GROUP MEMBERS :

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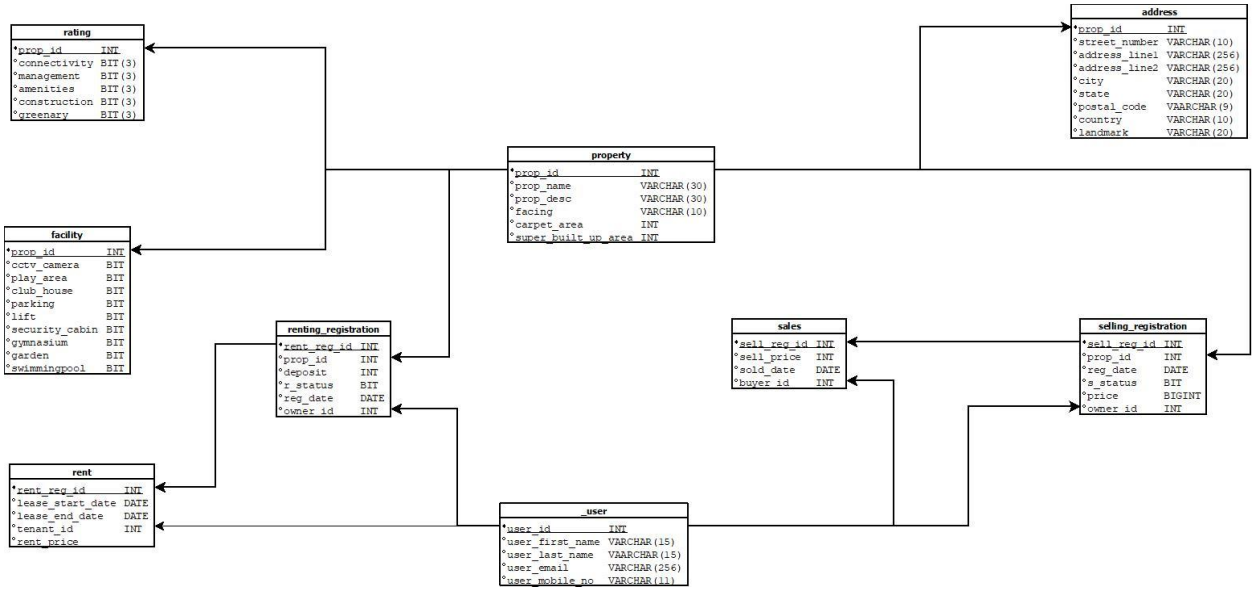
RELATIONAL SCHEMA :



MINIMAL FD SET AND PROOF THAT RELATIONS ARE IN BCNF :

1)property(prop_id,prop_name,prop_desc,facing,carpet_area,super_built_up_area)

Minimal fd :

prop_id → {prop_name,prop_desc, facing,carpet_area,super_built_up_area}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : prop_id

Type : BCNF (All attributes are directly dependent only on prop_id)

2)rating(prop_id,connectivity,management,amenities,construction,greenery)

Minimal fd:

prop_id → {connectivity,management,amenities,construction,greenery}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : prop_id

Type : BCNF (All attributes are directly dependent only on prop_id)

3)address(prop_id,street_number,address_line1,address_line2,city,state,postal_code, country,landmark)

Minimal fd:

prop_id→ {street_number,address_line1,address_line2,city,state,postal_code, country,landmark}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : prop_id

Type : BCNF (All attributes are directly dependent only on prop_id)

4)facility(prop_id,cctv_camera,play_area,club_house,parking,lift,security_cabin,gymnasium,garden, swimmingpool)

Minimal fd :

prop_id → {cctv_camera,play_area,club_house,parking,lift,security_cabin,gymnasium,garden, swimmingpool}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : prop_id

Type : BCNF (All attributes are directly dependent only on prop_id)

5)_user(user_id,user_first,_name,user_last_name,user_email,user_mobile_no)

Minimal fd :

user_id → {user_first,_name,user_last_name,user_email,user_mobile_no}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : user_id

Type : BCNF (All attributes are directly dependent only on user_id)

6)sales(reg_id,sell_price,sold_price,buyer_id)

Minimal fd :

sell_reg_id → {sell_price,sold_price,buyer_id}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : sell_reg_id

Type : BCNF (All attributes are directly dependent only on sell_reg_id)

7)selling_registration(reg_id,prop_id,reg_date,s_status,price,owner_id)

Minimal fd :

sell_reg_id → {prop_id,reg_date,s_status,price,owner_id}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : sell_reg_id

Type : BCNF (All attributes are directly dependent only on sell_reg_id)

8)rent(rent_reg_id,lease_start_date,lease_end_date,tenant_id,rent_price)

Minimal fd :

rent_reg_id → {rent_reg_id,lease_start_date,lease_end_date,tenant_id,rent_price}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : rent_reg_id

Type : BCNF (All attributes are directly dependent only on rent_reg_id)

9)renting_registration(rent_reg_id,prop_id,deposit,r_status,reg_date,owner_id)

Minimal fd :

rent_reg_id → {prop_id,deposit,r_status,reg_date,owner_id}

Since, in every FD X → Y, X is the key, so that the given relation is in BCNF.

Key : rent_reg_id

Type : BCNF (All attributes are directly dependent only on rent_reg_id)

DDL script :

```
CREATE SCHEMA property_managment;

SET SEARCH_PATH TO property_managment;

CREATE TABLE property (

prop_id INT NOT NULL,
prop_name CHARACTER VARYING(30) NOT NULL,
prop_desc CHARACTER VARYING(30) NOT NULL,
facing CHARACTER VARYING(10) NOT NULL,
carpet_area INT,
super_built_up_area INT,
PRIMARY KEY (prop_id)

);

CREATE TABLE  _user (

user_id INT NOT NULL,

user_first_name CHARACTER VARYING(15) NOT NULL,
user_last_name CHARACTER VARYING(15) NOT NULL,
user_email CHARACTER VARYING(256) NOT NULL,
user_mobile_no  CHARACTER  VARYING(11),
PRIMARY KEY (user_id)

);
```

```
CREATE TABLE renting_registration (


rent_reg_id INT NOT NULL,
prop_id INT NOT NULL,
deposite INT NOT NULL,
r_status BIT NOT NULL,
reg_date DATE,
owner_id INT NOT NULL,
PRIMARY KEY (rent_reg_id),
FOREIGN KEY (owner_id) REFERENCES _user (user_id) ON DELETE CASCADE ,
FOREIGN KEY (prop_id) REFERENCES property  (prop_id) ON DELETE CASCADE

);
```

```
CREATE TABLE rent (


rent_reg_id INT NOT NULL,
lease_start_date DATE,
lease_end_date DATE,
tenant_id INT NOT NULL,
rent_price INT NOT NULL,
PRIMARY KEY (rent_reg_id),
FOREIGN KEY (rent_reg_id) REFERENCES renting_registration (rent_reg_id)
ON DELETE CASCADE

);
```

```
CREATE TABLE selling_registration (


sell_reg_id INT NOT NULL,
prop_id INT NOT NULL, s_status
BIT NOT NULL, reg_date DATE,
price BIGINT NOT NULL,
```

```
owner_id INT NOT NULL,
PRIMARY KEY (sell_reg_id),
FOREIGN KEY (owner_id) REFERENCES _user (user_id) ON DELETE CASCADE ,
FOREIGN KEY (prop_id) REFERENCES property  (prop_id) ON DELETE CASCADE

);
```

```
CREATE TABLE sales(


sell_reg_id INT NOT NULL,
sell_price INT NOT NULL,
sold_date DATE,
buyer_id INT NOT NULL,

FOREIGN KEY (buyer_id) REFERENCES _user (user_id) ON DELETE CASCADE,

FOREIGN KEY (sell_reg_id) REFERENCES selling_registration (sell_reg_id)
ON DELETE CASCADE ,
PRIMARY KEY (sell_reg_id)

);
```

```
CREATE TABLE address (


prop_id INT NOT NULL,



street_number CHARACTER VARYING(10) NOT NULL,
address_line1 CHARACTER VARYING(256) NOT NULL,
address_line2 CHARACTER VARYING(256) NOT NULL,
city CHARACTER VARYING(20) NOT NULL,
state CHARACTER VARYING(20) NOT NULL,
postal_code CHARACTER VARYING(9) NOT NULL,
country CHARACTER VARYING(10) NOT NULL,
landmark CHARACTER VARYING(20) NOT NULL,
```

```
FOREIGN KEY (prop_id) REFERENCES property (prop_id)
ON DELETE CASCADE ,
PRIMARY KEY (prop_id)

);
```

```
CREATE TABLE rating(
prop_id INT NOT NULL,

connectivity BIT(3),
management BIT(3),
amenities BIT(3),
construction BIT(3),
greenary BIT(3),


FOREIGN KEY (prop_id) REFERENCES property
(prop_id)
ON DELETE CASCADE,
 PRIMARY KEY (prop_id)

);
```

```
CREATE TABLE facility(
prop_id INT NOT
NULL,

cctv_camera BIT NOT NULL,
play_area BIT NOT NULL,
club_house BIT NOT NULL,
parking BIT NOT NULL,
lift BIT NOT NULL,
security_cabin BIT NOT NULL,
gymnasium BIT NOT NULL,
garden BIT NOT NULL,
 swimming_pool BIT NOT NULL,
FOREIGN KEY (prop_id) REFERENCES property (prop_id)
ON DELETE CASCADE ,
```

```
PRIMARY KEY (prop_id)
);
```