DBMS PROJECT REPORT 3

TITLE: Apartment management system

Team members: Section 'A'

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Executing the files:

```
C:\Program Files\PostgreSQL\13\bin>psql -U postgres -f C:\Users\Naveeta\Desktop\apartment_tables.sql
Password for user postgres:
DROP DATABASE
CREATE DATABASE
You are now connected to database "t_15_57_59" as user "postgres".
CREATE TYPE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
CREATE TABLE
```

```
C:\Program Files\PostgreSQL\13\bin>psql -U postgres -f C:\Users\Naveeta\Desktop\insertval.sql
Password for user postgres:
You are now connected to database "t_15_57_59" as user "postgres".
INSERT 0 10
INSERT 0 4
INSERT 0 10
INSERT 0 10
INSERT 0 10
INSERT 0 10
INSERT 0 3
INSERT 0 10
INSERT 0 10
INSERT 0 10
INSERT 0 6
INSERT 0 3
INSERT 0 3
INSERT 0 5
INSERT 0 4
INSERT 0 10
```

Simple Queries:

1. Retrieve cost of all flats:
   SELECT cost FROM Owned_by;

```
t_15_57_59=# SELECT cost FROM Owned_by;
  cost
---------
 8000000
 7000000
 6000000
 7200000
 7900000
 5000000
 8000000
 7500000
 6000000
 5500000
(10 rows)
```

2. Calculate total money paid for maintenance:
   Select sum(amount) from MAINTENANCE;

```
t_15_57_59=# Select sum(amount) from MAINTENANCE;
   sum
----------
 36470.00
(1 row)
```

3. Calculate total money paid to staff:
   Select sum(wage) from MAINTAINED_BY;

```
t_15_57_59=# Select sum(wage) from MAINTAINED_BY;
    sum
-----------
 178000.00
(1 row)
```

4. Get the smallest flat owner names:
   Select owner_name from OWNER O, OWNED_BY OB where O.owner_id=OB.owner_id and OB.flat_no =(select flat_no from FLATS F where F.size= (select MIN(size) from FLATS F));

```
t_15_57_59=# Select owner_name from OWNER O, OWNED_BY OB where O.owner_id=OB.owner_id and OB.flat_no =(select flat_no from FLATS F where F.size= (select MIN(size) from FLATS F));
 owner_name
------------
 Narayani
(1 row)
```

5. The number of flat owners who actually reside in the flat.
   Select owner_name from OWNER O,RESIDENT R where O.owner_name =R.resident_name;

```
t_15_57_59=# Select owner_name from OWNER O,RESIDENT R where O.owner_name =R.resident_name;
 owner_name
------------
 Pitambar
 Ranj
 Kesari
 Shiv
 Sunil
 Narayani
 Trishna
(7 rows)
```

Complex Queries:

1. Fetch names of all residents that have pets:
   Select resident_name from resident R, pets P where R.flat_no = P.flat_no;

```
t_15_57_59=# Select resident_name from resident R, pets P where R.flat_no = P.flat_no;
 resident_name
---------------
 Pitambar
 Pitambar
 Narayani
 Narayani
 Yamuna
 Dilip
(6 rows)
```

2. Retrieve flat no of committee member that looks after security:
   Select flat_no from resident R, comm_mem C where R.resident_id = C.mem_id and C.mem_role = ‘Security’;

```
t_15_57_59=# Select flat_no from resident R, comm_mem C where R.resident_id = C.mem_id and C.mem_role = 'security head';
 flat_no
---------
 AS03
(1 row)
```

3. Fetch names of all residents that have a parking spot and add 500Rs to their maintenance bill:

Update maintenance set amount = amount+500 from parking_spot where maintenance.flat_no = parking_spot.flat_no;

```
t_15_57_59=# select * from maintenance;
 mb_id |  due_date  | amount  | flat_no
-------+------------+---------+---------
     2 | 2021-10-12 | 3600.00 | AS05
     3 | 2021-10-12 | 3000.00 | AS03
     5 | 2021-10-12 | 4350.00 | BG04
     8 | 2021-10-12 | 4200.00 | CF06
     9 | 2021-10-12 | 3000.00 | CG10
     1 | 2021-10-12 | 4500.00 | AG05
     4 | 2021-10-12 | 3750.00 | BT03
     6 | 2021-10-12 | 2700.00 | BF03
     7 | 2021-10-12 | 4500.00 | CS07
    10 | 2021-10-12 | 2870.00 | DG15
(10 rows)

t_15_57_59=# Update maintenance set amount = amount+500 from parking_spot where maintenance.flat_no = parking_spot.flat_no;
UPDATE 5
t_15_57_59=# select * from maintenance;
 mb_id |  due_date  | amount  | flat_no
-------+------------+---------+---------
     2 | 2021-10-12 | 3600.00 | AS05
     3 | 2021-10-12 | 3000.00 | AS03
     5 | 2021-10-12 | 4350.00 | BG04
     8 | 2021-10-12 | 4200.00 | CF06
     9 | 2021-10-12 | 3000.00 | CG10
     1 | 2021-10-12 | 5000.00 | AG05
     4 | 2021-10-12 | 4250.00 | BT03
     6 | 2021-10-12 | 3200.00 | BF03
     7 | 2021-10-12 | 5000.00 | CS07
    10 | 2021-10-12 | 3370.00 | DG15
(10 rows)
```

4. Based on total money received via maintenance and given via salary:
   Select sum(S.wage) - sum(M.amount) as sum_networth from MAINTAINED_BY S, MAINTENANCE M;

```
t_15_57_59=# Select sum(S.wage) - sum(M.amount) as sum_networth from MAINTAINED_BY S, MAINTENANCE M;
 sum_networth
--------------
   1390300.00
(1 row)
```

5. Most used facilities, grouped by its type:
   select type, max(fac_name) from facilities group by type;

```
t_15_57_59=# select type, max(fac_name) from facilities group by type;
  type   |      max
---------+---------------
 Outdoor | Swimming Pool
 Indoor  | Tennis Court
(2 rows)
```

Different access privilege levels:

1. Maya being the chairperson has update access to maintenance_staff.

```
t_15_57_59=# create user Maya with password 'maya123';
CREATE ROLE
t_15_57_59=# grant update on maintenance_staff to Maya;
GRANT
```

2. Pitambar being the head of housekeeping will need to know the condition of facilities, to keep them clean.

```
t_15_57_59=# create user pitambar;
CREATE ROLE
```

```
t_15_57_59=# grant update on facilities to pitambar;
GRANT
```

CONTRIBUTIONS:

Total time spent : 6 hours

NAME	CONTRIBUTIONS
Abhijnya Bhat	Simple and complex queries
Anagha H M	Compiling report and access privileges
Anchal Sharma	Simple and complex queries