Ryan Somma
StudenID: 9989060874
Ryeguy123@yahoo.com

<u>Assignment #2</u>

- *Complete problems #8, #10, #12, #13, #14, #15 and #16 on pages 94-95 of the Text.*
- *Due Date: <u>Aug 2nd 2009</u>.*
- *Please submit your solution file by using the assignment link provided..*

8. Suppose you have the ERM shown in Figure Q3.8. How would you convert this model into an ERM that displays only 1:M relationships? (Make sure you create the revised ERM.)

To convert this model to 1:M relationships, an intermediary table should be placed between the DRIVER and TRUCK tables to describe the relationships between drivers and trucks.

DRIVER		DRIVER_TRUCK			TRUCK
1		1	A		A
2	1-----------M	1	B	M----------1	B
3		2	A		C
4		2	C		D
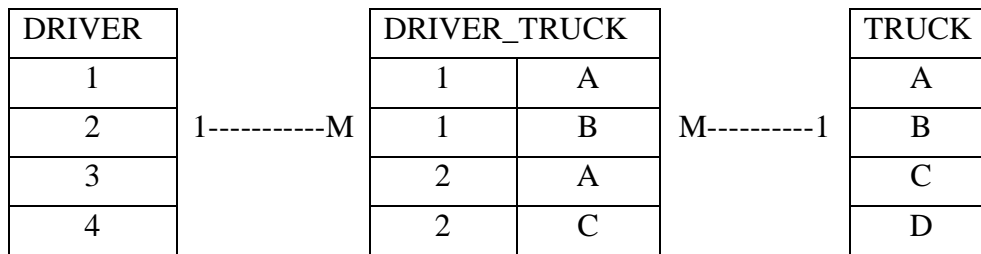
10. How would you implement a 1:M relationship in a database composed of two tables? Give an example.

This would depend on the subject matter we are storing in the tables. For instance, if I had a table of libraries and the books they carried, there would be many cases were libraries would have copies of the same books. To enforce a 1:M relationship between libraries and books, we would have a LIBRARIES table and a BOOKS table. The BOOKS table could have multiple instances of the same book, but each of those instances would have a different LIBRARIES foreign key to distinguish them.
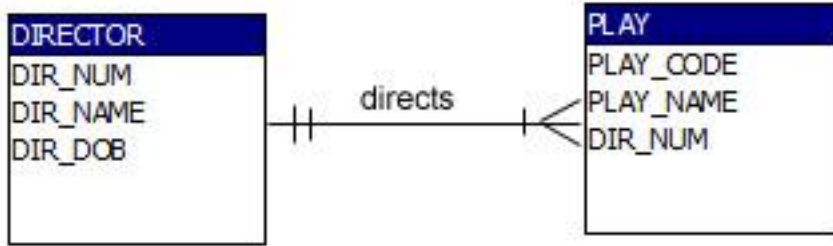
12. Identify the primary keys.

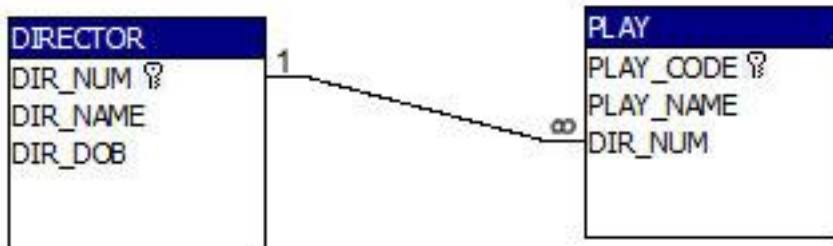In table DIRECTOR the PK is DIR_NUM. In table PLAY the PK is PLAY_CODE.

13. Identify the foreign keys.

In the table PLAY, the FK is DIR_NUM, referencing the PK in DIRECTOR.

14. Create the ERM.

DIRECTOR
DIR_NUM
DIR_NAME
DIR_DOB

directs

PLAY
PLAY_CODE
PLAY_NAME
DIR_NUM

15. Create the relational diagram to show the relationship between DIRECTOR and PLAY.

DIRECTOR
DIR_NUM
DIR_NAME
DIR_DOB

1

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PLAY
PLAY_CODE
PLAY_NAME
DIR_NUM

16. Suppose you wanted quick lookup capability to get a listing of all plays directed by a given director. Which table would be the basis for the INDEX table, and what would be the index key?

We are looking for entries in the PLAY table where a DIR_NUM matches the desired value; therefore, the DIR_NUM column in the DIRECTOR table would serve as the proper index to reference as it is unique in the DIRECTOR table and will serve as the pointers for records in the PLAY table.