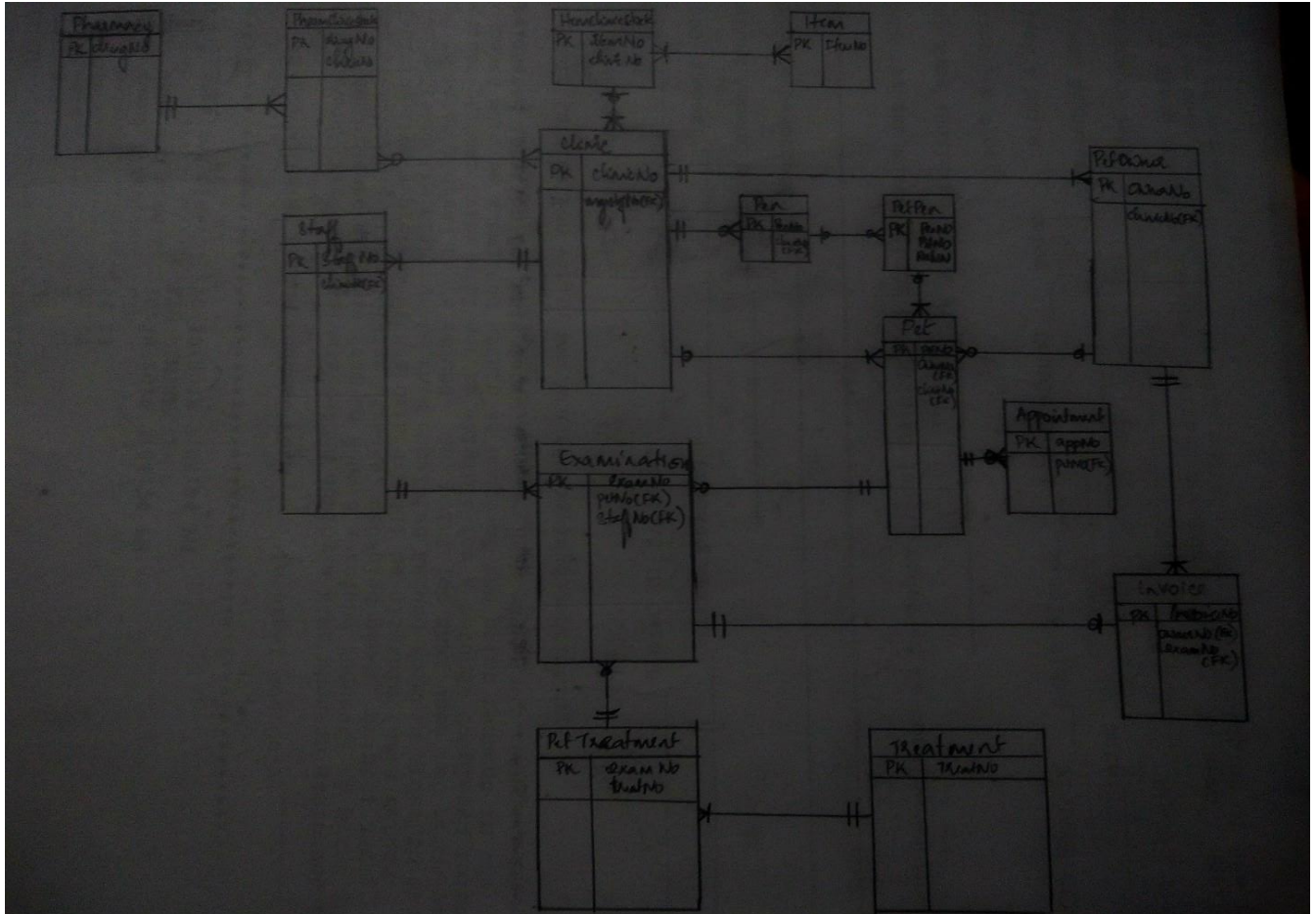


1. Draw an ER diagram to illustrate the relationship among these tables.



Please refer to the below pdf in case you have issue zooming in to the above image.



Prathvi_Kanchan_ER_Diagram.pdf

2. List the name and type of all pets.

Query the columns petname and pettype from the Pet table to display the name and type of all pets.

select petName,petType from Pet

PETNAME	PETTYPE
1 Lucky	Chihuahua
2 Bell	Golden retriever
3 Sleepy	Labrador
4 Gentle	Boxer
5 Bark	German Shepherd
6 Big	Pit Bull
7 Accent	Chihuahua

- Find the name and type for every pet that has been registered during the year 2001.
Query the Pet table to get petname and pettype columns based on the year in dateregistered as 2001. Extract(year from dateregistered) will extract the year from dateregistered.

**select petName, petType from Pet
where extract(YEAR from dateRegistered) = 2001;**

	PETNAME	PETTYPE
1	Bell	Golden retriever
2	Accent	Chihuahua

- Give the name of the staff member who is not a manager and receives the highest salary.
We have to query the staff table to get details of staff member. First we get the maximum salary from staff where the position is not manager and compare that salary with the salary of the staff table.

**select sFName, sLName
from staff
where salary = (select max(salary) from staff where position != 'manager');**

	SFNAME	SLNAME
1	Gomez	Rachel

- List the name of every staff member who receives the salary higher than the average salary of the company.

We query the staff table and first check what is the average salary of the staff and then find the staff sfname and slname whose salary is greater than the average salary.

**select sFName, sLName
from staff
where salary > (select avg(salary) from staff);**

	SFNAME	SLNAME
1	Hess	Edward
2	Hoo	Don
3	Gomez	Rachel

- Give the average number of days for pet treatment.
We can directly find the number of days for treatment by querying the pettreatment table and finding the average of the difference between the enddate and startdate. We need to add one to the difference and find average so as to get correct days of treatment.

select avg(1+(enddate-startdate)) from pettreatment;

	AVG(1+(ENDDATE-STARTDATE))
1	1.75

- For every clinic, list clinic number, city, and state along with the pen number and pen status for each clinic.

We need to join the tables clinic and pen to get the requested information. We join on clinicNo.

**select p.clinicNo,c.city,c.state, p.PenNo,p.penStatus
from Pen p ,Clinic c
where p.clinicNo = c.clinicNo;**

	CLINICNO	CITY	STATE	PENNO	PENSTATUS
1	c1111	Garden Grove	CA	p001	A
2	c1111	Garden Grove	CA	p002	A
3	c1111	Garden Grove	CA	p008	A
4	c1111	Garden Grove	CA	p005	A
5	c1112	Yorba Linda	CA	p003	A
6	c1112	Yorba Linda	CA	p006	N
7	c1113	Brea	CA	p007	A
8	c1113	Brea	CA	p004	N

8. List staff's first and last name for all staffs who manages clinic(s) that are located in the city "Brea".

We need to join staff and clinic to display the requested information. We check if the position is equal to manager, city is equal to Brea and then join on clinicno.

select sFName,sLName,position

from staff,clinic

where staff.clinicNo = clinic.clinicNo and city= 'Brea' and position='manager';

	SFNAME	SLNAME	POSITION
1	Hill	Rowland	manager

9. List the name (first and last) of every owner who owns "Chihuahua".

We need to join the petowner and pet table on ownerno and check if pettype in pet table is chihuahua. We then display the first name and last name of the petowner satisfying the mentioned condition.

select oFName,oLName

from PetOwner,Pet

where PetOwner.ownerNo = Pet.ownerNo and Pet.petType= 'Chihuahua';

	OFNAME	OLNAME
1	Kevin	Lawrence

10. List the name of every owner who owns a pet that has visited a clinic located in the city "Fullerton".

We join the petowner and clinic tables on clinicnumber and filter records where clinic city is "Fullerton"

select po.oFName,po.oLName

from petOwner po,clinic c

where c.city='Fullerton' and po.clinicNo = c.clinicNo;

	OFNAME	OLNAME
--	--------	--------

11. List the name and type of pet for every pet that has been treated more than 2 days and spent more than \$100 for treatment.

We join the tables treatment, pettreatment, examination and pet. We filter the records from pettreatment table for treatment days more than 2 days and from treatment table having cost greater than 100. We join treatment and pettreatment table on treatment number,.We join pettreatment table and examination table on exam number. We join examination table and pet table based on petnumber.

select petName, pettype,(enddate+1-startdate) as treatday

```

from treatment t,pettreatment pt,examination e,pet
where (enddate+1-startdate) > 2
and cost >100
and t.treatNo = pt.treatNo
and pt.examNo = e.examNo
and e.petNo = pet.petNo;

```

PETNAME	PETTYPE
1 Hester	Britten

12. List the staff's first name and last name for all staffs who are managers but do not manage any clinic (e.g., the position is manager).

We join staff and clinic tables on clinic number and choose only those records where position in staff table is manager and the staff number is not same as managerstaff number present in the clinic table.

```

select s.sfname,s.slname
from Staff s, Clinic c
where c.clinicNo = s.clinicNo and s.position = 'manager' and s.staffNo != c.mgrstaffNo;

```

SFNAME	SLNAME
1 Hester	Britten

13. Find the name and type of pet that has received the most expensive treatment.

We first find maximum cost from the treatment table. Find the treatment numbers in treatment table whose cost equals the maximum cost. Find the corresponding examnumbers for the previously found list of treatment numbers. Then display the name and type of pets having the petnumber equal to the petnumbers present in the examination table for the previously found list of examnumbers.

```

select petName,petType
from Pet
where petNo IN ( select petNo from Examination where examNo IN
(select examNo from petTreatment where treatNo IN
(select treatNo from Treatment where cost IN (select max(cost) from Treatment)))));

```

PETNAME	PETTYPE
1 Bark	German Shepherd

14. Find the busiest registration month for pet in the past. We assume that the more pets are registered, the busier the month is.

Here we first extract the month from the dateregistered column and group by the month. We also count the records in each group and rank them in decreasing order of count. We assign the alias names busiest month and no of registrations for the month extracted and count and display those. Here month is shown in numbers.

```

select Busiest_Month,No_of_Registrations
from
(select extract(month from dateregistered) as Busiest_Month,count(*) as
No_of_Registrations, rank() over(order by count(*) desc)as rnk

```

	BUSIEST_MONTH	NO_OF_REGISTRATIONS
1	11	3

- ```
select pettype,avg(cost)
from treatment,pet,pettreatment,examination
where treatment.treatNo = pettreatment.treatNo
and pettreatment.examNo = examination.examNo
and examination.petNo = pet.petNo
group by pettype;
```

[illegible]

- ```
select distinct own.oFName,own.oLName
from PetOwner own, Pet p
where own.ownerNo IN (select p.ownerNo from Pet p group by p.ownerNo having
count(p.petNo)> 1);
```

	OFNAME	OLNAME
1	Bruce	Bender

- ```
select drugname,instock
from Pharmacy p, PharmClinicStock pc
where p.drugno = pc.drugno and pc.instock < pc.reorderLevel
order by pc.reorderQty;
```

|   | DRUGNAME | INSTOCK |
|---|----------|---------|
| 1 | petbelly | 2       |

18. List the city (e.g., for pet owners) and the total amount of cost spent for pet treatment in each city.

We join the tables petowner,pettreatment,treatment,examination,staff for the above requested information. WE join treatment and pettreatment table on treatment number, pettreatment and examination table on examNo. Examination and staff table is joined on staffnumber. Staff and petowner table is joined on clinic number. The records are grouped by petowner city. Ownercity and totalcost is displayed.

**select ocity as City,sum(cost) as TotalCost**

**from petowner p,treatment t,pettreatment pt,examination e,staff**

**where t.treatNo = pt.treatNo and pt.examNo = e.examNo and e.staffNo = staff.staffNo  
and staff.clinicNo = p.clinicNo**

**group by ocity;**

|   | CITY       | TOTALCOST |
|---|------------|-----------|
| 1 | Yorbalinda | 260       |
| 2 | Anaheim    | 145       |
| 3 | Fullerton  | 145       |
| 4 | Irvine     | 25        |
| 5 | La Palma   | 25        |