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Store Management System

1.A description of the enterprise. What is the purpose of the database?

The enterprise we chosen is store. The store may be of different kinds. The considerable part of the involves management system involves store, employee, customers, orders, items billing. These components consist of huge piles of information which is nothing but the data. The store's primary tasks are to function is to offer service to the customer users.

The main purpose of this database is to provide optimum level of service to user department**.**

2. Identify at least four major entities. Provide a list of the entities and a short description for each entity.

The following are the four major entities.

- Store
- Order
- Employee
- Customer

Following are the list of entities and a short description

Customer: the customer entity has following attributes

CEmailID (Primary Key)

CName

Password

Mobile No.

Order: The order entity has following attributes

OrderID (Primary Key)

Quantity

Time

Date

Price

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Employee: The Employee entity consists of following attributes

EID

Job Role

Name

Owner: The Owner entity consists of following attributes

OID

OName

Telephone Number

Store: The Store entity consists of following attributes

SID

SName

Type

Location

Item: The Item entity consists of following attributes

IName

Price

Category

Bill: The Bill entity consists of following attributes

Bid

Sname

Total Price

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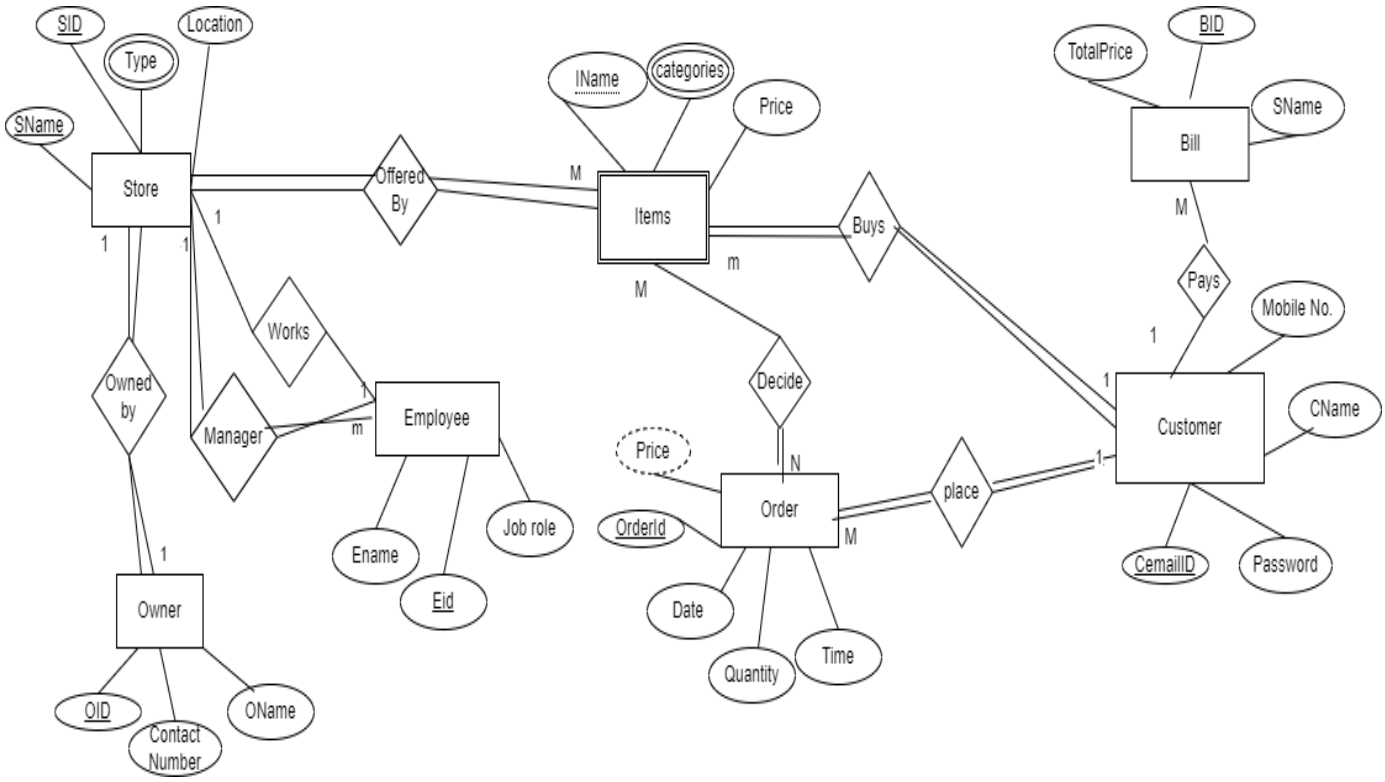
ER Diagram

An entity-relationship diagram (ERD)is used in a database modeling process. ERD diagram shows a graphical representation of objects or concepts within an information system and their relationships.



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Reduction of ER Diagram into relational Schemas:

Store (SID, SName, Type, Location)

Employee (Eid, EName, Job role)

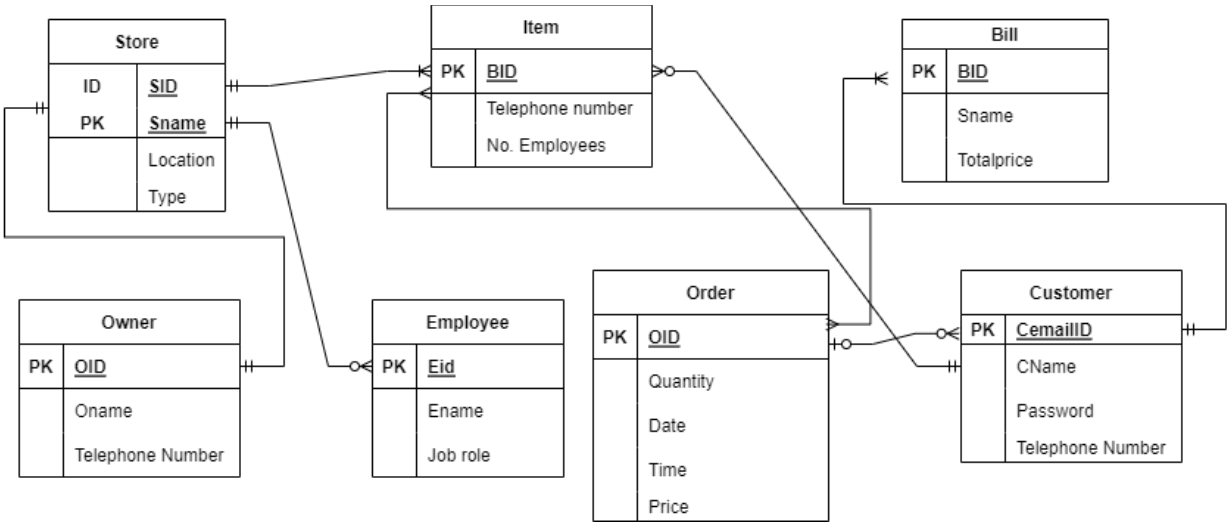
Customer (CemailID, CName, Password, Phone No.)

Order (OrderId, date, time, quantity, price)

Items (IName, category, Price)

Owner (OID, OName, ContactNumber)

Bill (BID,Sname,Totalprice)



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Database Using DDL:

Create Customer Table

Create TABLE Customer (CemailID varchar (100) NOT NULL, CName varchar (100) NOT NULL, password varchar (25) NOT NULL, phonenumber int NOT NULL, PRIMARY KEY(CemailID));

```
mysql> describe Customer;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| CemailID    | varchar(100) | NO   | PRI | NULL    |       |
| CName       | varchar(100) | NO   |     | NULL    |       |
| password    | varchar(25)  | NO   |     | NULL    |       |
| phonenumber | int          | NO   |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

Insert values into table:

insert into Customer values ('Kittu9@gmail.com', 'Kittu', 1234, 361236263);

insert into Customer values ('Shanthan9@gmail.com', 'Shanthan', 125, 361556263);

insert into Customer values ('Narendar9@gmail.com', 'Narendar', 1249, 361556489);

insert into Customer values ('tarun9@gmail.com', 'Tarun', 199, 375564859);

```
mysql> select * from Customer;
+--------------------+----------+----------+-------------+
| CemailID           | CName    | password | phonenumber |
+--------------------+----------+----------+-------------+
| Kittu9@gmail.com   | Kittu    | 1234     |   361236263 |
| Narendar9@gmail.com | Narendar | 1249     |   361556489 |
| Shanthan9@gmail.com | Shanthan | 125      |   361556263 |
| tarun9@gmail.com   | Tarun    | 199      |   375564859 |
+--------------------+----------+----------+-------------+
4 rows in set (0.00 sec)
```

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Create a Store table:

Create TABLE Store (SID int (100) NOT NULL, SName varchar (100) NOT NULL, Type varchar (25) NOT NULL, location varchar (25) NOT NULL, PRIMARY KEY(SID));

```
mysql> describe Store;
+----------+--------------+------+-----+---------+-------+
| Field    | Type         | Null | Key | Default | Extra |
+----------+--------------+------+-----+---------+-------+
| SID      | int          | NO   | PRI | NULL    |       |
| SName    | varchar(100) | NO   |     | NULL    |       |
| Type     | varchar(25)  | NO   |     | NULL    |       |
| location | varchar(25)  | NO   |     | NULL    |       |
+----------+--------------+------+-----+---------+-------+
4 rows in set (0.01 sec)
```

Insert the values into Store table

insert into Store values ('999', 'stopNshop', 'convinent','721 Ella St dallas,TX');

insert into Store values ('899', 'citgo', 'gas station','721 Ella St dallas,TX');

insert into Store values ('9', 'citgo', 'gas station','7th ST Ella St dallas,TX');

insert into Store values ('89', 'StopNShop', 'gas station','9th ST Ella St dallas,TX');

```
mysql> select * from Store;
+-----+-----------+-------------+--------------------------+
| SID | SName     | Type        | location                 |
+-----+-----------+-------------+--------------------------+
|   9 | citgo     | gas station | 7th ST Ella St dallas,TX |
|  89 | StopNShop | gas station | 9th ST Ella St dallas,TX |
| 899 | citgo     | gas station | 721 Ella St dallas,TX    |
| 999 | stopNshop | convinent   | 721 Ella St dallas,TX    |
+-----+-----------+-------------+--------------------------+
4 rows in set (0.00 sec)
```

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Create Employee Table:

Create TABLE Employee (EID varchar (100) NOT NULL, EName varchar (100) NOT NULL, jobrole varchar (25) NOT NULL, PRIMARY KEY(EID));

```
mysql> describe Employee;
+---------+--------------+------+-----+---------+-------+
| Field   | Type         | Null | Key | Default | Extra |
+---------+--------------+------+-----+---------+-------+
| EID     | varchar(100) | NO   | PRI | NULL    |       |
| EName   | varchar(100) | NO   |     | NULL    |       |
| jobrole | varchar(25)  | NO   |     | NULL    |       |
+---------+--------------+------+-----+---------+-------+
3 rows in set (0.01 sec)
```

Insert the values into Employee Table:

insert into Employee values ('K0123', 'kk', 'stocker');

insert into Employee values ('K0124', 'sathvik', 'register');

insert into Employee values ('K0125', 'Yash', 'Manager');

insert into Employee values ('K0129', 'nandh', 'cleaner');

```
mysql> select * from Employee;
+-------+---------+----------+
| EID   | EName   | jobrole  |
+-------+---------+----------+
| K0123 | kk      | stocker  |
| K0124 | sathvik | register |
| K0125 | Yash    | Manager  |
| K0129 | nandh   | cleaner  |
+-------+---------+----------+
4 rows in set (0.00 sec)
```

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Owner:

Create Owner Table:

Create TABLE Owner (OID varchar (100) NOT NULL, OName varchar (100) NOT NULL, Contactnumber int NOT NULL, PRIMARY KEY(OID)).

```
mysql> describe Owner;
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| OID           | varchar(100) | NO   | PRI | NULL    |       |
| OName         | varchar(100) | NO   |     | NULL    |       |
| Contactnumber | int          | NO   |     | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

Insert values into Owner table:

insert into Owner values ('S143', 'Jag',99445577).

```
mysql> select * from Owner;
+------+-------+---------------+
| OID  | OName | Contactnumber |
+------+-------+---------------+
| S143 | Jag   |      99445577 |
+------+-------+---------------+
1 row in set (0.00 sec)
```

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Items:

Create Item table:

Create TABLE Item (IName varchar (100) NOT NULL, category varchar (100) NOT NULL, price int NOT NULL);

```
mysql> describe Item;
+----------+--------------+------+-----+---------+-------+
| Field    | Type         | Null | Key | Default | Extra |
+----------+--------------+------+-----+---------+-------+
| IName    | varchar(100) | NO   |     | NULL    |       |
| category | varchar(100) | NO   |     | NULL    |       |
| price    | int          | NO   |     | NULL    |       |
+----------+--------------+------+-----+---------+-------+
3 rows in set (0.01 sec)
```

Insert values to Item Table:

insert into item values ('beer', 'alcohol',11);

insert into item values ('Marlboro', 'smokes',15);

insert into item values ('lays chips', 'food',5);

```
mysql> select * from Item;
+------------+----------+-------+
| IName      | category | price |
+------------+----------+-------+
| beer       | alcohol  |    11 |
| Marlboro   | smokes   |    15 |
| lays chips | food     |     5 |
+------------+----------+-------+
3 rows in set (0.00 sec)
```

ALTER:

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```
mysql> ALTER TABLE item DROP category;
Query OK, 0 rows affected (0.14 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> select * from Item;
+-------------+-------+
| IName       | price |
+-------------+-------+
| beer        |    11 |
| Marlboro    |    15 |
| lays chips  |     5 |
+-------------+-------+
3 rows in set (0.00 sec)

mysql>
```

Bill Table:

Create a bill table:

Create TABLE Bill (BID varchar (100) NOT NULL, SName varchar (100) NOT NULL, totalprice int NOT NULL, PRIMARY KEY(BID));

```
mysql> describe Bill;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| BID        | varchar(100) | NO   | PRI | NULL    |       |
| SName      | varchar(100) | NO   |     | NULL    |       |
| totalprice | int          | NO   |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
3 rows in set (0.01 sec)
```

Insert values to bill date:

insert into Bill values ('99', 'StopNshop',59);

insert into Bill values ('89', 'StopNshop',99);

insert into Bill values ('69', 'StopNshop',150);

insert into Bill values ('59', 'StopNshop',39);

```
mysql> select * from Bill;
+-----+-----------+------------+
| BID | SName     | totalprice |
+-----+-----------+------------+
| 59  | StopNshop |         39 |
| 69  | StopNshop |        150 |
| 89  | StopNshop |         99 |
| 99  | StopNshop |         59 |
+-----+-----------+------------+
4 rows in set (0.00 sec)
```

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BCNF

The above schemas are in BCNF because the store entity has a primary key (SID) which acts as a super key and derives all the other attributes. The employee entity also has a primary key (Eid) which acts a super key, and it determines all the remaining attributes in the entity.

Similarly, the customer entity also has a primary key (CID) which determines the remaining attribute and in order entity the primary key can be (OID) that determines the other attributes in the entity. As there are no redundant attributes in all entities, no need to decompose into another table