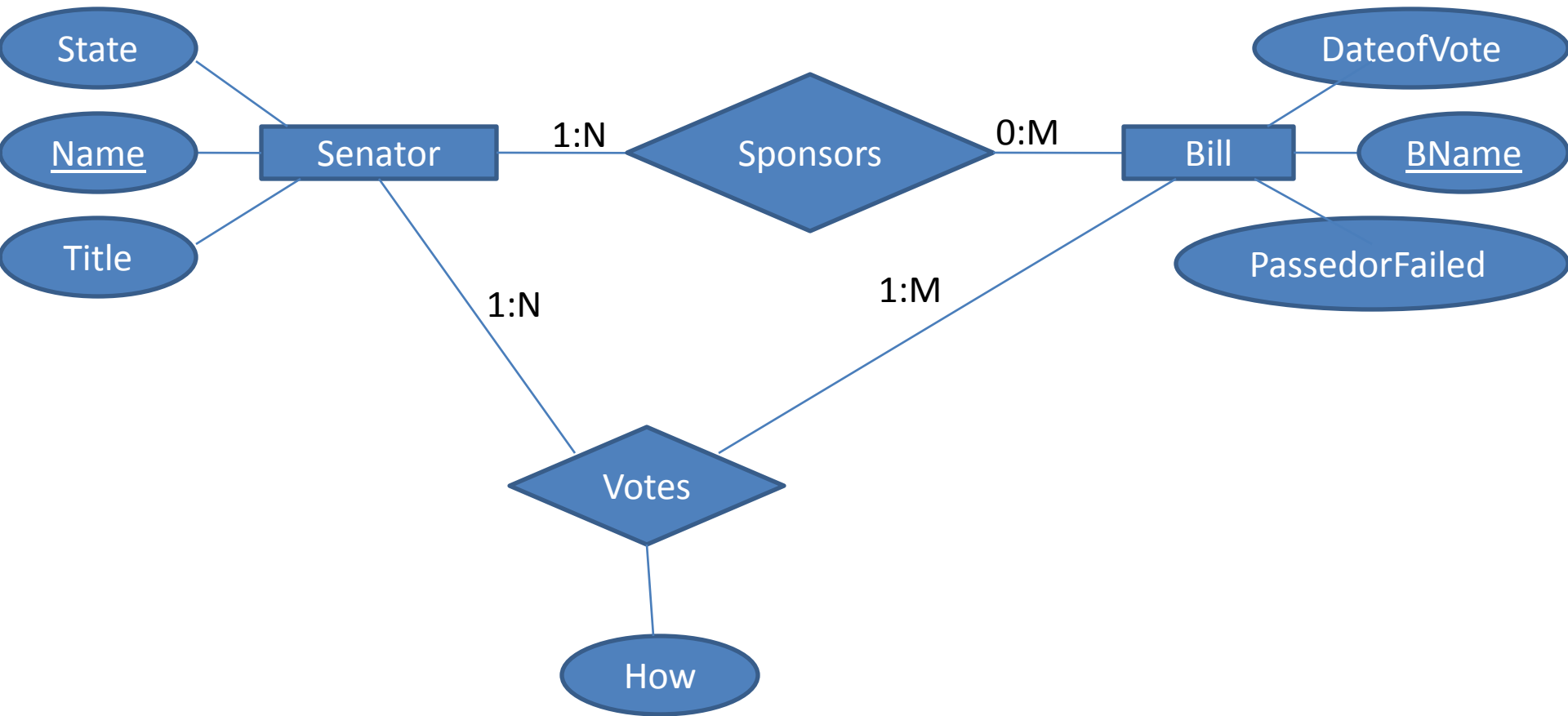


Solutions to Homework 1

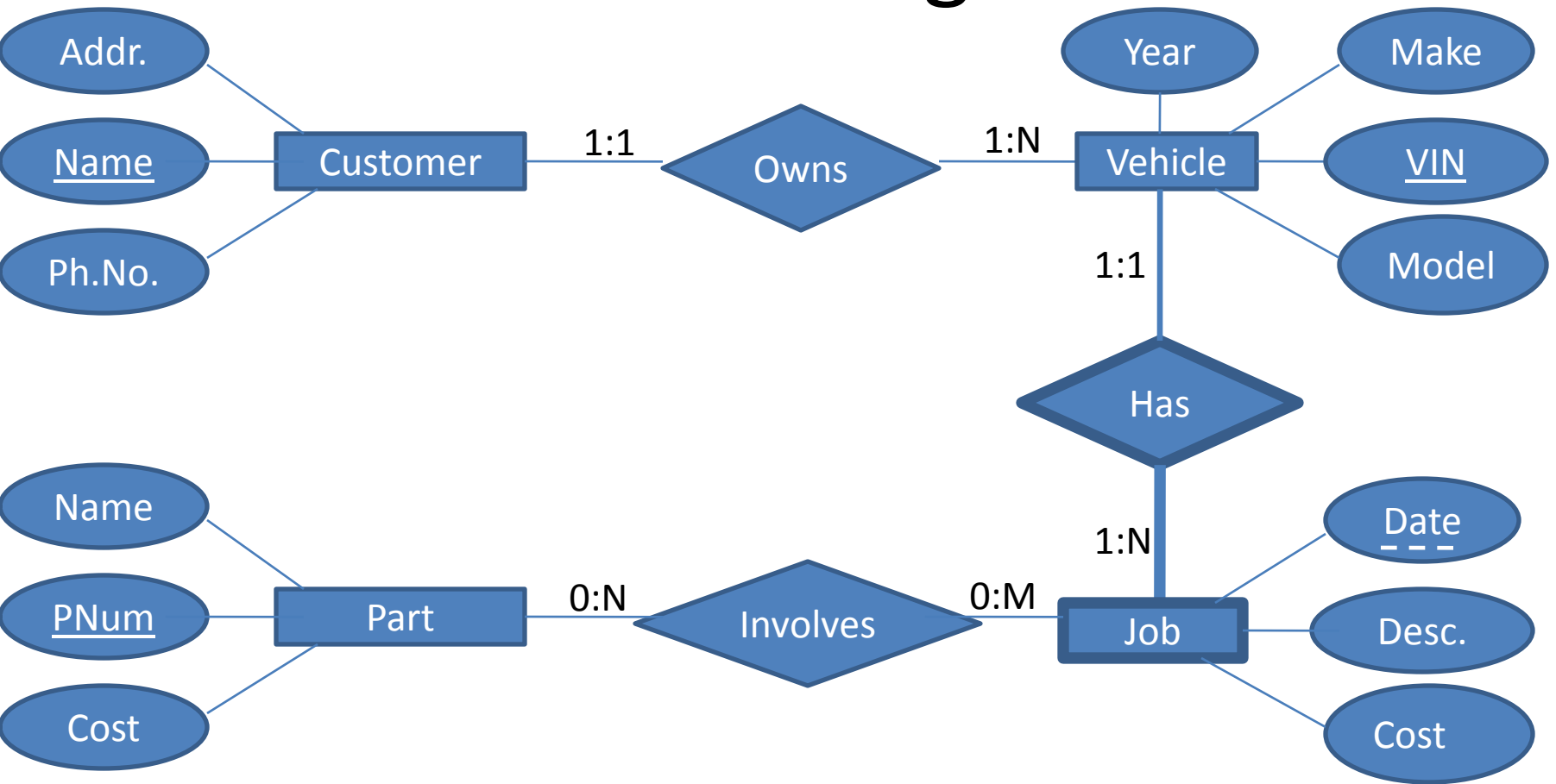
15-415

Question 1: Votes Database



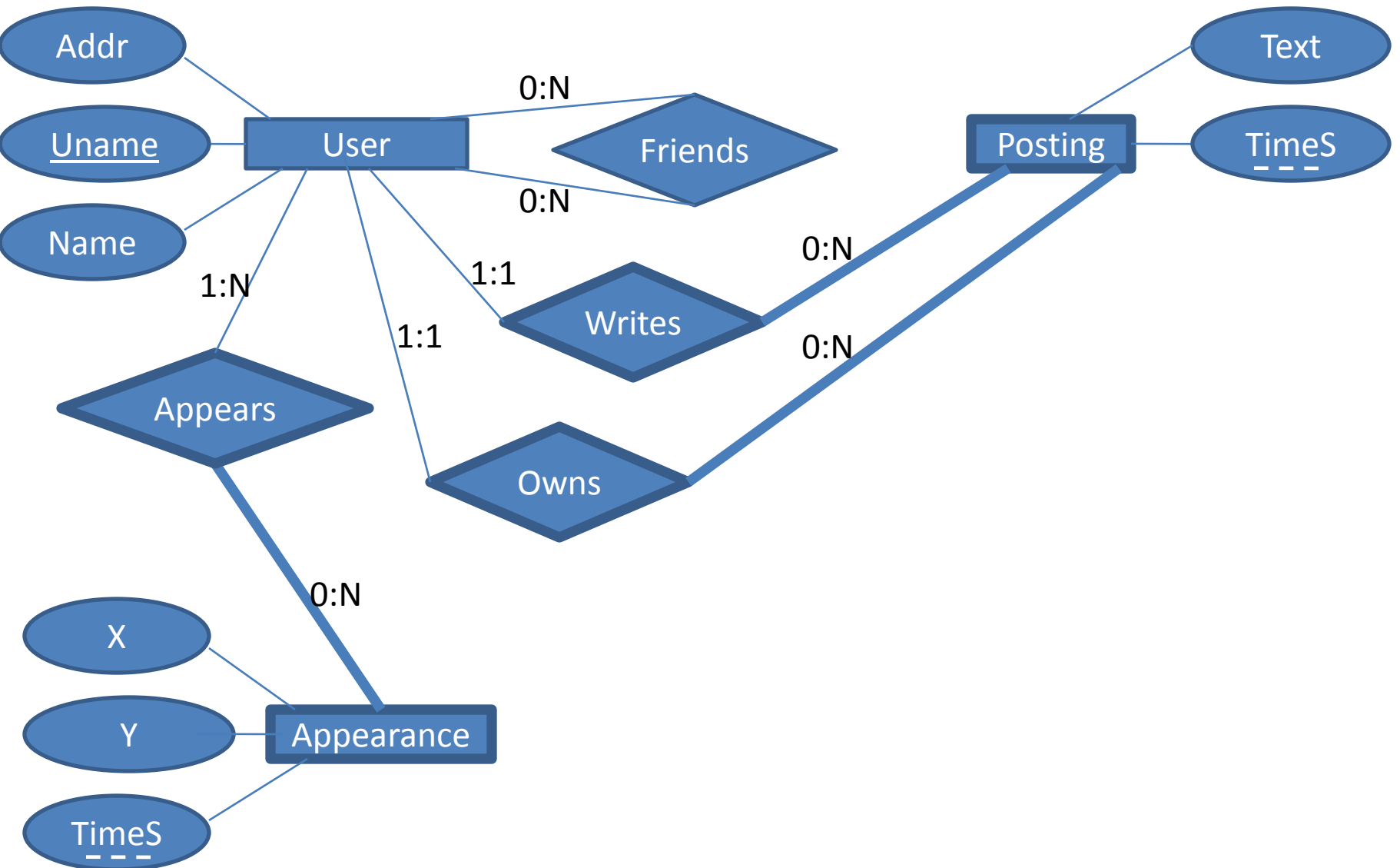
- `create table Senator(name varchar(50), title varchar(50), state varchar(20), primary key name);`
- `create table Bill(bname varchar(50), dateofvote varchar(10), passedorfailed binary, primary key bname);`
- `create table Sponsors(name varchar(50), bname varchar(50), primary key (name, bname), foreign key (name) references Senator, foreign key (bname) references Bill);`
- `create table Votes(name varchar(50), bname varchar(50), how varchar(4), primary key (name, bname), foreign key (name) references Senator, foreign key (bname) references Bill);`

Question 2: Garage Database



- `create table Customer(name varchar(50), addr varchar(50), phno integer, primary key name);`
- `create table Vehicle(vin integer, make varchar(10), model varchar(10), year integer primary key vin);`
- `create table Job(vin integer, desc varchar(200), date varchar(10), cost float, primary key (vin, date), foreign key (vin) references Vehicle);`
- `create table Part(pnum integer, pname varchar(50), cost integer, primary key (pnum));`
- `create table Owns(name varchar(50), vin integer, primary key (name, vin), foreign key (name) references Customer, foreign key(vin) references Vehicle);`
- `create table Involves(vin integer, pnum integer, date varchar(10), primary key(vin, pnum, date), foreign key(vin) references Vehicle, foreign key(pnum) references Part, foreign key(date) references Job);`

Question 3: Social Network



- `create table User(uname varchar(10), addr varchar(50), name varchar(50), primary key uname);`
- `create table Posting(author varchar(10), owner varchar(10), text varchar(100), times varchar(10), primary key (author, owner, times), foreign key (author) references User.uname , foreign key(owner) references User.uname);`
- `create table Appearance(x float, y float, times varchar(10), uname varchar(10), primary key (times, uname), foreign key (uname) references User);`
- `create table Friend(uname varchar(50), friend varchar(50), primary key (uname, friend), foreign key(uname) references User, foreign key(friend) references User.uname);`

Question 4: Movie Ratings

4.1 select distinct movie from recommendation
where rating = 5;

4.2 select customer from recommendation where
movie = "Gone with the wind";

4.3 Output of Q4.1

Gone with the wind

Fight Club

4.4 Output of Q4.2

John Doe

Rob Smith

Jane Matthew

Bob Miller

Kate Brown

4.5 select count(*) from recommendation where
rating = 5;

4.6 select count(*) from recommendation where
rating = 1 and movie = "Gone with the wind";

4.7 Output of Q4.5

2191

4.8 Output of Q4.6

28

4.9/4.10 Easy. Ask TA if in doubt.