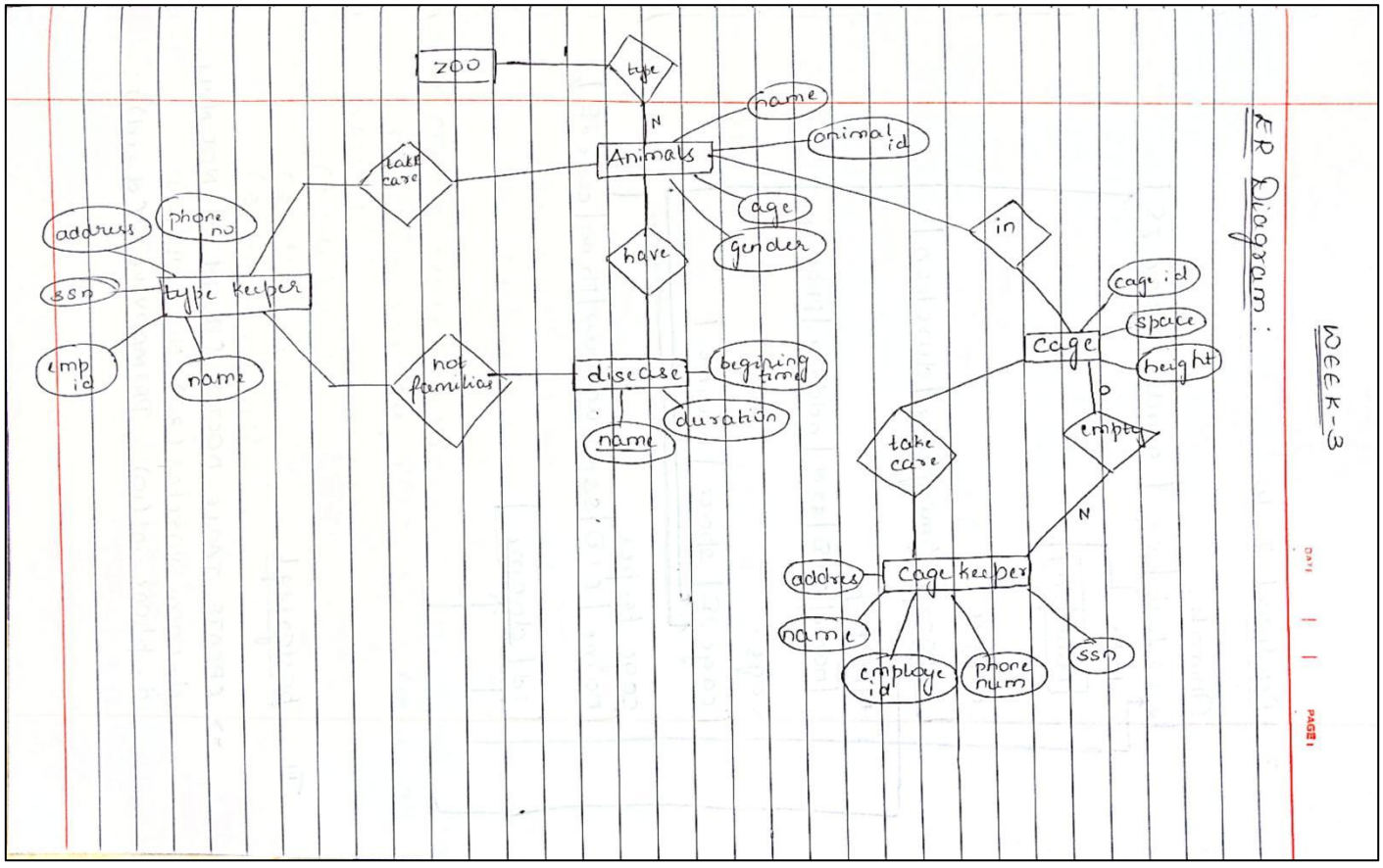
Week3 – DBMS LAB
POSTGRESQL

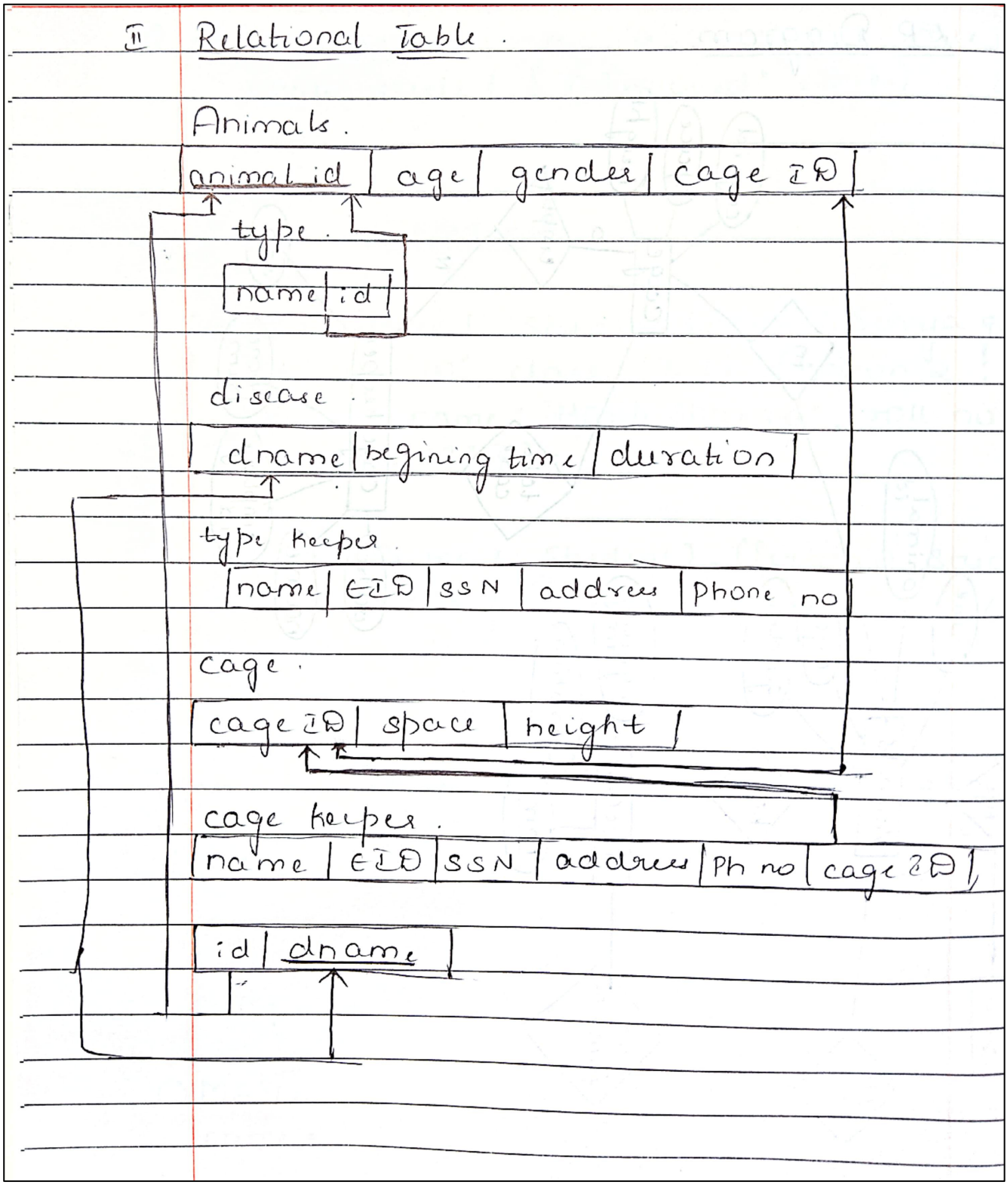
Name : Suhan B Revankar
SRN : PES2UG19CS412
Section : G SECTION

Draw ER Diagram for the following: 10 marks

The Bannerghatta Biologiical Zoo has many types of animals. Every type has a unique name. Every animal of the same type has a unique animal ID. Animals in two types may have the same animal ID. Animals also have age and gender. Animals may have diseases. The beginning time and the duration of a disease need to be recorded. A disease has a unique name. A type keeper takes care of only one type of animals. Every type may have many type keepers. A type keeper may or may not be familiar with diseases. But every disease must be handled by at least one type keeper. Type keepers have name, employee ID, ssn, address and phone number. All animals are in cages. Some cage may be empty. Every cage has a cage ID, space and height. A cage keeper may take care of many cages. Every non-empty cage must have at least one cage keeper. Empty cages don't need any cage keepers. Cage keepers have name, employee ID, ssn, address and phone number.



Convert the ER diagram of zoo into Relational table 10 marks



Write create statements for following considering constraints appropriately. Insert 5 values suitably 10marks

Doctor(d_id,d_name,d_phone)
Patient(p_id,p_name,diagnosis,age)
Medicine(med_id,med_name)
Prescription(p_id,d_id,med_id)
Bed(B_id,ward_no)
Bed_Patient(p_id,b_id,in_date,out_date)

```
    4 | ghi    |       333 |  23
(4 rows)

Time: 0.495 ms
hospital_307=# insert into patient values(4,'jkl',222,45);
ERROR:  duplicate key value violates unique constraint "patient_pkey"
DETAIL:  Key (p_id)=(4) already exists.
Time: 0.830 ms
hospital_307=# insert into patient values(5,'jkl',222,45);
INSERT 0 1
Time: 9.990 ms
hospital_307=# select * from patient;
          HOSPITAL_307
 p_id | p_name | diagnosis | age
------+--------+-----------+-----
    1 | xyz    |       111 |  20
    2 | abc    |       222 |  20
    3 | def    |       333 |  20
    4 | ghi    |       333 |  23
    5 | jkl    |       222 |  45
(5 rows)

Time: 0.525 ms
hospital_307=# insert into medicine values(4,'dolo');
INSERT 0 1
Time: 15.622 ms
hospital_307=# insert into medicine values(2,'crocin');
INSERT 0 1
Time: 15.123 ms
hospital_307=# insert into medicine values(1,'calpol');
INSERT 0 1
Time: 24.590 ms
hospital_307=# insert into medicine values(3,'benadryl');
INSERT 0 1
Time: 22.517 ms
hospital_307=# insert into medicine values(5,'divon');
INSERT 0 1
Time: 22.839 ms
hospital_307=# select * from medicine;
   HOSPITAL_307
 med_id | med_name
--------+----------
      4 | dolo
      2 | crocin
      1 | calpol
      3 | benadryl
      5 | divon
(5 rows)

Time: 0.489 ms
hospital_307=#
```

```
   HOSPITAL_307
 med_id | med_name
--------+----------
      4 | dolo
      2 | crocin
      1 | calpol
      3 | benadryl
      5 | divon
(5 rows)

Time: 0.489 ms
hospital_307=# insert into prescription values(1,1,1);
INSERT 0 1
Time: 25.724 ms
hospital_307=# insert into prescription values(2,2,2);
INSERT 0 1
Time: 21.596 ms
hospital_307=# insert into prescription values(3,3,3);
INSERT 0 1
Time: 17.818 ms
hospital_307=# insert into prescription values(4,4,4);
INSERT 0 1
Time: 19.120 ms
hospital_307=# insert into prescription values(5,5,5);
INSERT 0 1
Time: 18.864 ms
hospital_307=# select * from medicine;
   HOSPITAL_307
 med_id | med_name
--------+----------
      4 | dolo
      2 | crocin
      1 | calpol
      3 | benadryl
      5 | divon
(5 rows)

Time: 0.478 ms
hospital_307=# select * from prescription;
     HOSPITAL_307
 p_id | d_id | med_id
------+------+--------
    1 |    1 |      1
    2 |    2 |      2
    3 |    3 |      3
    4 |    4 |      4
    5 |    5 |      5
(5 rows)

Time: 0.550 ms
hospital_307=#
```

```
postgres=# CREATE DATABASE Hospital_307;
CREATE DATABASE
Time: 1053.150 ms
postgres=# \l
                                  List of databases
     Name      |  Owner   | Encoding | Collate | Ctype |   Access privileges
---------------+----------+----------+---------+-------+-----------------------
 hospital      | postgres | UTF8     | en_IN   | en_IN |
 hospital_307  | postgres | UTF8     | en_IN   | en_IN |
 postgres      | postgres | UTF8     | en_IN   | en_IN |
 template0     | postgres | UTF8     | en_IN   | en_IN | =c/postgres          +
               |          |          |         |       | postgres=CTc/postgres
 template1     | postgres | UTF8     | en_IN   | en_IN | =c/postgres          +
               |          |          |         |       | postgres=CTc/postgres
(5 rows)

postgres=#
```

```
     HOSPITAL_307
 p_id | d_id | med_id
------+------+--------
    1 |    1 |      1
    2 |    2 |      2
    3 |    3 |      3
    4 |    4 |      4
    5 |    5 |      5
(5 rows)

Time: 0.528 ms
hospital_307=# select * from bed;
  HOSPITAL_307
 b_id | ward_no
------+---------
    1 |     111
    2 |     222
    3 |       3
    4 |     444
    5 |     555
(5 rows)

Time: 0.632 ms
hospital_307=# insert into bed_patient values(1,1,10,11);
INSERT 0 1
Time: 19.868 ms
hospital_307=# insert into bed_patient values(2,2,20,21);
INSERT 0 1
Time: 14.416 ms
hospital_307=# insert into bed_patient values(3,3,30,31);
INSERT 0 1
Time: 18.328 ms
hospital_307=# insert into bed_patient values(4,4,40,41);
INSERT 0 1
Time: 19.628 ms
hospital_307=# insert into bed_patient values(5,5,50,51);
INSERT 0 1
Time: 20.848 ms
hospital_307=# select * from bed_patient;
          HOSPITAL_307
 p_id | b_id | in_date | out_date
------+------+---------+----------
    1 |    1 |      10 |       11
    2 |    2 |      20 |       21
    3 |    3 |      30 |       31
    4 |    4 |      40 |       41
    5 |    5 |      50 |       51
(5 rows)

Time: 0.552 ms
hospital_307=#
```

```
     HOSPITAL_307
 p_id | d_id | med_id
------+------+--------
    1 |    1 |      1
    2 |    2 |      2
    3 |    3 |      3
    4 |    4 |      4
    5 |    5 |      5
(5 rows)

Time: 0.550 ms
hospital_307=# insert into bed values(1,111);
INSERT 0 1
Time: 18.487 ms
hospital_307=# insert into bed values(2,222);
INSERT 0 1
Time: 22.151 ms
hospital_307=# insert into bed values(3,3);
INSERT 0 1
Time: 20.220 ms
hospital_307=# insert into bed values(4,444);
INSERT 0 1
Time: 36.387 ms
hospital_307=# insert into bed values(5,555);
INSERT 0 1
Time: 20.993 ms
hospital_307=# select * from prescription;
     HOSPITAL_307
 p_id | d_id | med_id
------+------+--------
    1 |    1 |      1
    2 |    2 |      2
    3 |    3 |      3
    4 |    4 |      4
    5 |    5 |      5
(5 rows)

Time: 0.528 ms
hospital_307=# select * from bed;
  HOSPITAL_307
 b_id | ward_no
------+---------
    1 |     111
    2 |     222
    3 |       3
    4 |     444
    5 |     555
(5 rows)

Time: 0.632 ms
hospital_307=#
```

```
postgres=# insert into doctor values(d_id,d_name,d_phone); values(3,'devika',8432);
ERROR:  column "d_id" does not exist
LINE 1: insert into doctor values(d_id,d_name,d_phone);
                                  ^
HINT:  There is a column named "d_id" in table "doctor", but it cannot be referenced from this part of the query.
 column1 | column2 | column3
---------+---------+---------
       3 | devika  |    8432
(1 row)

postgres=# insert into doctor values(d_id,d_name,d_phone); values(4,'appu',9480);
ERROR:  column "d_id" does not exist
LINE 1: insert into doctor values(d_id,d_name,d_phone);
                                  ^
HINT:  There is a column named "d_id" in table "doctor", but it cannot be referenced from this part of the query.
 column1 | column2 | column3
---------+---------+---------
       4 | appu    |    9480
(1 row)

postgres=#
```

```
postgres=# insert into doctor values(d_id,d_name,d_phone); values(2,'de',9876);
ERROR:  column "d_id" does not exist
LINE 1: insert into doctor values(d_id,d_name,d_phone);
                                  ^
HINT:  There is a column named "d_id" in table "doctor", but it cannot be referenced from this part of the query.
 column1 | column2 | column3
---------+---------+---------
       2 | de      |    9876
(1 row)

postgres=# insert into doctor values(1,'xyz',345633);
ERROR:  duplicate key value violates unique constraint "doctor_pkey"
DETAIL:  Key (d_id)=(1) already exists.
postgres=# insert into doctor values(d_id,d_name,d_phone); values(2,'de',9876);
ERROR:  column "d_id" does not exist
LINE 1: insert into doctor values(d_id,d_name,d_phone);
                                  ^
HINT:  There is a column named "d_id" in table "doctor", but it cannot be referenced from this part of the query.
 column1 | column2 | column3
---------+---------+---------
       2 | de      |    9876
(1 row)

postgres=#
```

```
postgres=# insert into doctor values(1,'xyz',345633);
INSERT 0 1
postgres=# insert into DOCTOR values(d_id,d_name,d_phone) values(2,'de',9876);
ERROR:  syntax error at or near "values"
LINE 1: insert into DOCTOR values(d_id,d_name,d_phone) values(2,'de'...
                                                       ^
```

```
postgres=# CREATE TABLE BED(B_id int Not NULL,ward_no int Not NULL,Primary key(B_id));
CREATE TABLE
postgres=# CREATE TABLE BED_Patient(p_id int Not NULL,b_id int Not NULL,in_date int Not NULL,out_date int Not Null,Primary key(p_id,b_id));
CREATE TABLE
postgres=#
```

```
postgres=# CREATE TABLE PRESCRIPTION(p_id int Not NULL,d_id int Not NULL,med_id int Not NULL,Primary key(p_id,d_id),Foreign key (p_id) references PATIE
NT (p_id),Foreign key (d_id) references DOCTOR(d_id),Foreign key(med_id) references MEDICINE(med_id));
CREATE TABLE
postgres=#
```

```
postgres=# CREATE TABLE DOCTOR(d_id int Not NULL,d_name varchar(20) Not NULL,d_phone int,Primary key(d_id));
CREATE TABLE
postgres=# CREATE TABLE PATIENT(p_id int Not NULL,p_name varchar(20) Not NULL,diagnosis int,age int,Primary key(p_id));
CREATE TABLE
postgres=# CREATE TABLE MEDICINE(med_id int Not NULL,med_name varchar(20) Not NULL,Primary key(med_id));
CREATE TABLE
```

```
LINE 1: CREATE TABLE DOCTOR(d_id int Not NULL,d_name varhar(20) Not ...
                                                  ^
postgres=# CREATE TABLE DOCTOR(d_id int Not NULL,d_name varchar(20) Not NULL,d_phone int,Primary key(d_id));
CREATE TABLE
postgres=#
```

```
                                        ^
postgres=# CREATE DATABASE hospital;
CREATE DATABASE
postgres=# /c hospital
postgres-# CREATE TABLE hospital;
ERROR:  syntax error at or near "/"
LINE 1: /c hospital
        ^
postgres=# \c
You are now connected to database "postgres" as user "postgres".
```

```
hospital_307=# \d doctor
           Table "public.doctor"
 Column  |         Type          | Modifiers
---------+-----------------------+-----------
 d_id    | integer               | not null
 d_name  | character varying(20) | not null
 d_phone | integer               |
Indexes:
    "doctor_pkey" PRIMARY KEY, btree (d_id)
Referenced by:
    TABLE "prescription" CONSTRAINT "prescription_d_id_fkey" FOREIGN KEY (d_id) REFERENCES doctor(d_id)

hospital_307=# select * from DOCTOR;
      HOSPITAL_307
 d_id | d_name | d_phone
------+--------+---------
    1 | xyz    |  345633
(1 row)

Time: 0.705 ms
hospital_307=# insert into doctor(d_id,d_name,d_phone) values(2,'de',9876);
INSERT 0 1
Time: 19.444 ms
hospital_307=# insert into doctor(d_id,d_name,d_phone) values(3,'se',1111);
INSERT 0 1
Time: 35.464 ms
hospital_307=# select * from DOCTOR;
      HOSPITAL_307
 d_id | d_name | d_phone
------+--------+---------
    1 | xyz    |  345633
    2 | de     |    9876
    3 | se     |    1111
(3 rows)

Time: 0.535 ms
hospital_307=# insert into doctor(d_id,d_name,d_phone) values(4,'pq',3990);
INSERT 0 1
Time: 20.607 ms
hospital_307=# select * from DOCTOR;
      HOSPITAL_307
 d_id | d_name | d_phone
------+--------+---------
    1 | xyz    |  345633
    2 | de     |    9876
    3 | se     |    1111
    4 | pq     |    3990
(4 rows)

Time: 0.455 ms
hospital_307=#
```

```
hospital_307=# CREATE TABLE DOCTOR(d_id int Not NULL,d_name varchar(20) Not NULL,d_phone int,Primary key(d_id));
CREATE TABLE
Time: 62.418 ms
hospital_307=# \d
         List of relations
 Schema |  Name  | Type  |  Owner
--------+--------+-------+----------
 public | doctor | table | postgres
(1 row)

hospital_307=# CREATE TABLE DOCTOR(d_id int Not NULL,d_name varchar(20) Not NULL,d_phone int,Primary key(d_id));
ERROR:  relation "doctor" already exists
Time: 0.722 ms
hospital_307=# \d doctor
            Table "public.doctor"
 Column  |         Type          | Modifiers
---------+-----------------------+-----------
 d_id    | integer               | not null
 d_name  | character varying(20) | not null
 d_phone | integer               |
Indexes:
    "doctor_pkey" PRIMARY KEY, btree (d_id)

hospital_307=# CREATE TABLE PATIENT(p_id int Not NULL,p_name varchar(20) Not NULL,diagnosis int,age int,Primary key(p_id));
CREATE TABLE
Time: 64.697 ms
hospital_307=# CREATE TABLE MEDICINE(med_id int Not NULL,med_name varchar(20) Not NULL,Primary key(med_id));
CREATE TABLE
Time: 51.765 ms
hospital_307=# CREATE TABLE PRESCRIPTION(p_id int Not NULL,d_id int Not NULL,med_id int Not NULL,Primary key(p_id,d_id),Foreign key (p_id) references P
ATIENT (p_id),Foreign key (d_id) references DOCTOR(d_id),Foreign key(med_id) references MEDICINE(med_id));
CREATE TABLE
Time: 59.255 ms
hospital_307=# \D
Invalid command \D. Try \? for help.
hospital_307=# \d
            List of relations
 Schema |     Name     | Type  |  Owner
--------+--------------+-------+----------
 public | doctor       | table | postgres
 public | medicine     | table | postgres
 public | patient      | table | postgres
 public | prescription | table | postgres
(4 rows)

hospital_307=# CREATE TABLE BED(B_id int Not NULL,ward_no int Not NULL,Primary key(B_id));
CREATE TABLE
Time: 77.463 ms
hospital_307=# CREATE TABLE BED_Patient(p_id int Not NULL,b_id int Not NULL,in_date int Not NULL,out_date int Not Null,Primary key(p_id,b_id));
CREATE TABLE
Time: 48.145 ms
```

*****