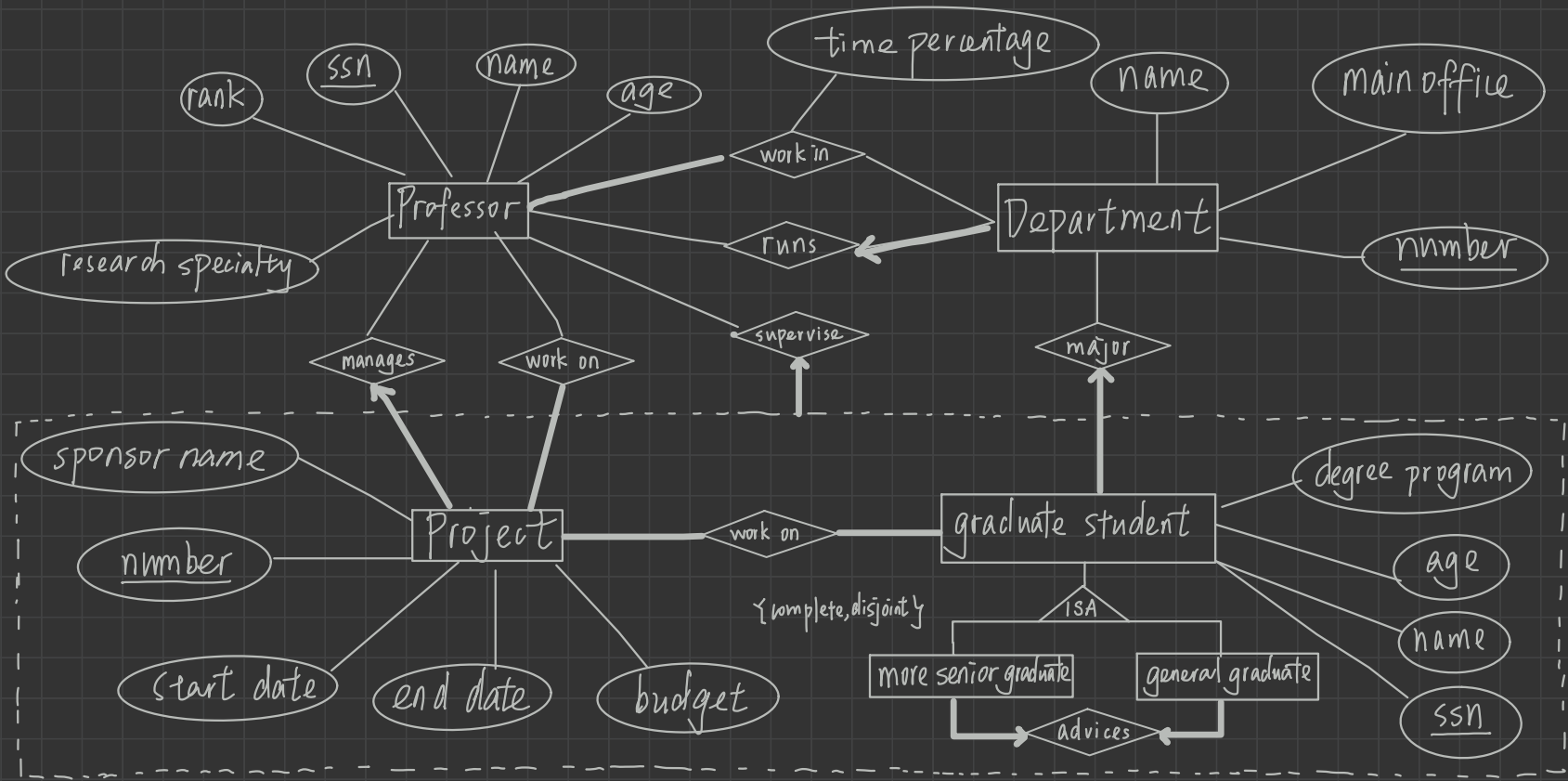
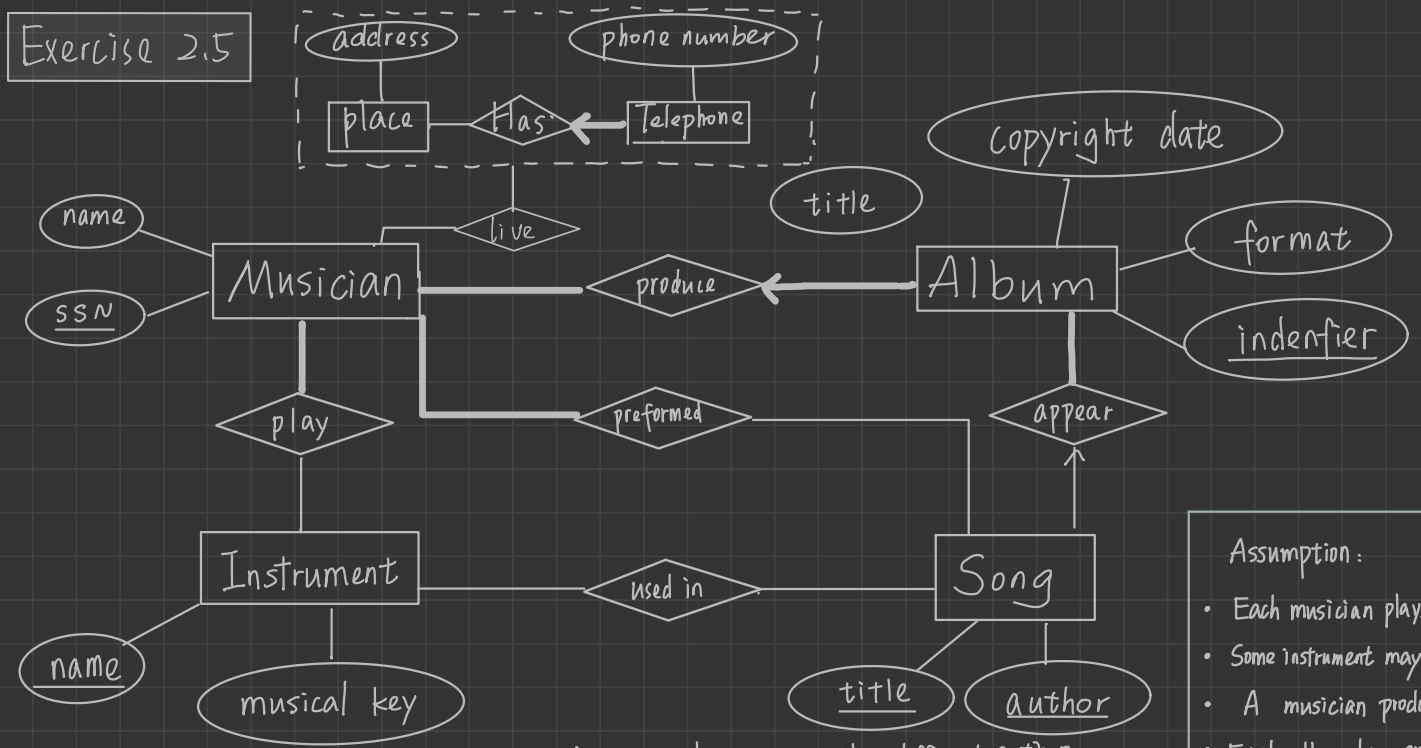
Exercise 2.3

Yuting Chen



- A department must be ran by a professor.

Exercise 2.5



A song can have same title, different author.

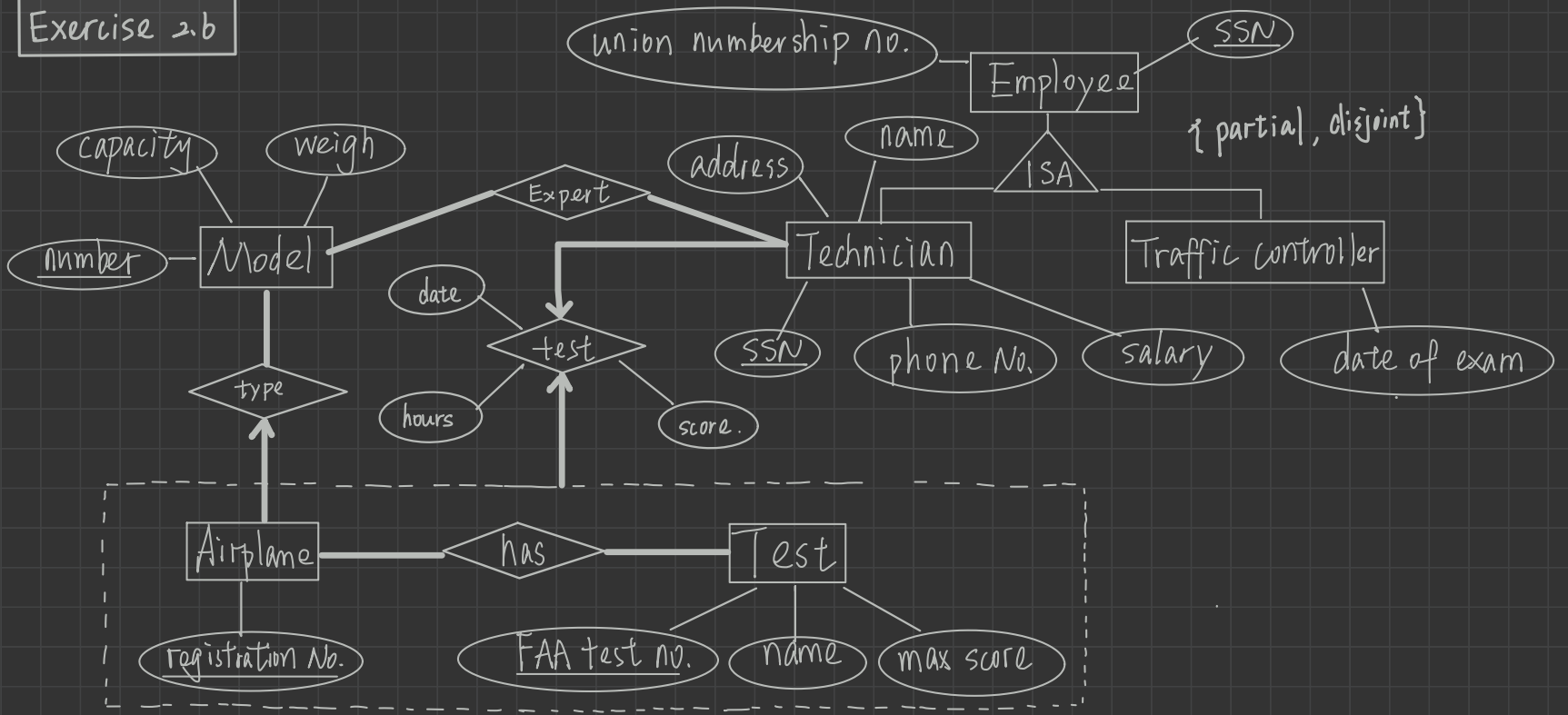
Schema for the Notown Records data base:

- musician (SSN: int, name: varchar(50) address: varchar(50), phone: varchar(15))
- Instrument (name: varchar(15), musical key: varchar(10))
- Album (title: varchar(50), copyright data: int, format: varchar(5), identifer: varchar(20))
- Song (title: varchar(20), author: varchar(20))

Assumption:

- Each musician plays at least one instrument.
- Some instrument may not be played by any musician.
- A musician produce at least one album.
- Each album has exactly one musicians.
- A musician performed at least one song.
- Some song may not be proformed by any musician.
- A album is appeared at least one song.
- A song may appeared or not in a album.
- An instrument may be used or not in songs.
- A song may use a instrument or many instrument or not.

Exercise 2.b

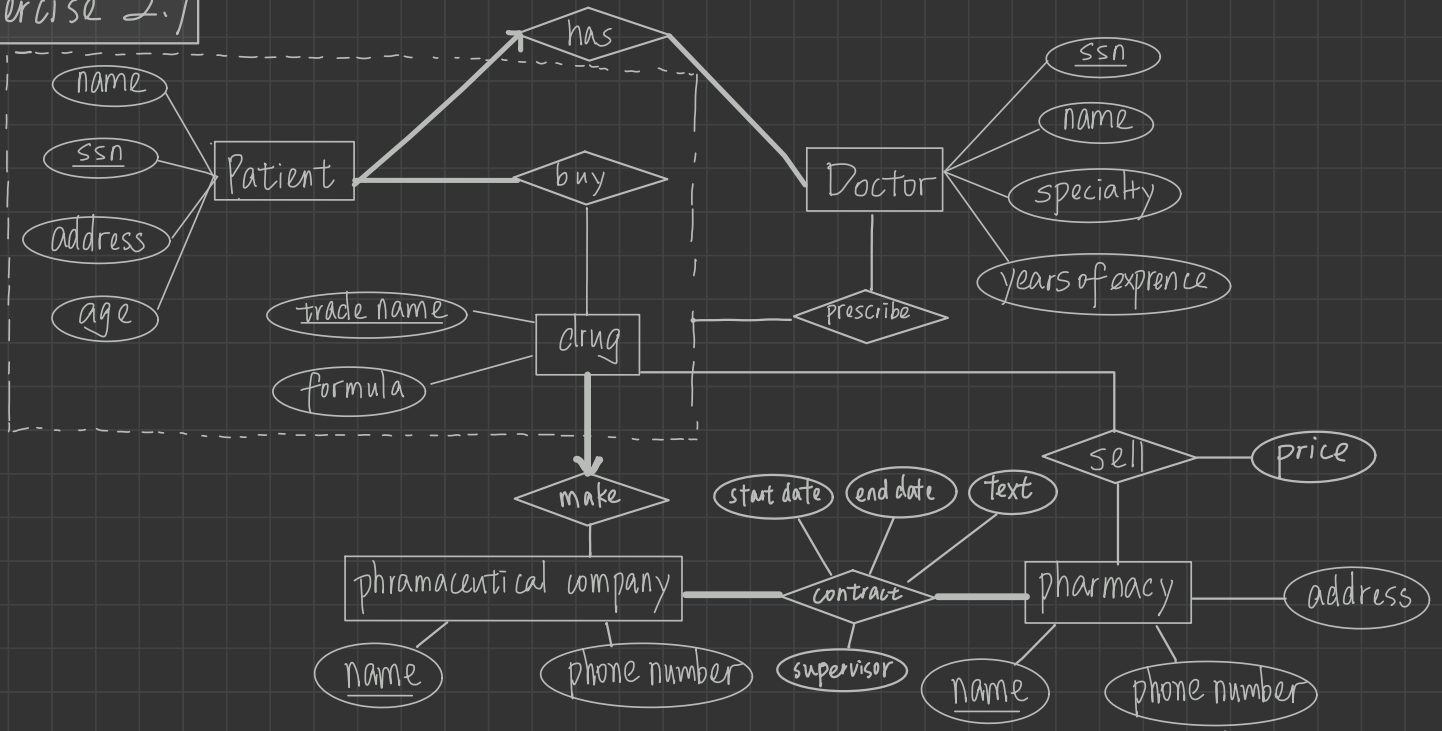


Assumption:

- A airplane has a specific model.
- A model has a number of planes.
- A airplane has a number of tests.
- A test for a number of airplane.

(2) It can not be expressed in ER diagram. Because, the technicans entity set is a specific group in ER diagram. The technicians can not be subdivided into different export field, because each technician is an export on at least one plane model. We can't separate them out clearly. So, It will occur phenomenon that A technician tests a plane model that he is not a export.

Exercise 2.7



(2) if each drug must be sold at a fixed price by pharmacies, we could add the fixed price to Drug entity Set and wipe out the price from the original relationship set.

(3) We can create a new entity set and some relationship set that involves this new entity set. Therefore it will be recorded everytime perscription situation.