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CSC423
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Project - Part 3

1. Develop SQL code to create the entire database schema, reflecting the constraints identified in previous steps.

```
CREATE TABLE Clinic (
  clinicNo int NOT NULL PRIMARY KEY CHECK (clinicNo > 0),
  cName varchar(40) NOT NULL,
  cAddress varchar(100) NOT NULL,
  cPhone varchar(10) UNIQUE NOT NULL CHECK (cPhone BETWEEN 1000000000
AND 9999999999)
 );

CREATE TABLE Staff (
  staffNo int NOT NULL PRIMARY KEY CHECK (staffNo > 0),
  sName varchar(40) NOT NULL,
  sAddress varchar(100) NOT NULL,
  sPhone int UNIQUE NOT NULL CHECK (sPhone BETWEEN 1000000000 AND
9999999999),
  sDOB date NOT NULL CHECK (sDOB <= CURRENT_DATE),
  position varchar(15) NOT NULL CHECK (position IN
('Receptionist','Veterinarian','Groomer','Maintenance','Nurse')),
  salary decimal(10,2) NOT NULL CHECK (salary > 0),
  clinicNo int NOT NULL,
  clinicManaged int,
  FOREIGN KEY (clinicNo) REFERENCES Clinic(clinicNo),
  FOREIGN KEY (clinicManaged) REFERENCES Clinic(clinicNo),
  CHECK (clinicNo = clinicManaged)
);

CREATE TABLE Owner (
  ownerNo int NOT NULL PRIMARY KEY CHECK (ownerNo > 0),
  oName varchar(40) NOT NULL,
  oAddress varchar(100) NOT NULL,
  oPhone varchar(10) UNIQUE NOT NULL CHECK (oPhone BETWEEN 1000000000
AND 9999999999)
 );

 CREATE TABLE Pet (
  petNo int NOT NULL PRIMARY KEY CHECK (petNo > 0),
  pName varchar(40) NOT NULL,
  pDOB date NOT NULL CHECK (pDOB <= CURRENT_DATE),
```

```
 species varchar(10) NOT NULL CHECK (species In ('Dog','Cat','Reptile','Bird')),
 breed varchar(15) NOT NULL,
 color varchar(15) NOT NULL,
 clinicNo int,
 ownerNo int NOT NULL,
 FOREIGN KEY (clinicNo) references Clinic(clinicNo),
 FOREIGN KEY (ownerNo) references Owner(ownerNo)
 UNIQUE(pName,ownerNo)
);

CREATE TABLE Examination(
 examNo int NOT NULL PRIMARY KEY CHECK (examNo > 0),
 chiefComplaint varchar(100) NOT NULL,
 description varchar(200) NOT NULL,
 examDate date NOT NULL CHECK (examDate <= CURRENT_DATE),
 actionsTaken varchar(200) NOT NULL,
 staffNo int NOT NULL,
 petNo int NOT NULL,
 FOREIGN KEY (staffNo) REFERENCES Staff(staffNo),
 FOREIGN KEY (petNo) REFERENCES Pet(petNo)
 UNIQUE(examDate,staffNo,petNo)
);
```

2. Create at least 5 tuples for each relation in your database

Clinic:

clinicNo	cName	cAddress	cPhone
21	North Clinic	789 road	6789012345
22	South Clinic	123 lane	7890123456
23	East Clinic	456 lane	8901234567
24	West Clinic	789 lane	9012345678
25	Central Clinic	123 way	9876543210

Staff Member:

	staffNo	sName	sAddress	sPhone	sDOB	position	salary	clinicNo	clinicManaged
0	11	Alice	123 street	1234567890	2000-01-01	Veterinarian	100000	21	21.0
1	12	Bob	456 street	2345678901	2000-02-02	Nurse	90000	22	22.0
2	13	Carol	789 street	3456789012	2000-03-03	Receptionist	75000	23	23.0
3	14	Emma	123 road	4567890123	2000-04-04	Maintenance	70000	22	NaN
4	15	Kate	456 road	5678901234	2000-05-05	Groomer	80000	25	NaN

Owner:

	ownerNo	oName	oAddress	oPhone
0	31	Jon	456 way	8765432109
1	32	Jane	789 way	7654321098
2	33	Rick	123 ave	6543210987
3	34	Katie	456 ave	5432109876
4	35	Mel	789 ave	4321098765

Pet:

petNo	pName	pDOB	species	breed	color	clinicNo	ownerNo
41	Frank	2020-01-01	Cat	Domestic	Gray	21	31
42	Winnie	2020-02-02	Dog	Wheaten	Brown	22	32
43	Juno	2020-03-03	Reptile	Lizard	Multi.	23	33
44	Maggie	2020-04-04	Cat	Domestic	Multi.	23	33
45	Beau	2020-05-05	Bird	Parakeet	Green	22	35

Examination:

	examNo	chiefComplaint	description	examDate	actionsTaken	staffNo	petNo
0	51	Limping	Checked for fracture	2024-01-01	Ordered imaging	11	42
1	52	Annual Check-Up	General Examination	2024-02-02	No issues found	12	41
2	53	Vaccine	Annual vaccines given	2024-03-03	Updated vaccine records	12	44
3	54	Injury	Cleaned wound and bandaged	2024-03-03	Prescribed antibiotics	11	44
4	55	Limping	Checked for sprain	2024-04-04	Ordered imaging	12	41

3. Develop the 5 SQL queries that correspond to 2c using embedded SQL.

List all details of all Pets registered to a Clinic, given Clinic phone number 7890123456

```
SELECT p.*, c.cPhone
FROM Pet p, Clinic c
WHERE p.clinicNo = c.clinicNo AND c.cPhone = 7890123456
```

Find how many Examinations a Pet has received, given pet number 44

```
SELECT COUNT(*) AS examinationCount
FROM Examination e
WHERE e.petNo = 44
```

List all Pets owned by an Owner, given owner number 33

```
SELECT p.petNo, p.pName, p.species, p.breed, p.color, p.ownerNo
FROM Pet p
WHERE p.ownerNo= 33
```

Find the names of Staff Members that manage a clinic

```
SELECT sName
FROM Staff s
WHERE s.clinicManaged is NOT NULL
```

Show the examNo, exam date, petNo, clinicNo, and clinic name of all examinations conducted at a Clinic, given clinicNo 21

```
SELECT e.examNo,e.examDate,p.petNo,p.pName,c.clinicNo,c.cName
FROM Examination e, Pet p, Clinic c
WHERE c.clinicNo = 21 AND c.clinicNo = p.clinicNo AND p.petNo = e.petNo
```

Update the oAddress of an Owner, given owner number 35

```
UPDATE Owner
SET oAddress = '111 new street'
WHERE ownerNo = 35
```