

**a. Entity Types**

- Staff
- Clinic
- Pet
- Owner
- Examination
- Manager

**b. Relationships/Multiplicity Constraints**

- Clinic has several Staff
- Staff manages at most 1 Clinic
- Owner owns 1 or more Pet
- Pet registered to one Clinic
- Examination done to one Pet

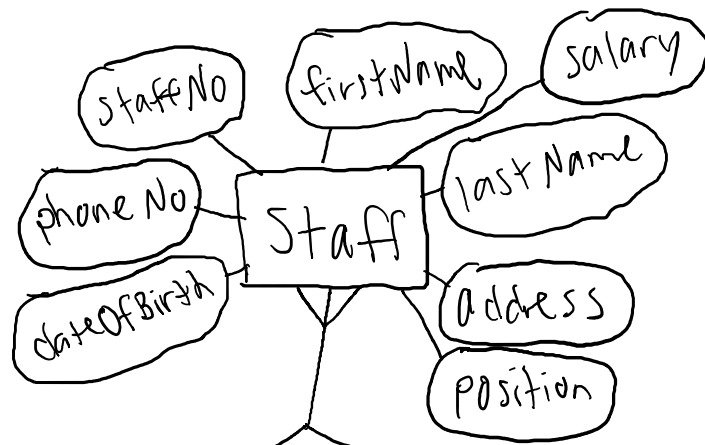
**c. Attributes**

- Staff
  - staffNo
  - firstName
  - lastName
  - address
  - phoneNo
  - dateOfBirth
  - position
  - salary
- Clinic
  - clinicNo
  - name
  - address
  - phoneNo
- Pet
  - petNo
  - name
  - dateOfBirth
  - species
  - breed
  - color
- Owner
  - ownerNo
  - firstName
  - lastName
  - address
  - phoneNo
- Examination
  - examNo
  - complaint
  - description
  - dateSeen
  - actionsTaken
- Manager
  - staffNo
  - clinicNo

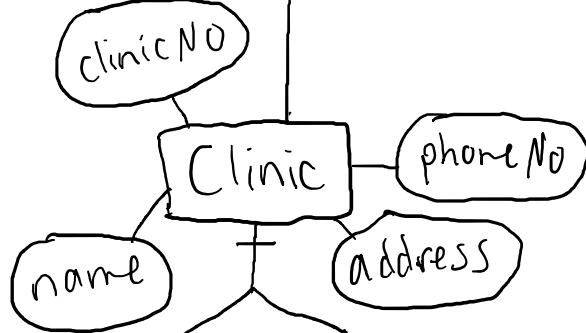
**d. Candidate and Primary Keys**

- Staff
  - staffNo {PK}
  - (firstName, lastName, address, phoneNo)
- Clinic
  - clinicNo {PK}
  - (name, address, phoneNo)

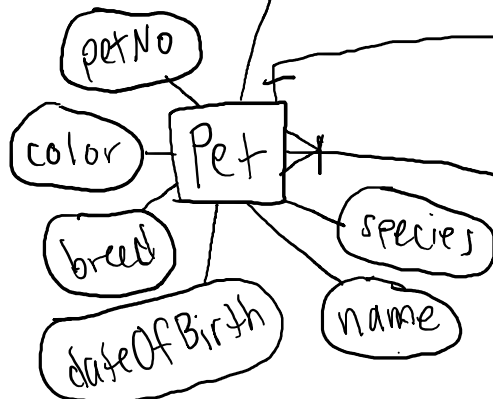
- Pet
  - petNo {PK}
  - (name, dateOfBirth)
- Owner
  - ownerNo {PK}
  - (firstName, lastName, address, phoneNo)
- Examination
  - examNo {PK}



has

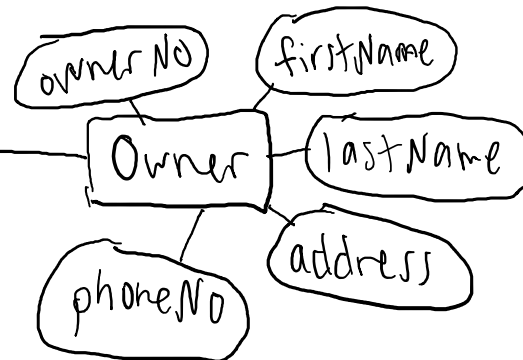
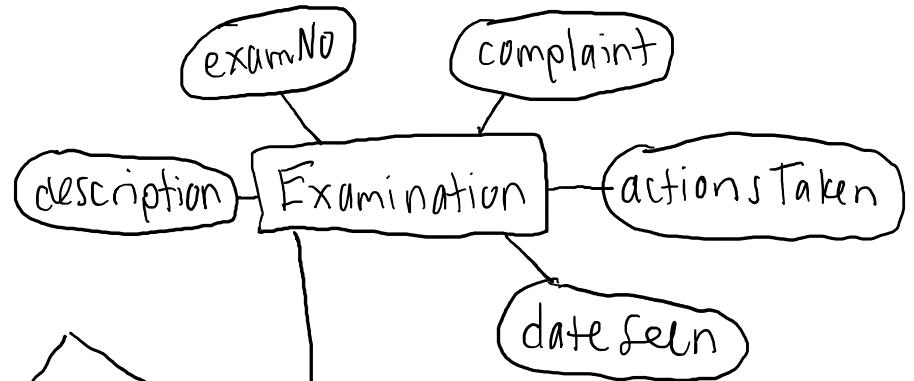


registered



owns

done to



**a. Relationships**

- 1:m relationship between Clinic and Staff
- 1:0..1 relationship between Manager and Clinic
- 1:1..n between Owner and Pet
- 1:1 relationship between Pet and Clinic
- 1:1 relationship between Examination and Pet

**b. Normalization**

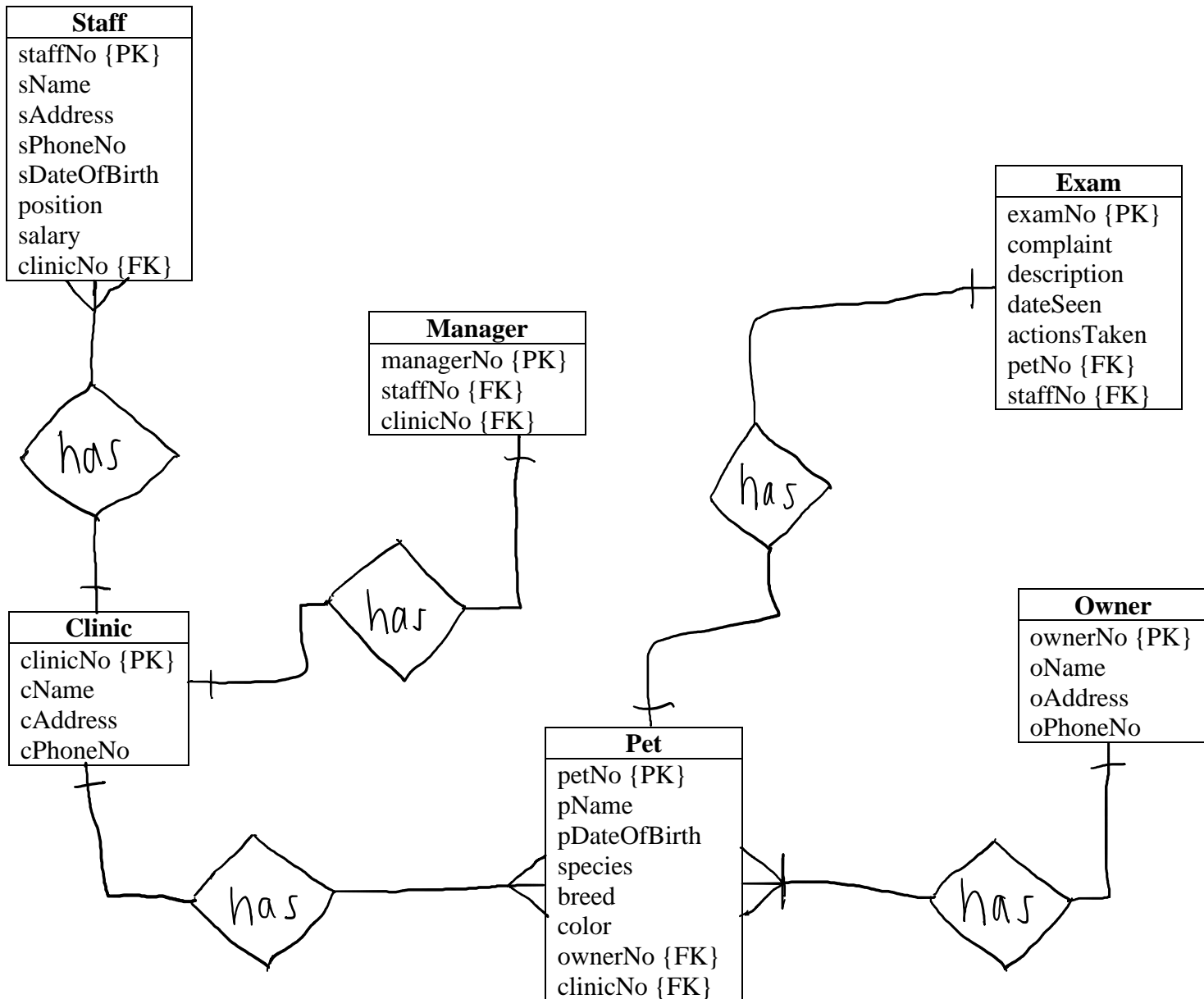
- Staff(**staffNo**,sName,sAddress,sPhoneNo,sDateOfBirth,position,salary,*clinicNo*)
- Clinic(**clinicNo**,cName,cAddress,cPhoneNo)
- Pet(**petNo**,pName,pDateOfBirth,species,breed,color,*ownerNo,clinicNo*)
- Owner(**ownerNo**,oName,oAddress,oPhoneNo)
- Exam(**examNo**,complaint,description,dateSeen,actionsTaken,*petNo,staffNo*)
- Manager(**managerNo**,*staffNo,clinicNo*)

**c. User Transactions**

- List the number of pets each owner has. Display the owner's name.
  - Pet.ownerNo = Owner.ownerNo
- List exams that were done after between June 2022 and October 2022. Display the pet's name, breed, description, and date.
  - date between 2022/06/01 and 2022/10/31
- List the managers. Display the name of the clinic they manage.
  - use clinicNo in Manager table to get clinic name from Clinic table
- List the staff with salary > 50000 in ascending order. Display the staff's name, position, and salary.
  - where salary > 5000
- List the number of pets and staff each clinic has. Display the clinic name, staff name address.
  - count(\*)

**d. Integrity Constraints**

- dateSeen and dateOfBirth must be date
- address, name, breed, color, phoneNo, complaint, description, actionsTaken, species, position must be string
- staffNo, clinicNo, petNo, ownerNo, examNo, and managerNo cannot be null



```
CREATE TABLE Staff(  
  staffNo int64,  
  staffName object,  
  staffAddress object,  
  staffPhone int64,  
  staffDateOfBirth object,  
  position object,  
  salary float64,  
  clinicNo int64,  
  FOREIGN KEY(clinicNo) REFERENCES Clinic(clinicNo));
```

```
CREATE TABLE Clinic(  
  clinicNo int64,  
  clinicName object,  
  clinicAddress object,  
  clinicPhone int64,  
  staffNo int64,  
  PRIMARY KEY(clinicNo),  
  FOREIGN KEY(staffNo) REFERENCES Staff(staffNo));
```

```
CREATE TABLE Pet(  
  petNo int64,  
  petName object,  
  petDateOfBirth object,  
  species object,  
  breed object,  
  color object,  
  ownerNo int64,  
  clinicNo int64,  
  PRIMARY KEY(petNo),  
  FOREIGN KEY(ownerNo) REFERENCES Owner(ownerNo),  
  FOREIGN KEY(clinicNo) REFERENCES Clinic(clinicNo));
```

```
CREATE TABLE Owner(  
  ownerNo int64,  
  ownerName object,  
  ownerAddress object,  
  ownerPhone int64,  
  PRIMARY KEY(ownerNo));
```

```
CREATE TABLE Exam(  
  examNo int64,  
  complaint object,  
  description object,  
  dateSeen object,  
  actionsTaken object,  
  petNo int64,  
  staffNo int64,  
  FOREIGN KEY(petNo) REFERENCES Pet(petNo),  
  FOREIGN KEY(staffNo) REFERENCES Staff(staffNo));
```

```
SELECT p.ownerNo, ownerName, COUNT(*)  
FROM Pet p, Owner o  
WHERE p.ownerNo = o.ownerNo  
GROUP BY p.ownerNo;
```

```
SELECT *  
FROM Exam  
WHERE dateSeen BETWEEN "2022-06-01" AND "2022-10-31";
```

```
SELECT c.staffNo, staffName, clinicName  
FROM Clinic c, Staff s  
WHERE c.staffNo = s.staffNo;
```

```
SELECT staffNo, staffName, position, salary  
FROM Staff  
WHERE salary > 50000;
```

```
SELECT p.petNo, petName, ownerName, examNo, dateSeen  
FROM Pet p, Exam e, Owner o  
WHERE p.ownerNo = o.ownerNo AND p.petNo = e.petNo;
```

GitHub link: <https://github.com/lindseysomwaru/Pawsome-Pets>