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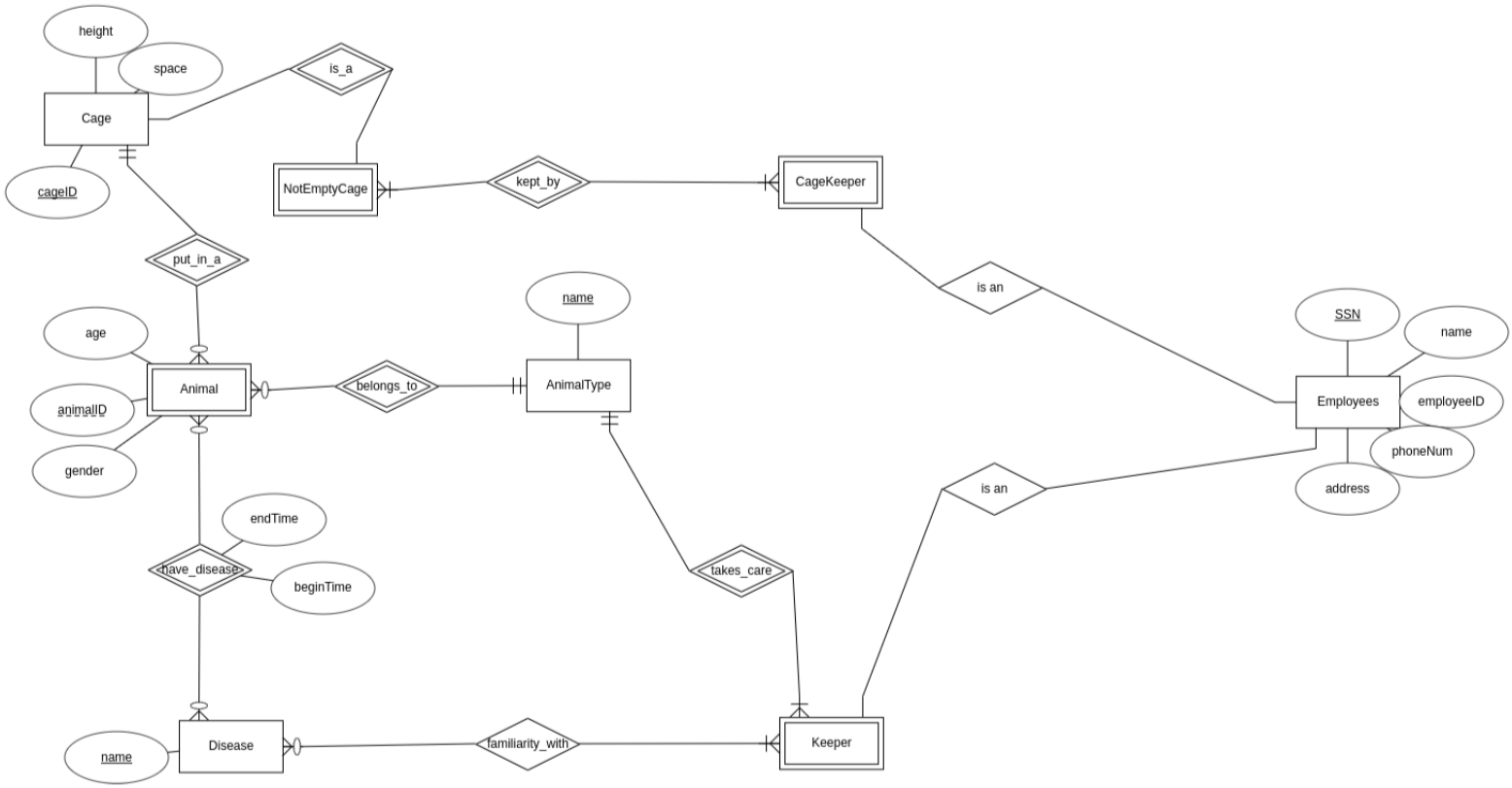
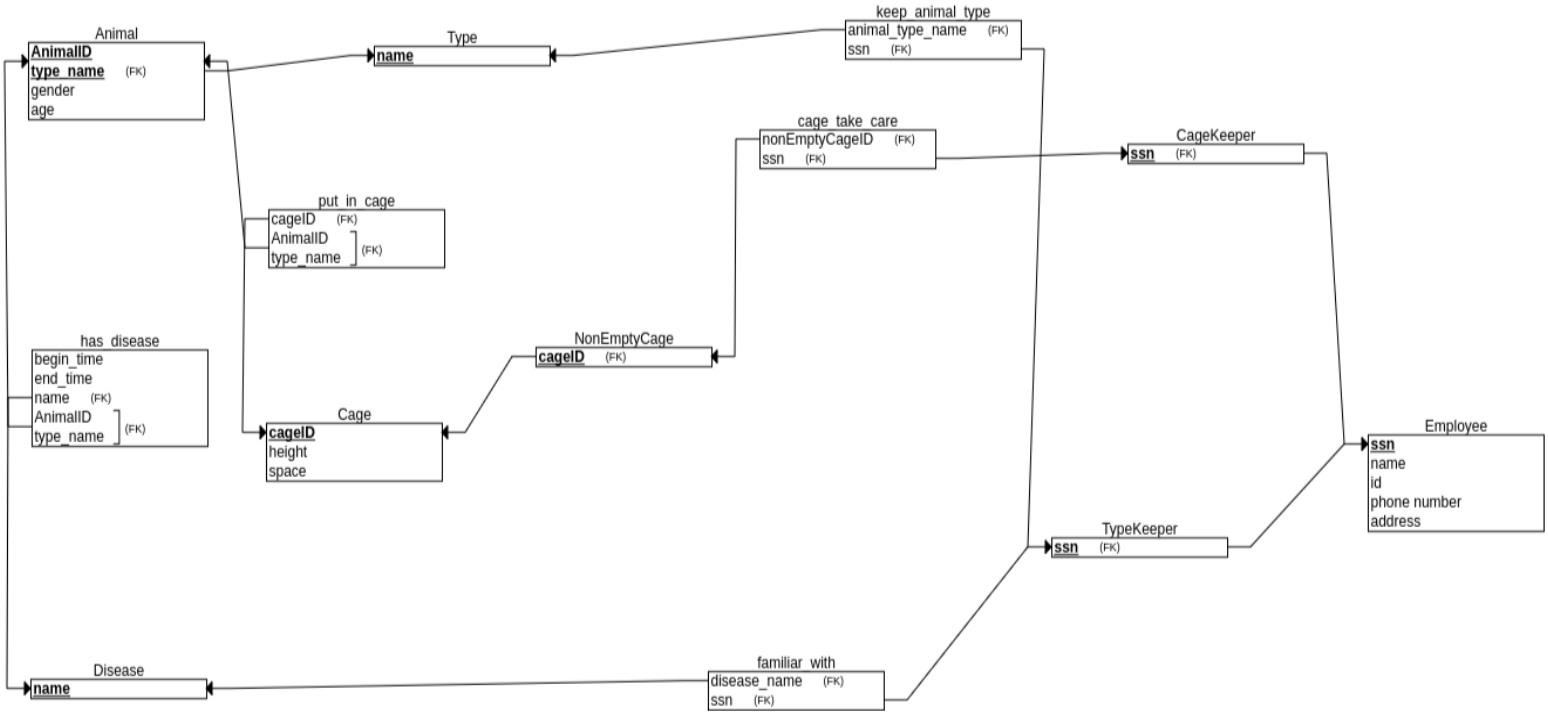
Week 3 DBMS lab
ER diagram, Relational Table Diagram, and PostgreSQL

ER Diagram for Zoo problem (using crow-foot notation) :



Relational Table Diagram for the same Problem:



Creating new database

```
 week4db       | postgres | UTF8     | en_IN   | en_IN |
(10 rows)
```

Creating table Doctor

```
week4db=# create table Doctor(
d_id serial primary key,
d_name varchar (50),
d_phone varchar(8)
);
CREATE TABLE
```

Creating Patient Table

```
week4db=# create table Patient(
week4db(# p_id serial primary key,
week4db(# p_name varchar (50),
week4db(# diagnosis text,
week4db(# age int
week4db(# );
CREATE TABLE
```

Create medicine table

```
week4db=# create table Medicine(
week4db(# med_id serial primary key,
week4db(# med_name varchar(50)
week4db(# );
CREATE TABLE
```

Displaying table

```
week4db=# create table Prescription(
week4db(# p_id serial primary key,
week4db(# d_id int,
week4db(# constraint fk_Prescription_Doctor foreign key(d_id) references Doctor(d_id)
week4db(# );
CREATE TABLE
week4db=# \d Prescription;
                              Table "public.prescription"
 Column |  Type   | Collation | Nullable |                  Default
--------+---------+-----------+----------+-------------------------------------------
 p_id   | integer |           | not null | nextval('prescription_p_id_seq'::regclass)
 d_id   | integer |           |          |
Indexes:
    "prescription_pkey" PRIMARY KEY, btree (p_id)
Foreign-key constraints:
    "fk_prescription_doctor" FOREIGN KEY (d_id) REFERENCES doctor(d_id)
```

Creating Bed,Bed patient table

```
week4db=# create table Bed(
week4db(# B_id serial primary key,
week4db(# ward_no int
week4db(# );
CREATE TABLE
```

```
week4db=# create table Bed_Patient(
week4db(# p_id int,
week4db(# b_id int,
week4db(# in_date Date,
week4db(# out_date Date
week4db(# );
CREATE TABLE
```

Making both keys as primary key

```
week4db=# alter table prescription
add Primary key(p_id,d_id);
```

Creating and Displaying table with Foreign Key Column

```
ALTER TABLE
week4db=# \d Bed_Patient;
            Table "public.bed_patient"
  Column   |  Type   | Collation | Nullable | Default
-----------+---------+-----------+----------+---------
 p_id      | integer |           |          |
 b_id      | integer |           |          |
 in_date   | date    |           |          |
 out_date  | date    |           |          |
Foreign-key constraints:
    "fk_bedpatient_patient_1" FOREIGN KEY (p_id) REFERENCES patient(p_id)

week4db=# alter table Bed_Patient add constraint fk_bedPatient_Bed foreign key(b_id) references Bed(b_id);
ALTER TABLE
week4db=# \d Bed_Patient;
            Table "public.bed_patient"
  Column   |  Type   | Collation | Nullable | Default
-----------+---------+-----------+----------+---------
 p_id      | integer |           |          |
 b_id      | integer |           |          |
 in_date   | date    |           |          |
 out_date  | date    |           |          |
Foreign-key constraints:
    "fk_bedpatient_bed" FOREIGN KEY (b_id) REFERENCES bed(b_id)
    "fk_bedpatient_patient_1" FOREIGN KEY (p_id) REFERENCES patient(p_id)
```

Using Insert Command to insert 5 patients

```
week4db=# insert into Doctor(d_name,d_phone)
values('sanjay',2123)
;
INSERT 0 1
week4db=# select * from Doctor;
 d_id | d_name | d_phone
------+--------+---------
    1 | sanjay | 2123
(1 row)

week4db=# insert into Doctor(d_name,d_phone)
values('preeti',9156)
;
INSERT 0 1
week4db=# select * from Doctor;
 d_id | d_name | d_phone
------+--------+---------
    1 | sanjay | 2123
    2 | preeti | 9156
(2 rows)
```

Retrieve all 5 values

```
week4db=# select * from Doctor;
 d_id |  d_name  | d_phone
------+----------+---------
    1 | sanjay   | 2123
    2 | preeti   | 9156
    3 | gavaskar | 8788
    4 | shetty   | 9788
    5 | loraine  | 5648
(5 rows)
```

Similarly, insert 3 values into Patient and Medicine table

```
week4db=# insert into Patient(p_name,diagnosis,age)
values('pat_1','dis_1',2)
;
INSERT 0 1
week4db=# insert into Patient(p_name,diagnosis,age)
values('pat_2','dis_2',32)
;
INSERT 0 1
week4db=# insert into Patient(p_name,diagnosis,age)
values('pat_3','dis_3',37)
;
INSERT 0 1
week4db=# select * from Patients;
ERROR:  relation "patients" does not exist
LINE 1: select * from Patients;
                      ^
week4db=# select * from Patient;
 p_id | p_name | diagnosis | age
------+--------+-----------+-----
    1 | pat_1  | dis_1     |   2
    2 | pat_2  | dis_2     |  32
    3 | pat_3  | dis_3     |  37
(3 rows)
```

```
week4db=# insert into Medicine(med_name)
values('dis_1 cure');
INSERT 0 1
week4db=# insert into Medicine(med_name)
values('dis_2 cure');
INSERT 0 1
week4db=# insert into Medicine(med_name)
values('dis_3 cure');
INSERT 0 1
week4db=# select * from Medicine;
 med_id |  med_name
--------+------------
      1 | dis_1 cure
      2 | dis_2 cure
      3 | dis_3 cure
(3 rows)
```

Adding Foreign Key constraint using Alter Command

```
add constraint fk Foreign key(med_id) references Medicine(med_id);
ALTER TABLE
```

Inserting more values…

```
week4db=# insert into Prescription(d_id,med_id)
values(1,1);
INSERT 0 1
week4db=# insert into Prescription(d_id,med_id)
values(2,2);
INSERT 0 1
week4db=# select * from prescription;
 p_id | d_id | med_id
------+------+--------
    1 |    1 |      1
    2 |    2 |      2
(2 rows)
```

```
week4db=# insert into Bed(ward_no)
values(17);
INSERT 0 1
week4db=# insert into Bed(ward_no)
values(22);
INSERT 0 1
week4db=# select * from Bed;
 b_id | ward_no
------+---------
    1 |      17
    2 |      22
(2 rows)
```

```
week4db=# insert into Bed_Patient(p_id,b_id,in_date,out_date)
values(1,1,'1999-01-08','1999-02-09');
INSERT 0 1
week4db=# insert into Bed_Patient(p_id,b_id,in_date,out_date)
values(2,2,'2000-01-08','2000-02-09');
INSERT 0 1
week4db=# select * from Bed_Patient;
 p_id | b_id |  in_date   |  out_date
------+------+------------+------------
    1 |    1 | 1999-01-08 | 1999-02-09
    2 |    2 | 2000-01-08 | 2000-02-09
(2 rows)
```