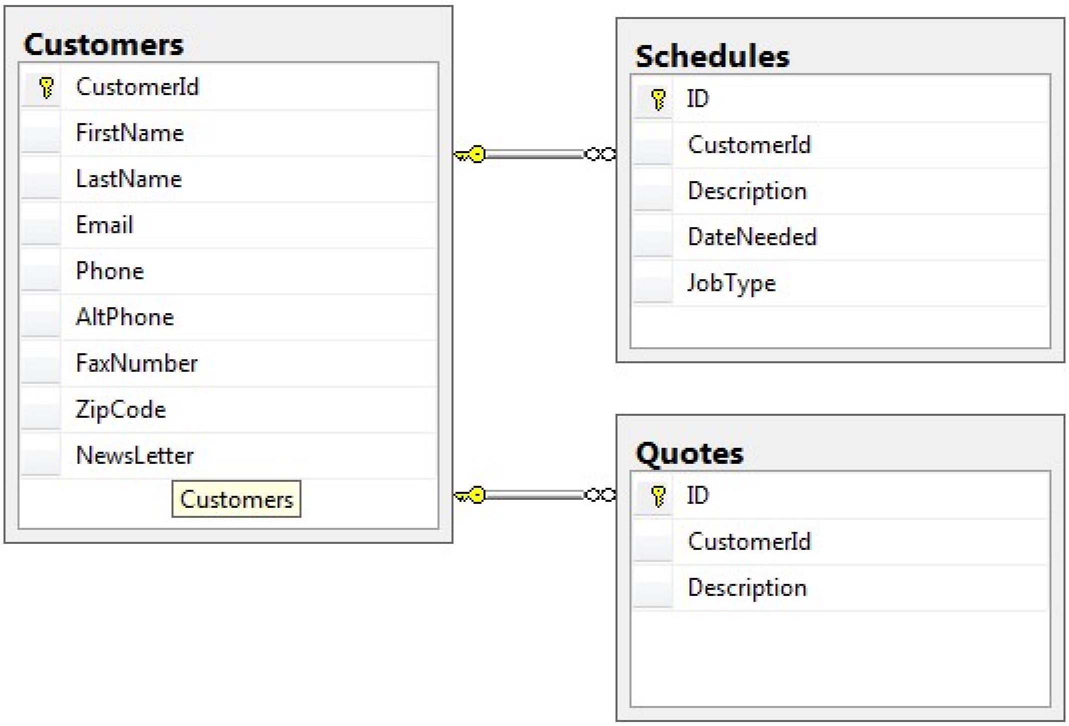
Database HomePro.

Entity Relationship Diagram

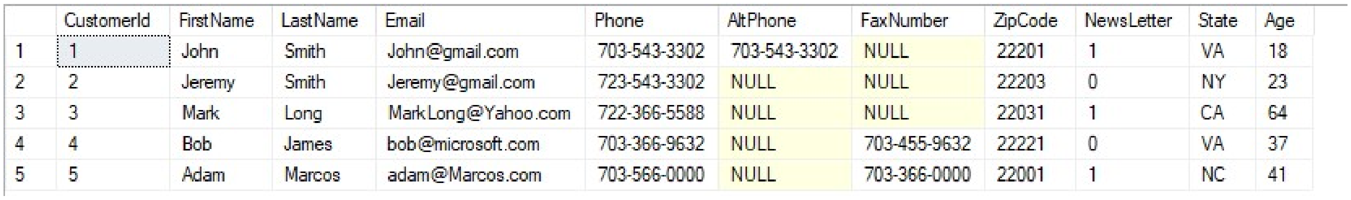
An entity relationship diagram (ERD) shows the relationships of entity sets stored in a database. An entity in this context is a component of data. In other words, ER diagrams illustrate the logical or physical structure of databases.

Schema: **HomePro**.



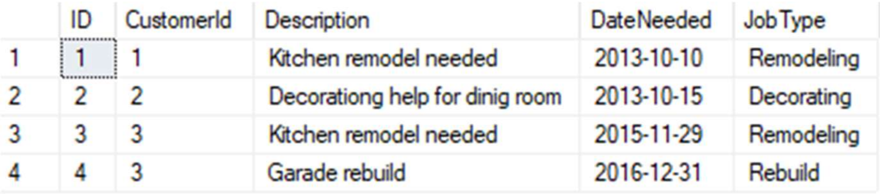
Data Sample.

HomePro.Customers



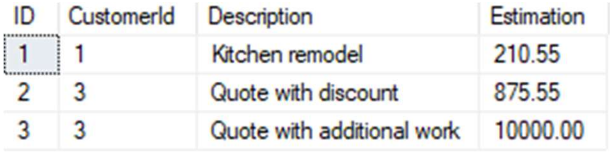
	CustomerId	FirstName	LastName	Email	Phone	AltPhone	FaxNumber	ZipCode	NewsLetter	State	Age
1	1	John	Smith	John@gmail.com	703-543-3302	703-543-3302	NULL	22201	1	VA	18
2	2	Jeremy	Smith	Jeremy@gmail.com	723-543-3302	NULL	NULL	22203	0	NY	23
3	3	Mark	Long	MarkLong@Yahoo.com	722-366-5588	NULL	NULL	22031	1	CA	64
4	4	Bob	James	bob@microsoft.com	703-366-9632	NULL	703-455-9632	22221	0	VA	37
5	5	Adam	Marcos	adam@Marcos.com	703-566-0000	NULL	703-366-0000	22001	1	NC	41

HomePro.Schedules



	ID	CustomerId	Description	DateNeeded	JobType
1	1	1	Kitchen remodel needed	2013-10-10	Remodeling
2	2	2	Decorationg help for dinig room	2013-10-15	Decorating
3	3	3	Kitchen remodel needed	2015-11-29	Remodeling
4	4	3	Garade rebuild	2016-12-31	Rebuild

HomePro.Quotes



ID	CustomerId	Description	Estimation
1	1	Kitchen remodel	210.55
2	3	Quote with discount	875.55
3	3	Quote with additional work	10000.00

SQL Table definition (DDL)

Data Definition Language (DDL) is a standard for commands that define the structures in a database. DDL statements create, modify, and remove database objects such as tables, indexes, and users. Common DDL statements are CREATE, ALTER, and DROP

Customers

```
CREATE TABLE HomePro.Customers
(
   CustomerId INT NOT NULL IDENTITY(1,1) PRIMARY KEY,
   FirstName varchar(100) NOT NULL,
   LastName varchar(100) NOT NULL,
   Email varchar(20) NOT NULL,
   Phone varchar(20) NOT NULL,
   AltPhone varchar(20) NULL,
   FaxNumber varchar(20) NULL,
   ZipCode char(5) NULL,
   NewsLetter BIT NOT NULL,
   State CHAR(2) NOT NULL,
   Age INT NOT NULL

);
```

Schedules

```
CREATE TABLE HomePro.Schedules
(
   ID INT NOT NULL IDENTITY(1,1) PRIMARY KEY,
   CustomerId INT NOT NULL,
   Description VARCHAR(1000) null,
   DateNeeded DATE NOT NULL,
   JobType VARCHAR(100) NOT NULL
);
ALTER TABLE Schedules ADD FOREIGN KEY (CustomerId) REFERENCES HomePro.Customers(CustomerId);
```

Quotes

```
CREATE TABLE HomePro.Quotes
(
   ID INT NOT NULL IDENTITY(1,1) PRIMARY KEY,
   CustomerId INT NOT NULL,
   Description VARCHAR(1000) NULL,
   Estimation numeric(10,2) NOT null
);
ALTER TABLE Quotes ADD FOREIGN KEY (CustomerId) REFERENCES HomePro.Customers(CustomerId);
```

SQL Query tasks (DML)

A data manipulation language (DML) is a standard for commands that allow users to manipulate data in a database. This manipulation involves inserting data into database tables, retrieving existing data, deleting data from existing tables and modifying existing data. DML is mostly incorporated in SQL databases.

Homepro.Customers

1. Get all a data from Table Customers
2. Find all Customers with LastName = ’Smith’
3. Find all Customers who has the letter ‘m’ in LastName
4. Get the **FirstName, LastName, State, Age** for customers who has the letter ‘m’ in LastName and older than 30.
5. Get the **FirstName,LastName,Phone, Zipcode** for all clients with ZipCode ‘22201’.
6. Get the **FirstName,LastName,Phone,Email,FaxNumber** of all clients who does not have FaxNumber.
7. Get all data of client whose FirstName starts from letter ‘M’
8. Get Names and phones of all clients subscribed on NewsLetter;
9. Get information about clients who’s Phone contains ‘703’.
10. Get information about clients whose ZipCode between ‘22200’ and ‘22300’.

Homepro.Schedules

1. Find all schedules scheduled after ‘2016-01-01’.
2. Show all rows with JobType ‘Remodeling’.
3. Calculate the number of rows with JobType ‘Remodeling’.
   Note: Use **Count()**.
4. Calculate the count of each JobType.

Homepro.Quotes

1. Find all Quotes for ‘Kitchen’.
2. Find all Quotes bigger than $500.

Send your homework to email Andrew.a4100@gmail.com for validation