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CSC 423
Project Part 1

1. Develop a conceptual data model reflecting the following requirements: (11/01/22)
   a. Identify the main entity types.
      - Clinic, Staff, Pet Owner, Pet, Examination

   b. Identify the main relationship types between the entity types identified in "a".

Entity	**Relationship**	**Entity**
Clinic	Employs	Staff
Staff	Manages	Clinic
Clinic	Registers	Pet
Owner	Owns	Pet
Pet	Undergoes	Examination
Staff	Performs	Examination

   c. Determine the multiplicity constraints for each relationship identified in "b".

Entity	**Multiplicity**	**Relationship**	**Multiplicity**	**Entity**
Clinic	1	employs	1..*	Staff
Staff	1	manages	0..1	Clinic
Clinic	1	registers	0..*	Pet
Owner	1	owns	1..*	Pet
Pet	1	undergoes	0..*	Examination
Staff	1	Performs	0..*	Examination

      - This assumes that a clinic can have no pets registered at that clinic

   d. Identify attributes and associate them with entity or relationship types.
      - Entity Attributes:
         - Clinic: clinicNo, name, address, phoneNo

    - Staff: staffNo, name, address, phoneNo, dateOfBirth, position, salary
    - Pet: petNo, name, dateOfBirth, species, breed, color
    - Owner: ownerNo, name, address, phoneNo
    - Examination: examNo, chiefComplaint, description, dateSeen, actions
- Relationship Attributes:
    - None in this case study

e. Determine candidate and primary key attributes for each (strong) entity type.

- Clinic:
    - PK: clinicNo
    - CK: address, name, phoneNo
- Staff:
    - PK: staffNo
    - CK: There are no other Alternative Keys since the only unique identifier is staffNo
- Owner:
    - PK: ownerNo
    - CK: There are no other Alternative Keys since the only unique identifier is ownerNo
- Pet:
    - PK: petNo
    - CK: There are no other Alternative Keys since the only unique identifier is petNo
- Examination:
    - PK: examNo
    - CK: There are no other Alternative Keys since the only unique identifier is examNo
- This assumes that no two clinics share the same building/address and that no two clinics share the same clinic name

f. Generate the E-R diagram for the conceptual level (no FKs as attributes).