

# SQL: Sample Database

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- SQL Sample Database

## ❖ SQL Sample Database

It is easier to discuss SQL via concrete examples

We use a database about beer, people who drink it, ...

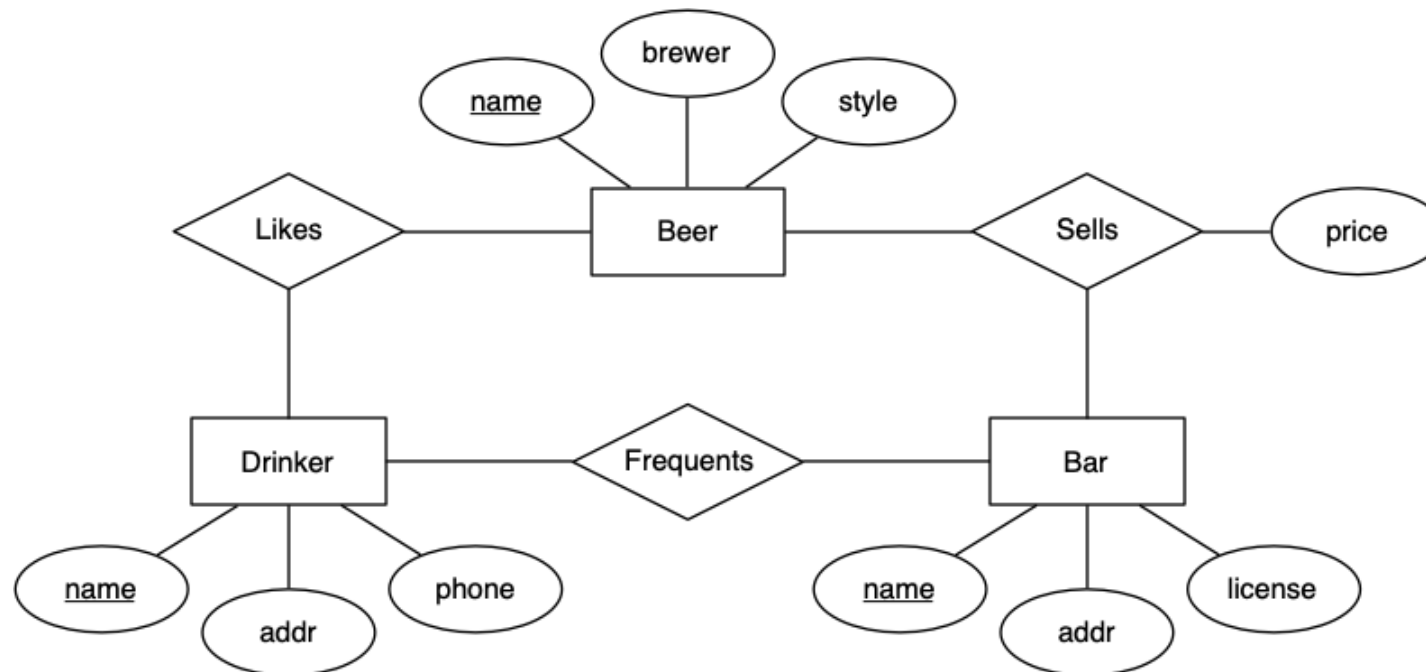
- beers have a name and style, and are made by a brewery
- beer drinkers go to bars/hotels where they can drink beer
- bars/hotels sell a variety of beers, at varying prices
- drinkers have favourite beers and other beers they like

Many other aspects, e.g. ABV, ratings, notes, etc. could have been added

This database is not autobiographical ...

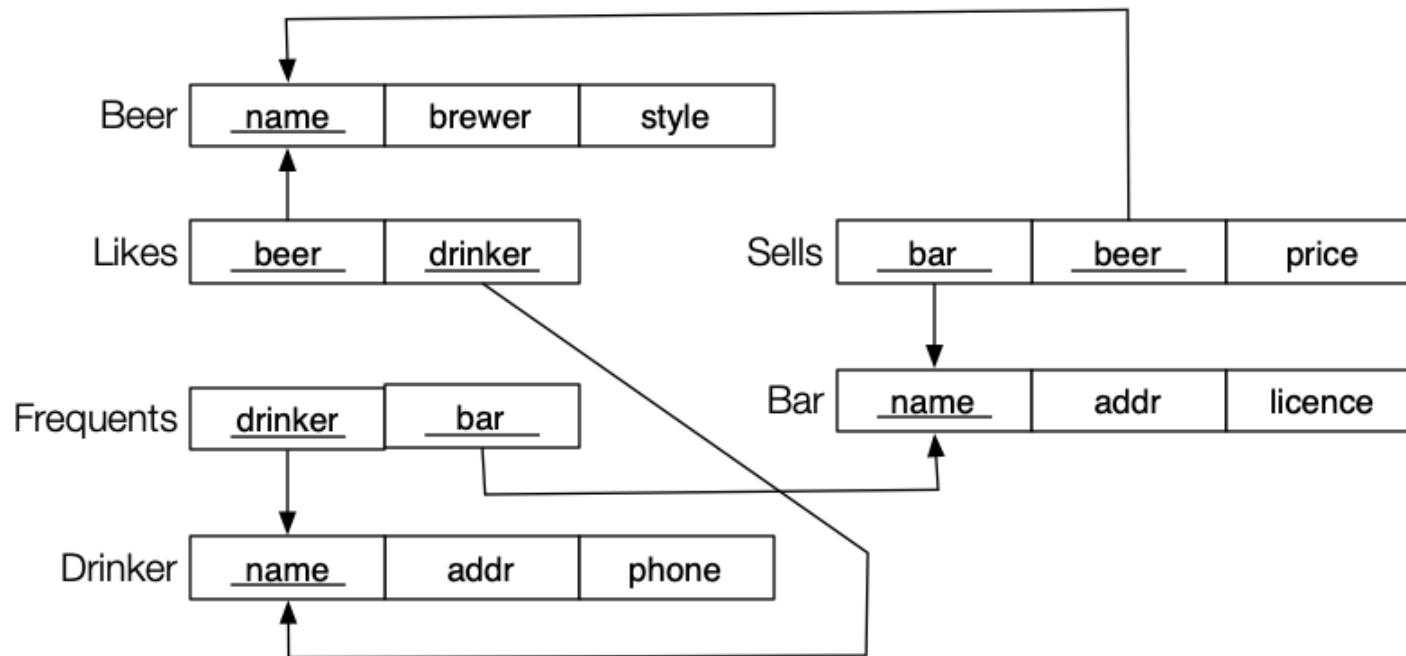
## ❖ SQL Sample Database (cont)

ER design for beer database ...



## ❖ SQL Sample Database (cont)

Relational model for beer database ...



## ❖ SQL Sample Database (cont)

### SQL schema for beer database ...

```
-- Some useful data "types"

create domain BeerName varchar(50);
create domain BarName varchar(30);
create domain DrinkerName varchar(20);

-- Tables based on entities

create table Beers (
    name      BeerName,
    brewer    varchar(40) not null,
    style     varchar(40),
    primary key (name)
);

create table Bars (
    name      BarName,
    addr      varchar(20),
    license   integer not null,
    primary key (name)
);
```

```
create table Drinkers (  
    name    DrinkerName,  
    addr    varchar(30) not null,  
    phone   char(10) not null,  
    primary key (name)  
);  
  
-- Tables based on relationships  
  
create table Sells (  
    bar      BarName,  
    beer     BeerName,  
    price    float,  
    primary key (bar,beer),  
    foreign key (bar) references Bars(name),  
    foreign key (beer) references Beers(name)  
);  
  
create table Likes (  
    drinker  DrinkerName,  
    beer     BeerName,  
    primary key (drinker,beer),  
    foreign key (drinker) references Drinkers(name),  
    foreign key (beer) references Beers(name)  
);  
  
create table Frequent (
```

```
drinker DrinkerName,  
bar      BarName,  
primary key (drinker,bar),  
foreign key (drinker) references Drinkers(name),  
foreign key (bar) references Bars(name)  
);
```

## ❖ SQL Sample Database (cont)

Sample beer data ...

```
beer=# select * from Beers order by name limit 15;
```

name	brewer	style
1750 Export Porter	Kees	
4D	Dainton	Imperial Red Rye IPA
80/-	Caledonian	Scotch Ale
Age of Aquarius	Garage Project	NEIPA
Alexander	Rodenbach	Flanders Red Ale
Amber Ale	James Squire	Amber Ale
Apollo After Dark	Hawkers	Imperial Stout
Astrolabe	Frenchies	Red Biere de Garde
BBARIS	Mismatch	Russian Imperial Stout
Banana Pastry Stout	Hop Nation	Pastry Stout
Barley Griffin	Bentspoke	Pale Ale
Berserker	Ekim	Amber IPA
Betelgeuse	Kaiju	Double Red Ale
Big Nut	Bentspoke	Dark IPA
Bigfoot	Sierra Nevada	Barleywine

(15 rows)



## ❖ SQL Sample Database (cont)

Sample data about drinkers ..

```
beer=# select * from Drinkers;
 name |   addr   |   phone
-----+-----+-----
 Adam | Randwick | 9385-4444
 Gernot | Newtown | 9415-3378
 John | Alexandria | 9665-1234
 Andrew | Clovelly | 9123-1234
 Justin | Mosman | 9845-4321
 Helen | Coogee | 9876-5432
(6 rows)
```

## ❖ SQL Sample Database (cont)

Sample data about drinkers ..

```
beer=# select * from Bars;
```

name	addr	license
Australia Hotel	The Rocks	123456
Coogee Bay Hotel	Coogee	966500
Lord Nelson	The Rocks	123888
Marble Bar	Sydney	122123
Regent Hotel	Kingsford	987654
Royal Hotel	Randwick	938500
Local Taphouse	Darlinghurst	884488

(7 rows)

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