DATA MODELING EXERCISES

PROBLEM 1

Typically, a patient staying in a hospital receives medications that have been ordered by a particular doctor. Because the patient often receives several medications per day, there is a 1:M relationship between PATIENT and ORDER. Similarly, each order can include several medications, creating a 1:M relationship between ORDER and MEDICATION.

   a. Identify the business rules for PATIENT, ORDER, and MEDICATION.
   b. Create a Crow's Foot ERD that depicts a relational database model to capture these business rules.
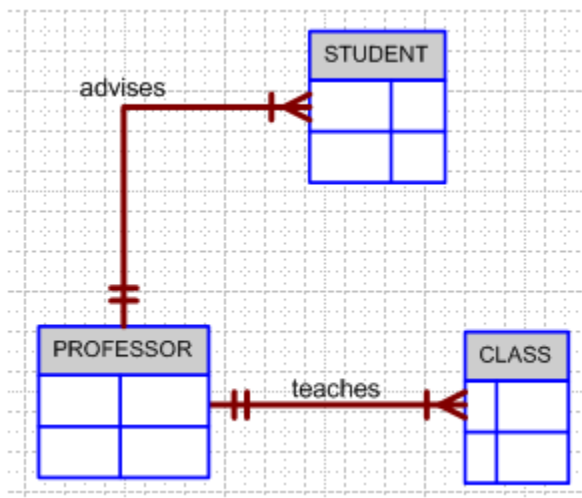
Problem 2

United Artists (UA) is a broker for not-so-famous painters. UA maintains a small network database to track painters, paintings, and galleries. A painting is painted by a particular artist, and that painting is exhibited in a particular gallery. A gallery can exhibit many paintings, but each painting can be exhibited in only one gallery. Similarly, a painting is painted by a single painter, but each painter can paint many paintings.

   a. Identify the business rules for PAINTER, PAINTING, and GALLERY.
   b. Create a Crow's Foot ERD that depicts a relational database model to capture these business rules

Problem 3

Describe the relationships (identify the business rules) depicted in the Crow's Foot ERD shown in Figure below

Problem 4

Create a Crow's Foot ERD to include the following business rules for the ABCcompany:

a. Each sales representative writes many invoices.
b. Each invoice is written by one sales representative.
c. Each sales representative is assigned to one department.
d. Each department has many sales representatives.
e. Each customer can generate many invoices.
f. Each invoice is generated by one customer.