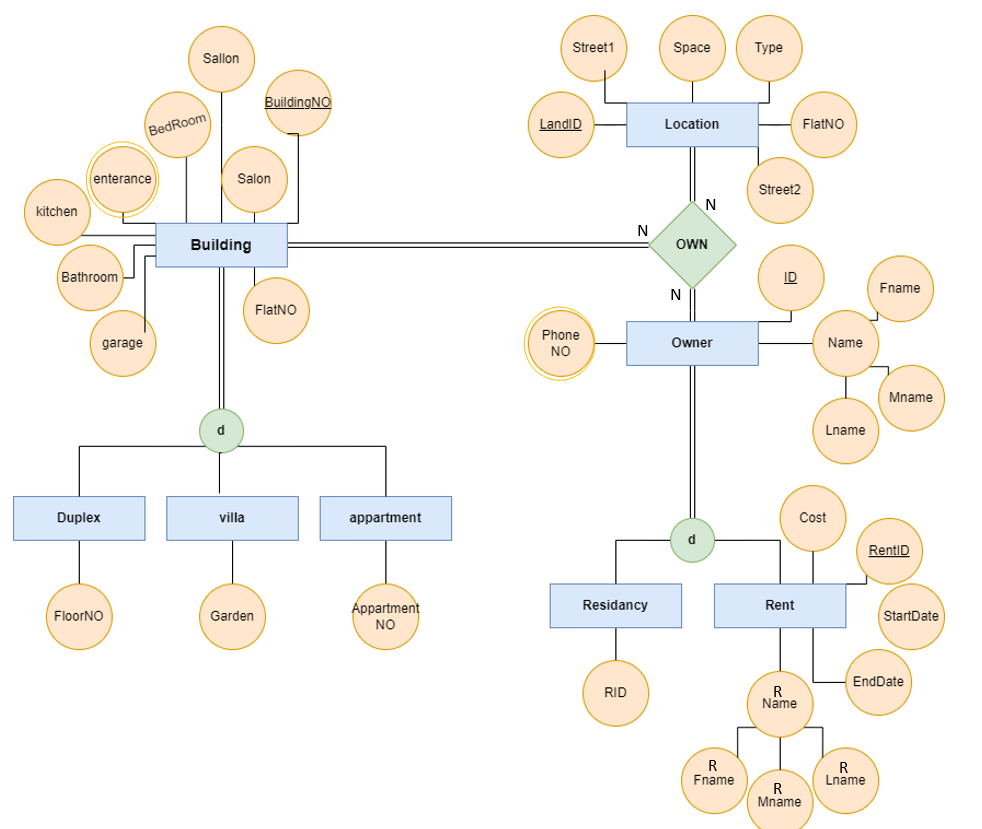
**SKYLINE**

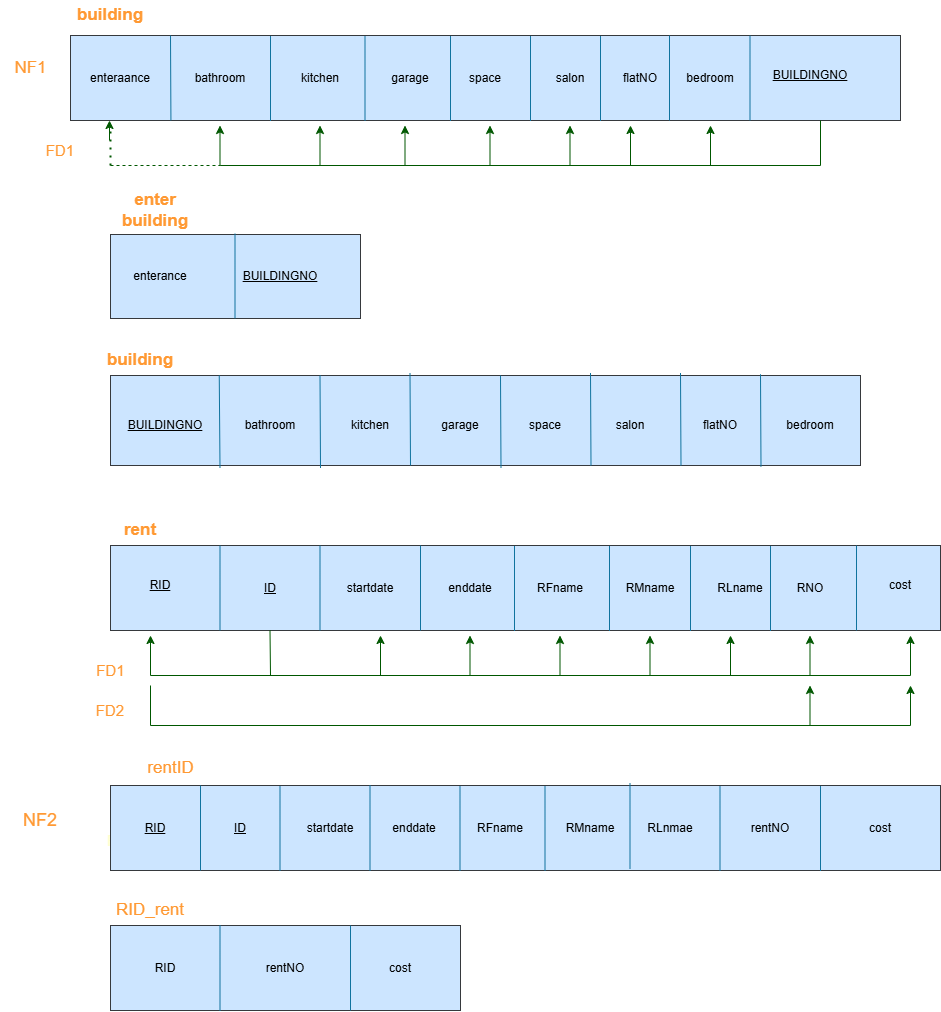
**EER DIAGRAM:-**

****

**Schema:- A screenshot of a computer

Description automatically generated**

**NORMALIZATION:-**

****

**SQL:-**

**CREATE TABLE Building** (

building\_no INT PRIMARY KEY,

bathroom INT,

kitchen INT,

garage INT,

space FLOAT,

salon INT,

entrance INT,

flat\_num INT,

bedroom INT

);

**CREATE TABLE Duplex** (

building\_no INT PRIMARY KEY,

floor\_no INT,

FOREIGN KEY (building\_no) REFERENCES Building(building\_no)

);

**CREATE TABLE Villa** (

building\_no INT PRIMARY KEY,

garden int,

FOREIGN KEY (building\_no) REFERENCES Building(building\_no)

);

**CREATE TABLE Apartment** (

building\_no INT,

apartment\_no INT,

PRIMARY KEY (building\_no),

FOREIGN KEY (building\_no) REFERENCES Building(building\_no)

);

**CREATE TABLE Location** (

land\_id INT PRIMARY KEY,

space FLOAT,

type VARCHAR(50),

street1 VARCHAR(100),

street2 VARCHAR(100)

);

**CREATE TABLE Owner** (

id INT PRIMARY KEY,

fname VARCHAR(50),

mname VARCHAR(50),

lname VARCHAR(50)

);

**CREATE TABLE PhoneNum** (

id INT,

phone\_no VARCHAR(15),

PRIMARY KEY (id),

FOREIGN KEY (id) REFERENCES Owner(id)

);

**CREATE TABLE Residency** (

resident\_id INT PRIMARY KEY,

owner\_id INT,

FOREIGN KEY (owner\_id) REFERENCES Owner(id)

);

**CREATE TABLE Rent** (

residence\_id INT,

owner\_id INT,

fname VARCHAR(50),

mname VARCHAR(50),

lname VARCHAR(50),

term\_of\_rent VARCHAR(50),

cost FLOAT,

start\_date DATE,

end\_date DATE,

rent\_no INT PRIMARY KEY,

rent\_phone\_no VARCHAR(15),

renter\_id INT,

FOREIGN KEY (residence\_id) REFERENCES Residency(resident\_id),

FOREIGN KEY (owner\_id) REFERENCES Owner(id)

);

**CREATE TABLE Own** (

building\_no INT,

land\_id INT,

id INT,

PRIMARY KEY (building\_no, land\_id, id),

FOREIGN KEY (building\_no) REFERENCES Building(building\_no),

FOREIGN KEY (land\_id) REFERENCES Location(land\_id),

FOREIGN KEY (id) REFERENCES Owner(id)

);

**INSERT:-**

**INSERT INTO Building**

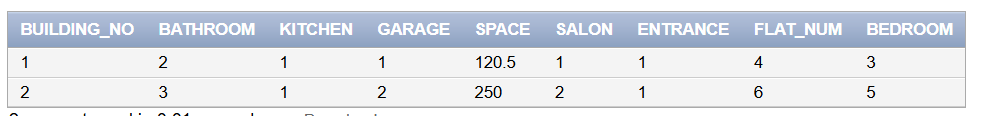
**VALUES**

(1, 2, 1, 1, 120.5, 1, 1, 4, 3);

**INSERT INTO Building**

**VALUES**

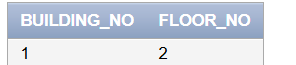
(2, 3, 1, 2, 250.0, 2, 1, 6, 5);



**INSERT INTO Duplex** (building\_no, floor\_no)

VALUES

(1, 2);



**INSERT INTO Villa** (building\_no, garden)

VALUES

(2, 1);

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Description automatically generated

**INSERT INTO Apartment** (building\_no, apartment\_no)

VALUES

(1, 1);

**INSERT INTO Apartment** (building\_no, apartment\_no)

VALUES

(2, 3);

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Description automatically generated

**INSERT INTO Location** (land\_id, space, type, street1, street2)

VALUES

(1, 500.0, 'Residential', 'khalil hamad St', 'qasim aladli st');

**INSERT INTO Location** (land\_id, space, type, street1, street2)

VALUES

(2, 750.0, 'Commercial', ' haro alrasheed St', 'raibow st');

A screenshot of a computer

Description automatically generated

**INSERT INTO Owner** (id, fname, mname, lname)

VALUES

(202210366, 'dalaa', 'yaser', 'saqer');

**INSERT INTO Owner** (id, fname, mname, lname)

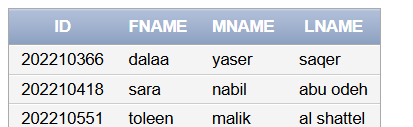
VALUES

(202210418, 'sara', 'nabil', 'abu odeh');

**INSERT INTO Owner** (id, fname, mname, lname)

VALUES

(202210551, 'toleen', 'malik', 'al shattel');



**INSERT INTO PhoneNum** (id, phone\_no)

VALUES

(202210366, '079-789');

(202210418, '079-456');

(202210551, '079-123');



**INSERT INTO Residency** (resident\_id, owner\_id, number\_of\_owners)

VALUES

(56349, 202210366, 1);

**INSERT INTO Residency** (resident\_id, owner\_id, number\_of\_owners)

VALUES

(23456, 202210551, 1);

**INSERT INTO Residency** (resident\_id, owner\_id, number\_of\_owners)

VALUES

(87656, 202210418, 2);

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Description automatically generated

**INSERT INTO Rent** (residence\_id, owner\_id, fname, mname, lname, term\_of\_rent, cost, start\_date, end\_date, rent\_no, rent\_phone\_no, renter\_id)

VALUES

(56349,202210366, 'ali', 'hamzeh', 'alakhras', 'yearly', 12000.0, '01-01-2023', '01-01-2024', 1, '555-1234', 5671);

**INSERT INTO Rent** (residence\_id, owner\_id, fname, mname, lname, term\_of\_rent, cost, start\_date, end\_date, rent\_no, rent\_phone\_no, renter\_id)

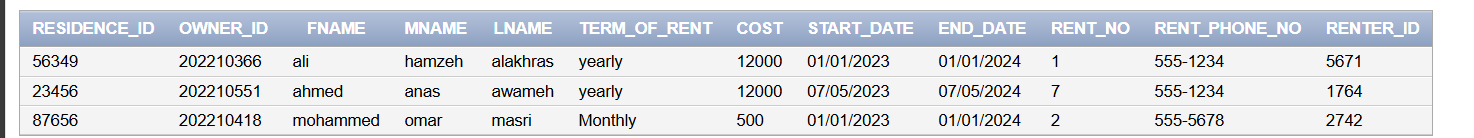
VALUES

(23456, 202210551, 'ahmed', 'anas', 'awameh', 'yearly', 12000.0, '07-05-2023', '07-05-2024', 7, '555-1234', 1764);

**INSERT INTO Rent** (residence\_id, owner\_id, fname, mname, lname, term\_of\_rent, cost, start\_date, end\_date, rent\_no, rent\_phone\_no, renter\_id)

VALUES

(87656, 202210418, 'mohammed', 'omar', 'masri', 'Monthly', 500.0, '01-01-2023', '01-01-2024', 2, '555-5678', 2742);



**INSERT INTO Own** (building\_no, land\_id, id)

VALUES

(1, 1, 202210366);

**INSERT INTO Own** (building\_no, land\_id, id)

VALUES

(2, 2, 202210551);

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Description automatically generated

**SELECTED:-**

SELECT COUNT(\*) AS building\_count

FROM Building B

JOIN

Own O ON B.building\_no = O.building\_no

JOIN

Location L ON O.land\_id = L.land\_id

WHERE L.space > 600;



SELECT \*

FROM Rent

WHERE end\_date > CURRENT\_DATE;



SELECT AVG(cost) AS average\_rent\_cost

FROM Rent;

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Description automatically generated

that retrieves the rent details along with the corresponding owner's information

SELECT RT.rent\_no,

RT.cost,

RT.start\_date,

RT.end\_date,

R.fname AS owner\_fname,

R.mname AS owner\_mname,

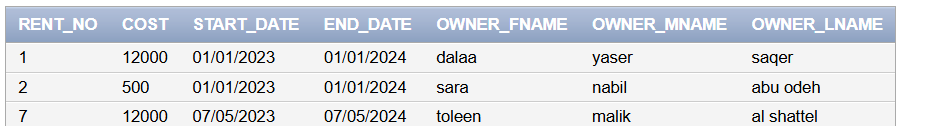
R.lname AS owner\_lname

FROM

Rent RT

JOIN

(SELECT id, fname, mname, lname FROM Owner) R ON RT.owner\_id = R.id;



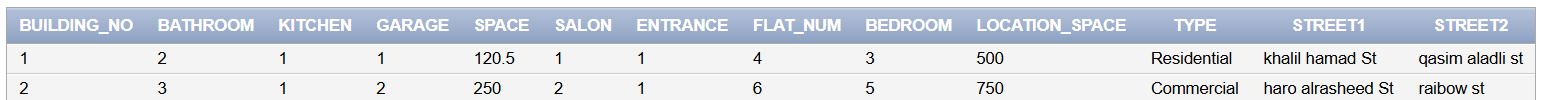
--List all buildings along with their corresponding location details

SELECT b.building\_no, b.bathroom, b.kitchen, b.garage, b.space, b.salon, b.entrance, b.flat\_num, b.bedroom, l.space AS location\_space, l.type, l.street1, l.street2

FROM Building b

JOIN Own o ON b.building\_no = o.building\_no

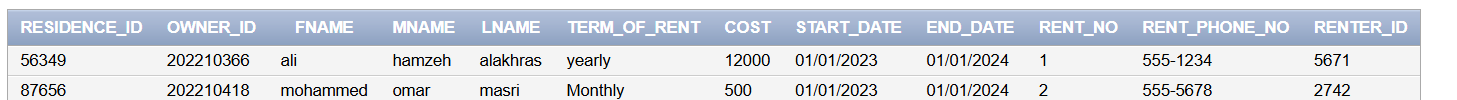
JOIN Location l ON o.land\_id = l.land\_id;



--Find all rents that have expired

SELECT \* FROM Rent

WHERE end\_date < CURRENT\_DATE;



-- List all duplexes with floor number greater than 1

SELECT \* FROM Duplex

WHERE floor\_no > 1;

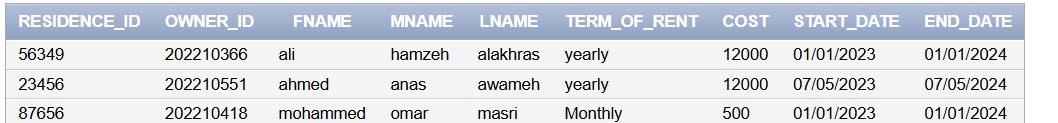
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Description automatically generated

--List all rents with their terms and costs

SELECT r.residence\_id, r.owner\_id, r.fname, r.mname, r.lname, r.term\_of\_rent, r.cost, r.start\_date, r.end\_date

FROM Rent r;



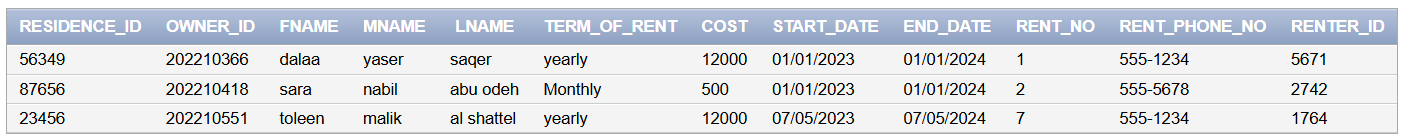
--List all rents along with the owner details and residence details

SELECT r.residence\_id, r.owner\_id, o.fname, o.mname, o.lname, r.term\_of\_rent, r.cost, r.start\_date, r.end\_date, r.rent\_no, r.rent\_phone\_no, r.renter\_id

FROM Rent r

JOIN Residency res ON r.residence\_id = res.resident\_id

JOIN Owner o ON r.owner\_id = o.id;



CREATE TRIGGER Update\_Rent\_Cost

AFTER INSERT ON Residency

FOR EACH ROW

BEGIN

UPDATE Rent

SET cost = NEW.number\_of\_owners \* 1000

WHERE residence\_id = NEW.resident\_id;

END;

**INDEXING:-**

CREATE INDEX idx\_building\_no ON Building(building\_no);

CREATE INDEX idx\_floor\_no ON Duplex(floor\_no);

CREATE INDEX idx\_space ON Location(space);

CREATE INDEX idx\_owner\_id ON Owner(id);

CREATE INDEX idx\_residency\_owner\_id ON Residency(owner\_id);

CREATE INDEX idx\_rent\_residence\_id ON Rent(residence\_id);

**تولين الشطل**

**دلع صقر**

**سارة ابو عودة**