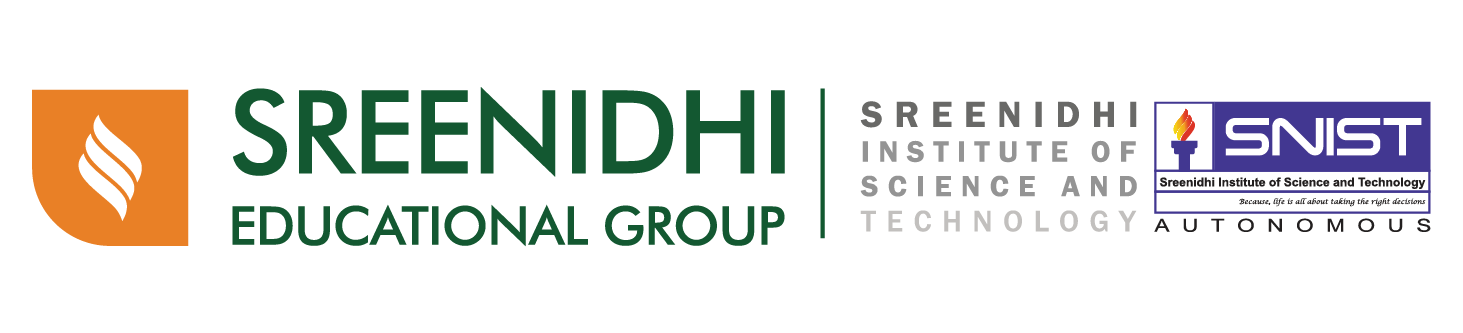
**SREENIDHI INSTITUTE OF SCIENCE AND TECHNOLOGY**

**AN AUTONOMOUS INSTITUTION**

**YAMNAMPET, GHATKESAR MANDAL, MEDCHAL DIST.**

**HYDERABAD - 501 301**

****

**CERTIFICATE**

**THIS IS TO CERTIFY THAT**

**Srivallabh Siddharth Nadadhur**

**BEARING THE ROLL NUMBER:**

**18311A12N0**

**HAS SATISFACTORILY COMPLETED DBMS LAB PROJECT**

**TITLE OF THE PROJECT :**

**COLONY/SOCIETY DATABASE MANAGEMENT**

**UNDER THE SUPERVISION OF**

**MR M NAGARAJU**

**AS PRESCRIBED BY SNIST ( AUTONOMOUS ), AFFILIATED TO JNT UNIVERSITY, HYDERABAD**

**2020-21**

ABSTRACT:

**The society management database effectively manages and handles all the functioning of a cooperative housing society. The database stores the data of various house owners and their tenants. The system also calculates the rent and maintains the records of total number of streets and number of houses per street. It is a very efficient way to gather details of a society such as vacancy and type of houses. This system also contains the review or feedback of different houses suggesting the appropriate house for a customer. The house id’s in the database help in gathering the details of the house and its owner. The main advantage of having a colony management system is that it brings transparency and efficiency in the working of housing societies. This database consists of 3 entities and 2 relationship relations each relation having its own attributes.**

DATA REQUIREMENTS:

Owner is identified by their phno. The database stores each owner’s name and their age.

The house is identified by hid (ie., house number). The database also stores status of the house which implies whether the house is vacant or not. It also consists the type of house attribute which represents the specifications of the house.

Streets are identified by sid. This system contains number of houses, which describes the total number of houses per street.

Rent is identified by hrent and tname(tenant). The also database stores phno of each owner contains the record of hid of each house.

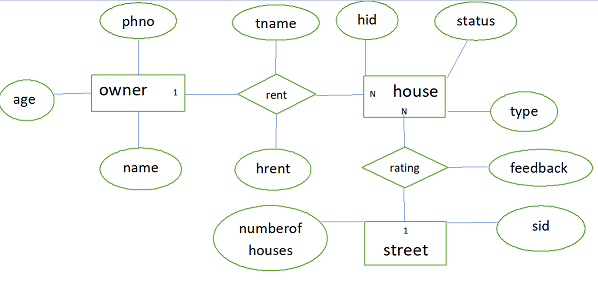
Rating is identified by feedback(of house) and hid of each house.The database also stores the sid(street id) of each street.

Entity Sets Designation:

* The owner entity set with attributes age, phno, name.
* The house entity set with attributes hid, status, type.
* The street entity set with attributes sid, numberofhouses.

Relationship Sets Designation:

* *rent* , a one to many relationship set between owner and house.
* *rating*, a many to one relationship set between house and street.

****

E-R Diagram

Tables : owner table

|  |  |  |
| --- | --- | --- |
| age | phno | name |
| 35 | 9876543210 | siddharth |
| 30 | 9876543211 | sriram |
| 50 | 9876543212 | seshadri |
| 45 | 9876543213 | malathi |
| 72 | 9876543214 | krish |
| 63 | 9876543215 | durga |
| 27 | 9876543216 | abhishek |
| 36 | 9876543217 | prahlad |
| 70 | 9876543218 | amruthavalli |
| 54 | 9876543219 | rangaswamy |

House table:

|  |  |  |
| --- | --- | --- |
| hid | status | type |
| 30 | leased | villa |
| 31 | for lease | villa |
| 32 | leased | studio flat |
| 33 | leased | studio flat |
| 34 | for lease | penthouse |
| 35 | for sale | penthouse |
| 36 | leased | mansion |
| 37 | for lease | mansion |
| 38 | leased | villa |
| 39 | not available | villa |

Street table:

|  |  |
| --- | --- |
| sid | numberofhouses |
| 1 | 2 |
| 2 | 2 |
| 3 | 2 |
| 4 | 2 |
| 5 | 2 |

|  |  |  |  |
| --- | --- | --- | --- |
| phno | tname | hrent | hid |
| 9876543210 | prasad | 10000 | 30 |
| 9876543211 | - | 10000 | 31 |
| 9876543212 | chandana | 8000 | 32 |
| 9876543213 | meghana | 8000 | 33 |
| 9876543214 | - | 12000 | 34 |
| 9876543215 | - | 95000 | 35 |
| 9876543216 | joey | 40000 | 36 |
| 9876543217 | - | 40000 | 37 |
| 9876543218 | mike | 20000 | 38 |
| 9876543219 | tyson | 25000 | 39 |

rent table:

rating table:

|  |  |  |
| --- | --- | --- |
| hid | Sid | feedback |
| 30 | 1 | 7 |
| 31 | 1 | 7 |
| 32 | 2 | 8 |
| 33 | 2 | 8 |
| 34 | 3 | 7 |
| 35 | 3 | 8 |
| 36 | 4 | 10 |
| 37 | 4 | 9 |
| 38 | 5 | 8 |
| 39 | 5 | 10 |

Inserting Data into Database:

SQL> create table owner(age number(2),phno number(10),name varchar(20),PRIMARY KEY(phno));

Table created.

SQL> desc owner

Name Null? Type

----------------------------------------- -------- ----------------------------

AGE NUMBER(2)

PHNO NOT NULL NUMBER(10)

NAME VARCHAR2(20)

SQL> create table house(hid number(2),status varchar(20),type varchar(20),PRIMARY KEY(hid));

Table created.

SQL> desc house

Name Null? Type

----------------------------------------- -------- ----------------------------

HID NOT NULL NUMBER(2)

STATUS VARCHAR2(20)

TYPE VARCHAR2(20)

SQL> create table street(sid number(2),numberofhouses number(1),PRIMARY KEY(sid));

Table created.

SQL> desc street

Name Null? Type

----------------------------------------- -------- ----------------------------

SID NOT NULL NUMBER(2)

NUMBEROFHOUSES NUMBER(1)

SQL> create table rent(phno number(10),tname varchar(20),hrent number(5),hid number(2),PRIMARY KEY(phno,hid),

2 FOREIGN KEY(phno) REFERENCES owner,FOREIGN KEY(hid) REFERENCES house);

Table created.

SQL> desc rent

Name Null? Type

----------------------------------------- -------- ----------------------------

PHNO NOT NULL NUMBER(10)

TNAME VARCHAR2(20)

HRENT NUMBER(5)

HID NOT NULL NUMBER(2)

SQL> create table rating(hid number(2),sid number(2),feedback number(2),PRIMARY KEY(hid,sid),

2 FOREIGN KEY(hid) REFERENCES house,FOREIGN KEY(sid) REFERENCES street);

Table created.

SQL> desc rating

Name Null? Type

----------------------------------------- -------- ----------------------------

HID NOT NULL NUMBER(2)

SID NOT NULL NUMBER(2)

FEEDBACK NUMBER(2)

SQL> insert into owner(age,phno,name)values(35,9876543210,'siddharth');

1 row created.

SQL> insert into owner(age,phno,name)values(30,9876543211,'sriram');

1 row created.

SQL> insert into owner(age,phno,name)values(50,9876543212,'seshadri');

1 row created.

SQL> insert into owner(age,phno,name)values(45,9876543213,'malathi');

1 row created.

SQL> insert into owner(age,phno,name)values(72,9876543214,'krish');

1 row created.

SQL> insert into owner(age,phno,name)values(63,9876543215,'durga');

1 row created.

SQL> insert into owner(age,phno,name)values(27,9876543216,'abhishek');

1 row created.

SQL> insert into owner(age,phno,name)values(36,9876543217,'prahlad');

1 row created.

SQL> insert into owner(age,phno,name)values(70,9876543218,'amruthavalli');

1 row created.

SQL> insert into owner(age,phno,name)values(54,9876543219,'rangaswamy');

1 row created.

SQL> select \* from owner;

AGE PHNO NAME

---------- ---------- --------------------

35 9876543210 siddharth

30 9876543211 sriram

50 9876543212 seshadri

45 9876543213 malathi

72 9876543214 krish

63 9876543215 durga

27 9876543216 abhishek

36 9876543217 prahlad

70 9876543218 amruthavalli

54 9876543219 rangaswamy

10 rows selected.

SQL> insert into house(hid,status,type)values(30,'leased','villa');

1 row created.

SQL> insert into house(hid,status,type)values(31,'for lease','villa');

1 row created.

SQL> insert into house(hid,status,type)values(32,'leased','studio flat');

1 row created.

SQL> insert into house(hid,status,type)values(33,'leased','studio flat');

1 row created.

SQL> insert into house(hid,status,type)values(34,'for lease','penthouse');

1 row created.

SQL> insert into house(hid,status,type)values(35,'for sale','penthouse');

1 row created.

SQL> insert into house(hid,status,type)values(36,'leased','mansion');

1 row created.

SQL> insert into house(hid,status,type)values(37,'for lease','mansion');

1 row created.

SQL> insert into house(hid,status,type)values(38,'leased','villa');

1 row created.

SQL> insert into house(hid,status,type)values(39,'not available','villa');

1 row created.

SQL> select \* from house;

HID STATUS TYPE

---------- -------------------- --------------------

30 leased villa

31 for lease villa

32 leased studio flat

33 leased studio flat

34 for lease penthouse

35 for sale penthouse

36 leased mansion

37 for lease mansion

38 leased villa

39 not available villa

10 rows selected.

SQL> insert into street(sid,numberofhouses)values(01,2);

1 row created.

SQL> insert into street(sid,numberofhouses)values(02,2);

1 row created.

SQL> insert into street(sid,numberofhouses)values(03,2);

1 row created.

SQL> insert into street(sid,numberofhouses)values(04,2);

1 row created.

SQL> insert into street(sid,numberofhouses)values(05,2);

1 row created.

SQL> select \* from street;

SID NUMBEROFHOUSES

---------- --------------

1 2

2 2

3 2

4 2

5 2

SQL> insert into rent(phno,tname,hrent,hid)values(9876543210,'prasad',10000,30);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543211,'-',10000,31);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543212,'chandana',8000,32);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543213,'meghana',8000,33);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543214,'-',12000,34);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543215,'-',95000,35);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543216,'joey',40000,36);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543217,'-',40000,37);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543218,'mike',20000,38);

1 row created.

SQL> insert into rent(phno,tname,hrent,hid)values(9876543219,'tyson',25000,39);

1 row created.

SQL> select \* from rent;

PHNO TNAME HRENT HID

---------- -------------------- ---------- ----------

9876543210 prasad 10000 30

9876543211 - 10000 31

9876543212 chandana 8000 32

9876543213 meghana 8000 33

9876543214 - 12000 34

9876543215 - 95000 35

9876543216 joey 40000 36

9876543217 - 40000 37

9876543218 mike 20000 38

9876543219 tyson 25000 39

10 rows selected.

SQL> insert into rating(hid,sid,feedback)values(30,01,07);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(31,01,07);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(32,02,08);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(33,02,08);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(34,03,07);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(35,03,08);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(36,04,10);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(37,04,09);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(38,05,08);

1 row created.

SQL> insert into rating(hid,sid,feedback)values(39,05,10);

1 row created.

SQL> commit;

Commit complete.

SQL> select \* from rating;

HID SID FEEDBACK

---------- ---------- ----------

30 1 7

31 1 7

32 2 8

33 2 8

34 3 7

35 3 8

36 4 10

37 4 9

38 5 8

39 5 10

10 rows selected.

Querries:

1-> What are the house numbers in street number 3?

SQL> select hid from rating r where sid=3;

HID

----------

34

35

2-> Find the owner’s details in street number 2.

SQL> select phno,name,age from owner o where o.phno in(

2 select r.phno from rent r where r.hid in(

3 select h.hid from house h where h.hid in(

4 select a.hid from rating a where(a.sid=2))));

PHNO NAME AGE

---------- -------------------- ----------

9876543212 seshadri 50

9876543213 malathi 45

3-> What are the type of houses in street number 4?

SQL> select type from house h,rating r where (h.hid=r.hid AND r.sid=4);

TYPE

--------------------

mansion

mansion

4-> Count the total number of villas in all the streets.

SQL> select Count(type) from house h where type='villa';

COUNT(TYPE)

-----------

4

5-> Find the total number of tenants in the society.

SQL> select COUNT(tname) from rent r where NOT tname='-';

COUNT(TNAME)

------------

6

6-> What are the id’s of the house which are vacant?

SQL> select hid from house h where (status='for lease' OR status='for sale');

HID

----------

31

34

35

37

7-> Find the name of the house owner whose name starts with ‘r’ and ends with ‘y’.

SQL> select name from owner where name like 'r%y';

NAME

--------------------

Rangaswamy

8-> What is the feedback(given by society) of the house owned by Siddharth?

SQL> select feedback from rating r where r.hid in(

2 select h.hid from house h where h.hid in(

3 select a.hid from rent a where a.phno in(

4 select o.phno from owner o where o.name='siddharth')));

FEEDBACK

----------

10

9-> Find the names of the owners whose second letter is 'm'.

SQL> select name from owner where name like '\_m%';

NAME

--------------------

Amruthavalli

10-> What are the names of the owners in street numbers 2 & 4?

SQL> select name from owner o where o.phno in(

2 select r.phno from rent r where r.hid in(

3 select h.hid from house h where h.hid in(

4 select a.hid from rating a where a.sid=2)))

5 UNION

6 select name from owner o where o.phno in(

7 select r.phno from rent r where r.hid in(

8 select h.hid from house h where h.hid in(

9 select a.hid from rating a where a.sid=4)));

NAME

--------------------

abhishek

malathi

prahlad

seshadri

11-> What is the street id of houses 38 & 39?

SQL> select sid from rating r where r.hid=38

2 intersect

3 select sid from rating r where r.hid=39;

SID

----------

5

12-> What is the average rent in the society ?

SQL> select AVG(hrent) from rent r where NOT hrent=95000;

AVG(HRENT)

----------

19222.2222

13-> How many streets are there in the society ?

SQL> select Count(sid) from street;

COUNT(SID)

5

14-> A new tenant named johnson wants to move in to the house owned by Sriram. Update the rent table accordingly.

SQL> update rent r set tname='johnson' where r.phno in(

2 select o.phno from owner o where o.name='sriram');

1 row updated.

SQL> select \* from rent;

PHNO TNAME HRENT HID

---------- -------------------- ---------- ----------

9876543210 prasad 10000 30

9876543211 johnson 10000 31

9876543212 chandana 8000 32

9876543213 meghana 8000 33

9876543214 - 12000 34

9876543215 - 95000 35

9876543216 joey 40000 36

9876543217 - 40000 37

9876543218 mike 20000 38

9876543219 tyson 25000 39

10 rows selected.

15-> Display the age of the owners in descending order.

SQL> select age from owner order by age desc;

AGE

----------

72

70

63

54

50

45

36

35

30

27

10 rows selected.

16-> Display the number of houses per street.

SQL> select sid,count(hid) from rating r group by sid;

SID COUNT(HID)

---------- ----------

1 2

2 2

4 2

5 2

3 2

17-> Find the highest and lowest rents in the society.

SQL> select MAX(hrent), MIN(hrent) from rent r where NOT hrent=95000;

MAX(HRENT) MIN(HRENT)

---------- ----------

40000 8000

18-> Display unique house rents.

SQL> select distinct hrent from rent r;

HRENT

----------

12000

10000

40000

25000

8000

20000

95000

7 rows selected.