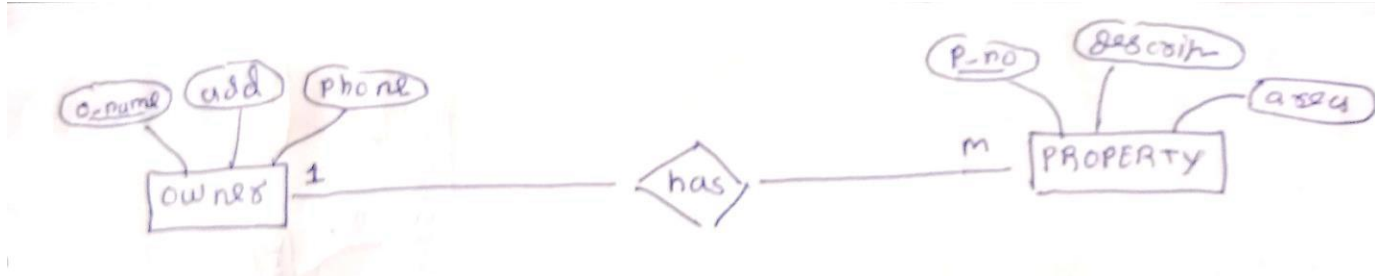


### Q.1) Practical Questions on PostgreSQL Consider the following database

Property (pno, description, area) Owner (oname, address, phone) An owner can have one or more properties, but a property belongs to exactly one owner. Create the relations accordingly, so that the relationship is handled properly and the relations are in normalized form (3NF).

a) Draw the ER diagram for above relational schema and normalize it in 3NF.



b) Create the above database in 3NF form in PostgreSQL using constraints.

```
CREATE TABLE Owner (oname VARCHAR(50) PRIMARY KEY, address VARCHAR(255) NOT NULL, phone VARCHAR(20));
```

```
CREATE TABLE Property (pno INT PRIMARY KEY, description VARCHAR(255), area VARCHAR(50) NOT NULL, oname VARCHAR(50) NOT NULL, FOREIGN KEY (oname) REFERENCES Owner(oname));
```

```
INSERT INTO Owner (oname, address, phone) VALUES ('Mr. Khan', '123 Main Street', '123-456-7890'), ('Mr. Patil', '456 Elm Street', '987-654-3210'), ('Ms. Singh', '789 Oak Street', '456-789-0123');
```

```
INSERT INTO Property (pno, description, area, oname) VALUES (1, '2BHK Apartment', '1000 sqft', 'Mr. Khan'), (2, 'Villa', '2000 sqft', 'Mr. Patil'), (3, 'Townhouse', '1500 sqft', 'Ms. Singh'), (4, 'Penthouse', '1800 sqft', 'Mr. Khan');
```

### Q2.) Using above database, solve the following queries:

- List details of property whose owner name is 'Mr. Khan'.  

```
SELECT * FROM Property WHERE oname = 'Mr. Khan';
```
- Find areawise property details with owner name.  

```
SELECT oname, description, area FROM Property ORDER BY area;
```
- Count owner wise details of property.  

```
SELECT oname, COUNT(*) AS num_properties FROM Property GROUP BY oname;
```
- Update owner 'Mr. Patil' property description to '3BHK'.  

```
UPDATE Property SET description = '3BHK' WHERE oname = 'Mr. Patil';
```