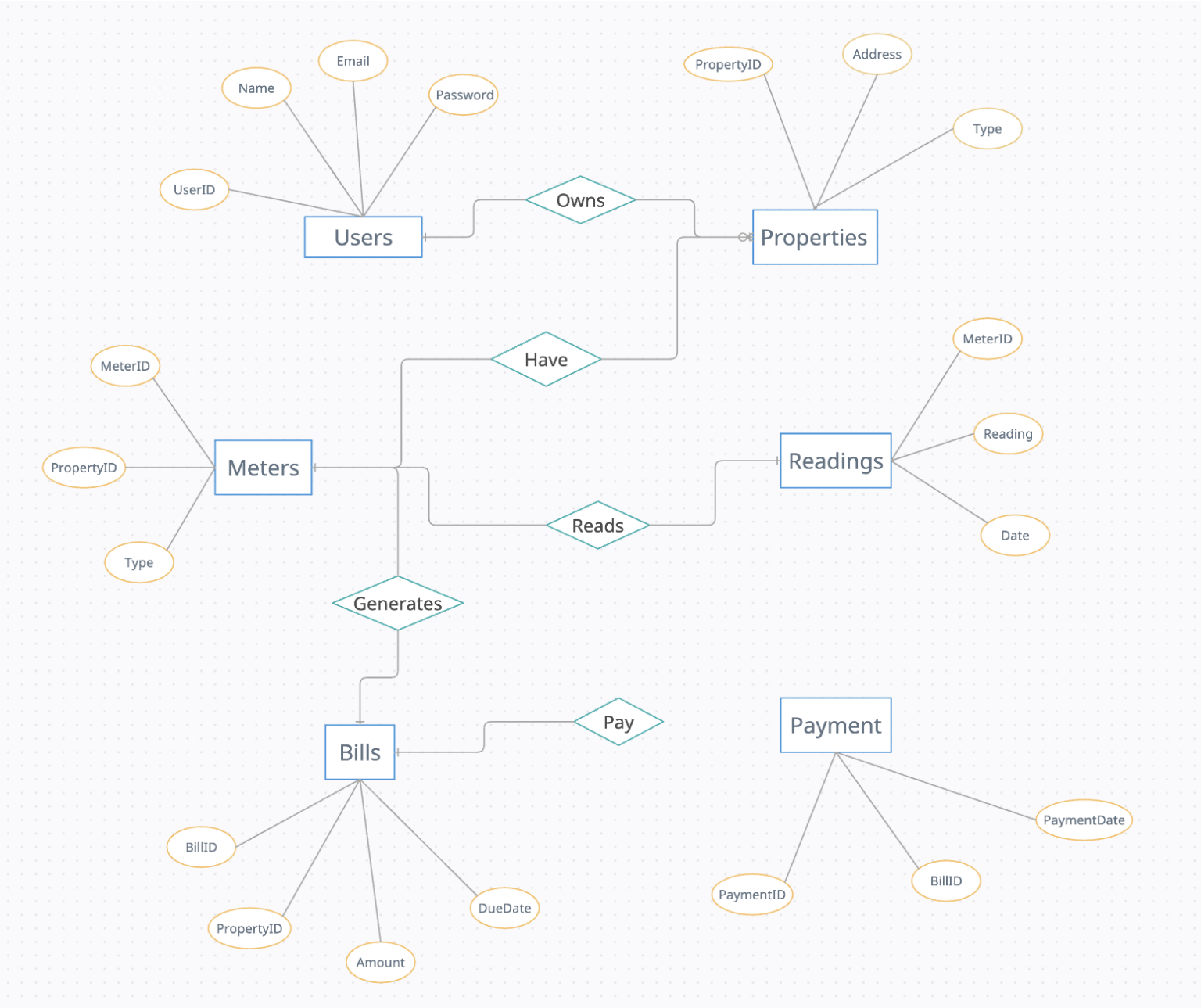
Water Tracker

Abstract:

The water usage tracking system for a specific community aims to monitor the consumption of water in a particular geographic area. The system will collect data from water meters.The database will track the water usage of individual households, businesses, and public facilities, as well as overall water consumption in the community. The system will use this data to identify areas of high water usage and implement measures to reduce water waste.Overall, the water usage tracking system for a specific community will help promote water conservation efforts and encourage community members to reduce their water usage. By identifying areas for improvement and implementing effective conservation measures, the system will help ensure the long-term sustainability of the community's water resources.

ER Diagram:



DDl commands :

```
SQL> spool C:\Users\pc\Desktop\spoolFiles\ddl
SQL> create table users(
  2  Userid number(10),
  3  name varchar2(20),
  4  email varchar2(20),
  5  password varchar(20));

Table created.

SQL> desc users;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 USERID                                             NUMBER(10)
 NAME                                               VARCHAR2(20)
 EMAIL                                              VARCHAR2(20)
 PASSWORD                                           VARCHAR2(20)
```

```
SQL> create table properties(
  2  propertyid number(10),
  3  address varchar2(20),
  4  type varchar(20));

Table created.

SQL> desc properties;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 PROPERTYID                                         NUMBER(10)
 ADDRESS                                            VARCHAR2(20)
 TYPE                                               VARCHAR2(20)
```

```
SQL> create table meters(
  2  meterid number(10),
  3  propertyid number(10),
  4  type varchar(20));

Table created.

SQL> desc meters;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 METERID                                            NUMBER(10)
 PROPERTYID                                         NUMBER(10)
 TYPE                                               VARCHAR2(20)
```

```
SQL> create table readings(
  2  meterid number(10),
  3  readings number(10),
  4  rdate date);

Table created.

SQL> desc readings;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 METERID                                            NUMBER(10)
 READINGS                                           NUMBER(10)
 RDATE                                              DATE
```

```
SQL> create table bills(
  2  billid number(10),
  3  propertyid number(10),
  4  amount number(10),
  5  duedate date);

Table created.

SQL> desc bills;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 BILLID                                             NUMBER(10)
 PROPERTYID                                         NUMBER(10)
 AMOUNT                                             NUMBER(10)
 DUEDATE                                            DATE
```

```
SQL> create table payment(
  2  paymentid number(10),
  3  billid number(10),
  4  paymentdate date);

Table created.

SQL> desc payment;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 PAYMENTID                                          NUMBER(10)
 BILLID                                             NUMBER(10)
 PAYMENTDATE                                        DATE
```

Key constraints:

```
SQL> alter table users add constraint pk_user primary key(userid);

Table altered.
```

```
SQL> alter table properties add constraint pk_property primary key(propertyid);

Table altered.
```

```
SQL> alter table meters add constraint pk_meter primary key(meterid);

Table altered.
```

```
SQL> alter table readings add foreign key(meterid) references meters;

Table altered.
```

```
SQL> alter table bills add constraint pk_bill primary key(billid);

Table altered.
```

```
SQL> alter table readings add foreign key(meterid) references meters;

Table altered.
```

DML commands:

SQL> insert into users values(&userid,'&name','&email','&password');
Enter value for userid: 101
Enter value for name: Anish
Enter value for email: anish@gmail.com
Enter value for password: anishpassword
old 1: insert into users values(&userid,'&name','&email','&password')
new 1: insert into users values(101,'Anish','anish@gmail.com','anishpassword')

1 row created.

SQL> /
Enter value for userid: 102
Enter value for name: Prudhvi
Enter value for email: prudhvi@gmail.com
Enter value for password: prudhvip
old 1: insert into users values(&userid,'&name','&email','&password')
new 1: insert into users values(102,'Prudhvi','prudhvi@gmail.com','prudhvip')

1 row created.

```
SQL> /
Enter value for userid: 103
Enter value for name: Anurag
Enter value for email: anurag@gmail.com
Enter value for password: anupassword
old   1: insert into users values(&userid,'&name','&email','&password')
new   1: insert into users values(103,'Anurag','anurag@gmail.com','anupassword')

1 row created.

SQL> /
Enter value for userid: 104
Enter value for name: Shruthi
Enter value for email: shruthi@gmail.com
Enter value for password: password@123
old   1: insert into users values(&userid,'&name','&email','&password')
new   1: insert into users values(104,'Shruthi','shruthi@gmail.com','password@123')

1 row created.

SQL> /
Enter value for userid: 10
Enter value for name: Shriya
Enter value for email: shriya@gmail.com
Enter value for password: shriya@123
old   1: insert into users values(&userid,'&name','&email','&password')
new   1: insert into users values(10,'Shriya','shriya@gmail.com','shriya@123')

1 row created.
```

```
SQL> select * from users;

   USERID NAME                 EMAIL                PASSWORD
--------- -------------------- -------------------- --------------------
      101 Anish                anish@gmail.com      anishpassword
      102 Prudhvi              prudhvi@gmail.com    prudhvip
      103 Anurag               anurag@gmail.com     anupassword
      104 Shruthi              shruthi@gmail.com    password@123
       10 Shriya               shriya@gmail.com     shriya@123
```

SQL> insert into properties values (&propertyid,'&address','&type');
Enter value for propertyid: 201
Enter value for address: hyderabad
Enter value for type: residential
old 1: insert into properties values (&propertyid,'&address','&type')
new 1: insert into properties values (201,'hyderabad','residential')

1 row created.

SQL> /
Enter value for propertyid: 202
Enter value for address: hyderabad
Enter value for type: commercial
old 1: insert into properties values (&propertyid,'&address','&type')
new 1: insert into properties values (202,'hyderabad','commercial')

1 row created.

SQL> /
Enter value for propertyid: 203
Enter value for address: delhi
Enter value for type: residential
old 1: insert into properties values (&propertyid,'&address','&type')
new 1: insert into properties values (203,'delhi','residential')

1 row created.

SQL> /
Enter value for propertyid: 204
Enter value for address: bombay
Enter value for type: commercial
old 1: insert into properties values (&propertyid,'&address','&type')
new 1: insert into properties values (204,'bombay','commercial')

1 row created.

SQL> /
Enter value for propertyid: 205
Enter value for address: pune
Enter value for type: residential
old 1: insert into properties values (&propertyid,'&address','&type')
new 1: insert into properties values (205,'pune','residential')

1 row created.

```
SQL> select * from properties;

PROPERTYID ADDRESS             TYPE
---------- -------------------- --------------------
       201 hyderabad            residential
       202 hyderabad            commercial
       203 delhi                residential
       204 bombay               commercial
       205 pune                 residential
```

SQL> insert into meters values (&meterid,'&propertyid','&type')
2 ;
Enter value for meterid: 301
Enter value for propertyid: 201
Enter value for type: residential
old 1: insert into meters values (&meterid,'&propertyid','&type')
new 1: insert into meters values (301,'201','residential')

1 row created.

```
SQL> /
Enter value for meterid: 302
Enter value for propertyid: 202
Enter value for type: commercial
old   1: insert into meters values (&meterid,'&propertyid','&type')
new   1: insert into meters values (302,'202','commercial')

1 row created.

SQL> /
Enter value for meterid: 303
Enter value for propertyid: 203
Enter value for type: residential
old   1: insert into meters values (&meterid,'&propertyid','&type')
new   1: insert into meters values (303,'203','residential')

1 row created.

SQL> /
Enter value for meterid: 304
Enter value for propertyid: 204
Enter value for type: commercial
old   1: insert into meters values (&meterid,'&propertyid','&type')
new   1: insert into meters values (304,'204','commercial')

1 row created.

SQL> /
Enter value for meterid: 305
Enter value for propertyid: 205
Enter value for type: residential
old   1: insert into meters values (&meterid,'&propertyid','&type')
```

new   1: insert into meters values (305,'205','residential')

1 row created.

```
SQL> select * from meters;

   METERID PROPERTYID TYPE
---------- ---------- --------------------
       301        201 residential
       302        202 commercial
       303        203 residential
       304        204 commercial
       305        205 residential
```

SQL> insert into readings values(&meterid,&reading,'12-DEC-22');
Enter value for meterid: 201
Enter value for reading: 500
old   1: insert into readings values(&meterid,&reading,'12-DEC-22')
new   1: insert into readings values(201,500,'12-DEC-22')

1 row created.

SQL> /
Enter value for meterid: 202
Enter value for reading: 2000
old   1: insert into readings values(&meterid,&reading,'12-DEC-22')
new   1: insert into readings values(202,2000,'12-DEC-22')

1 row created.

SQL> /
Enter value for meterid: 203
Enter value for reading: 100
old   1: insert into readings values(&meterid,&reading,'12-DEC-22')
new   1: insert into readings values(203,100,'12-DEC-22')

1 row created.

SQL> /
Enter value for meterid: 204
Enter value for reading: 500
old   1: insert into readings values(&meterid,&reading,'12-DEC-22')
new   1: insert into readings values(204,500,'12-DEC-22')

1 row created.

SQL> /
Enter value for meterid: 205
Enter value for reading: 1000
old   1: insert into readings values(&meterid,&reading,'12-DEC-22')
new   1: insert into readings values(205,1000,'12-DEC-22')

1 row created.

```
SQL> select * from readings;

   METERID   READINGS RDATE
---------- ---------- ---------
       201        500 12-DEC-22
       202       2000 12-DEC-22
       203        100 12-DEC-22
       204        500 12-DEC-22
       205       1000 12-DEC-22
```