Project: Design, development and implementation of a relational database (Nicey and Sal)

1. **Develop a conceptual data model reflecting the following requirements:**
    a. **Identify the main entity types.**
        i. Clinic
        ii. Staff
        iii. Owner
        iv. Pet
        v. Examination

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

        i. Clinic - Staff
            1. Each staff member works at a clinic
            2. A member of staff manages at most one clinic
        ii. Clinic - Pet
            1. A pet can only be registered at one clinic
        iii. Owner - Pet
            1. Owner can own one or more pets
        iv. Pet - Examination
            1. Each pet may undergo multiple examinations
        v. Staff - Examination
            1. Each examination is conducted by a staff member

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

Entity	**M1**	**Relationship**	**M2**	**Entity**	**Type**
Staff	1…1	manages	0…1	Clinic	1:1
Clinic	1…1	has	1…*	Staff	1:*
Pet	1…*	registered in	1…1	Clinic	1:*
Owner	1…1	owns	1…*	Pet	1:*

Pet	1…1	undergoes	1…*	Examination	1:*
Staff	1…1	performs	1…*	Examination	1:*

d. Identify attributes and associate them with entity or relationship types.

1. **Clinic** (Entity)
    a. Attributes: clinicNo, clinicName, clinicAddress, clinicTeleNo,
2. **Staff** (Entity)
    a. Attributes: staffNo, staffName, staffAddress, staffTeleNo, staffDOB, position, salary
3. **Owner** (Entity)
    a. Attributes: ownerNo, ownerName, ownerAddress, ownerTeleNo
4. **Pet** (Entity)
    a. Attributes: petNo, petName, petDOB, petSpecies, petBreed, petColor
5. **Examination** (Entity)
    a. Attributes: examNo, chiefComplaint, description, dateSeen, actionsTaken

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

i. Clinic
    1. Primary Key: clinicNo
    2. Candidate Keys: clinicNo, clinicTeleNo, clinicAddress

ii. Staff:
    1. Primary Key: staffNo
    2. Candidate Keys: staffNo, staffTeleNo

iii. Owner:
    1. Primary Key: ownerNo
    2. Candidate Keys: ownerNo, ownerTeleNo

iv. Pet:
    1. Primary Key: petNo
    2. Candidate Keys: petNo

v. Examination:
    1. Primary Key: examNo

2. Candidate Keys: examNo

Assumptions:

- Each telephone number is unique
- There won't be 2 clinics on the same address

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