

Database Design, CSCI 340, Spring 2016
Quiz 3, March 28

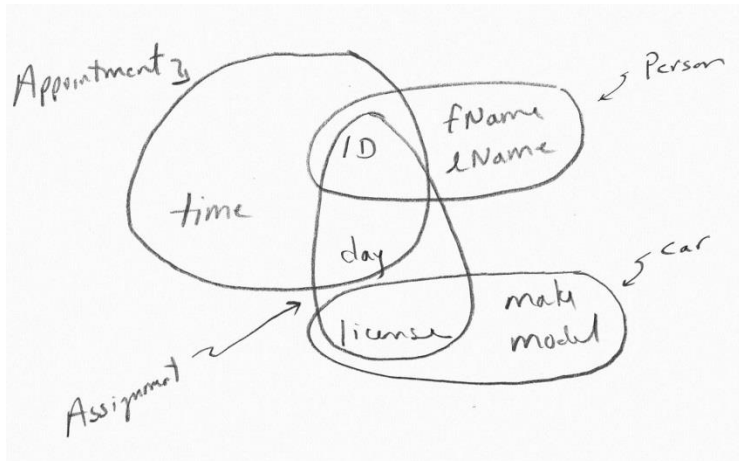
1. Consider the following relation with the given FDs and composite key.

ID	fName	lName	day	time	license	make	model
3	Josh	Holiday	10/22/2015	8:00 AM	MT 53445	Toyota	Prius
3	Josh	Holiday	10/22/2015	10:00 AM	MT 53445	Toyota	Prius
3	Josh	Holiday	10/25/2015	10:00 AM	MT 53445	Toyota	Prius
2	Jeannie	Potter	10/31/2015	3:00 AM	MT 53445	Toyota	Prius
3	Josh	Holiday	10/31/2015	7:00 AM	51-8875	Ford	Ranger
3	Josh	Holiday	10/31/2015	9:00 AM	51-8875	Ford	Ranger
3	Josh	Holiday	10/31/2015	11:00 AM	51-8875	Ford	Ranger
2	Jeannie	Potter	10/22/2015	8:00 AM	51-8875	Ford	Ranger
4	Robert	Owen	10/22/2015	10:00 AM	MT1245A	Toyota	Camry
1	Josh	Potter	10/25/2015	9:00 AM	MT1245A	Toyota	Camry
1	Josh	Potter	10/25/2015	11:00 AM	MT1245A	Toyota	Camry

$ID \rightarrow \text{fName, lName}$
 $\text{license} \rightarrow \text{make, model}$
 $ID, \text{day} \rightarrow \text{license}$

Key for this relation: ID, day, time

- a. If this relation is not already in BCNF, normalize it to a set of relations which are in BCNF. (10 pts.)



Answer:
 Person(ID, fName, lName)
 Car(license, make, model)
 Assignment(ID*, day*, license*)
 Appointment(ID*, day, time)

- b. Show each of the tables in your normalized design and include all data from the sample above.

Person

<u>ID</u>	fName	lName
1	Josh	Potter
2	Jeannie	Potter
3	Josh	Holiday
4	Robert	Owen

Car

<u>license</u>	make	model
MT53445	Toyota	Prius
51-88752	Ford	Ranger
MT1245A	Toyota	Camry

Assignment

<u>ID*</u>	<u>day</u>	<u>License*</u>
3	10/22/2015	MT53445
3	10/25/2015	MT53445
2	10/31/2015	MT53445
3	10/31/2015	51-8875
2	10/22/2015	51-8875
4	10/22/2015	MT1245A
1	10/25/2015	MT1245A

Appointment

<u>ID*</u>	<u>day*</u>	<u>time</u>
3	10/22/2015	8:00AM
3	10/22/2015	10:00AM
3	10/25/2015	10:00AM
2	10/31/2015	3:00AM
3	10/31/2015	7:00AM
3	10/31/2015	9:00AM
3	10/31/2015	11:00AM
2	10/22/2015	8:00AM
4	10/22/2015	10:00AM
1	10/25/2015	9:00AM
1	10/25/2015	11:00AM

That's all folks!