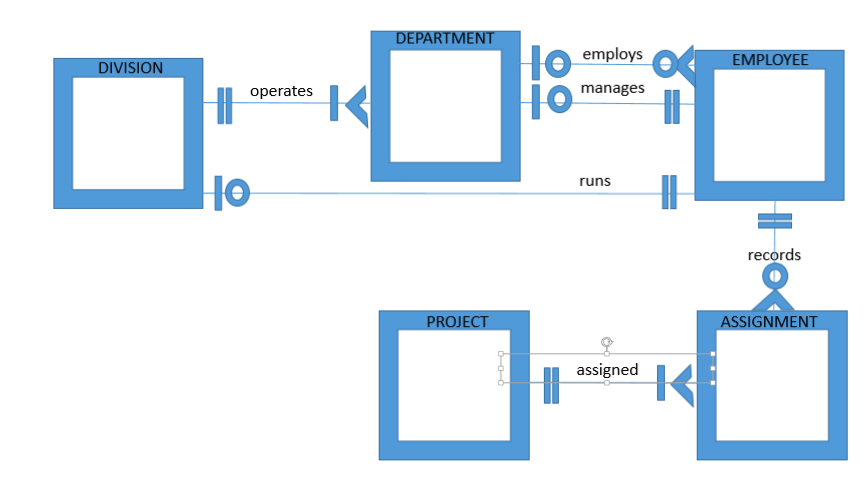
3.5)



3.6)



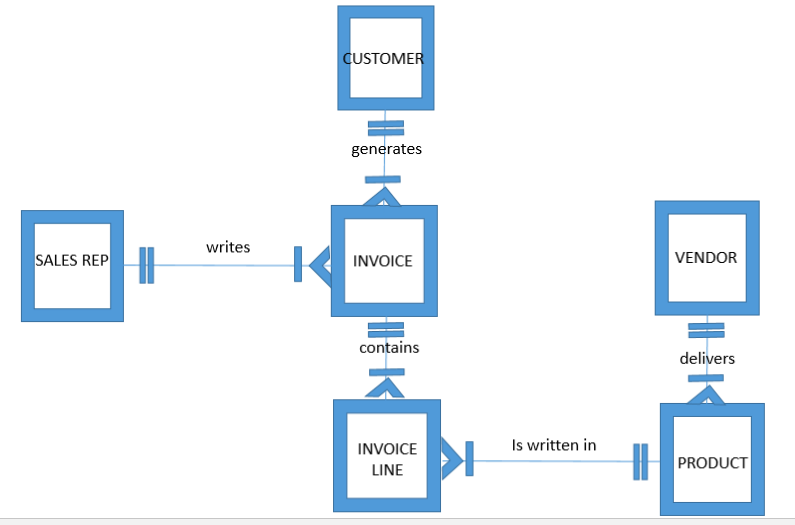
Chapter 4 Homework

4.1) 

4.2)



4.4)



4.5)(A)

|  |  |  |  |
| --- | --- | --- | --- |
| Entity | Relationship | Connectivity | Entity |
| Instructor | Teaches | 1:M | Class |
| Course | Generates | 1:M | Class |
| Trainee | Takes | M:N | Class |

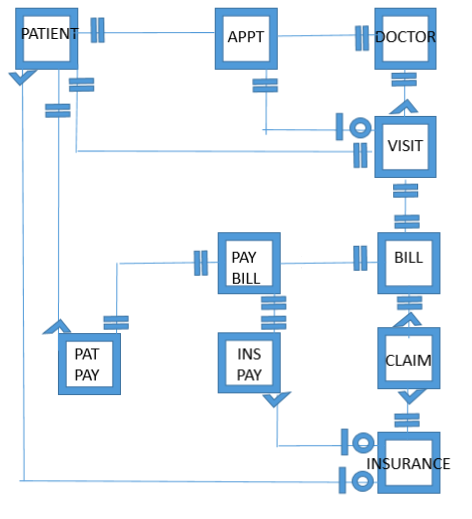
(B) A Class is taught by one and only one Instructor. However, an instructor can teach 0 to 2 classes per year. A class can only exists if there is an assigned instructor.

Connectivity: 1 Instructor : M Classes

Cardinality: (1:1) Instructor (0,2) Classes

Existence Dependence: The existence of a class is dependent on there being an instructor for that class.

4.8)



4.9) 