Name: Jin Lin

Course: Data Mgt and Database Design

Course ID: INFO6210 18650 SEC 05

Instructor: Yusuf Ozbek
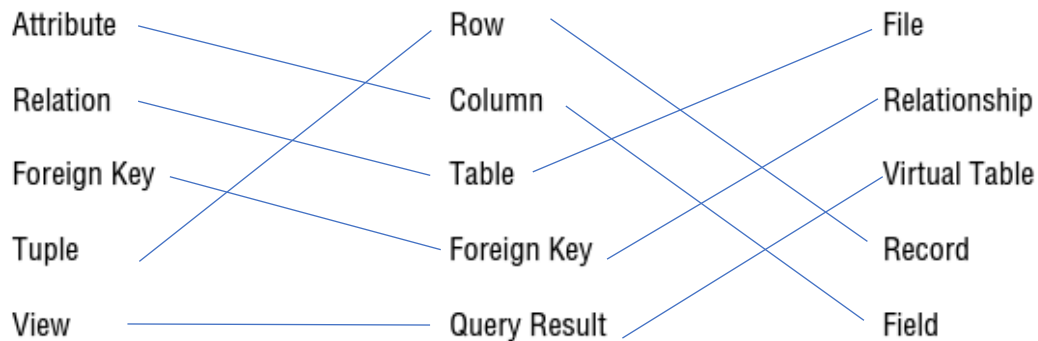
Beginning Database Design Solutions

Chapter 3

Exercise 1:

It means each SalesPeople record have a positive salary with a zero commission,

or a positive commission with a zero salary.

Exercise 2:

Exercise 3:

Yes. In the field State/Abbr/Title, no two records would be the same.

Exercise 4:

No. Because you can find duplicated records in the Engraver/Year/Got fields.

Exercise 5:

A candidate key is a minimal super key. State/Abbr/Title is a super key, while

Engraver/Year/Got is not a super key. Therefore, State/Abbr/Title could be a candidate

key because each of them only contains one column.

Exercise 6:

State is a string recording the names of U.S. states. Abbr is abbreviations of the states. Title is a string. Engraver contains people's last names and first names. Year is a four-digits number. Got has two states: "Yes" or "No".

Exercise 7:

Room and LastName / Room and FirstName / FirstName and Phone / LastName and Phone / FirstName and CellPhone / LastName and CellPhone could be a candidate key for the table.

Exercise 8:

There is no candidate key if the two roommates in the same room have a share room phone and don't have a cellphone.

Exercise 9:

In the Room Column, room number must be even.

In the column Phone and CellPhone, the values can be null or ten digits separated into three parts with three digits, three digits and four digits using "-".

Exercise 10:

The table requires a constrain that is (Phone <> null) or (CellPhone <> null).

Chapter 4 Answers:

Exercise 1:

Customer Role	Description
Convert	Someone who won't be around for long. May be helpful or may not care all that much.
Customer Champion	Answers your questions about the project.
Customer Representative	Anyone who has an interest in the project.
Devil's Advocate	Makes things generally run smoothly. Not glamorous but very useful.
Executive Champion	Provides a reality check and prevents groupthink.
Generic Bad Guy	Ranges from annoying naysayer to malicious saboteur/super villain.
Short-Timer	A user who originally was against your project that you include in the development process to bring them onto your side.
Sidekick/Gopher	The highest ranking customer driving the project. Willing to fight super villains.
Stakeholder	Thoroughly understands the customers' needs. Has the authority to make decisions that stick.

Exercise 2 – 5

2.C   3.D   4.B   5.A

Exercise 6

City and states are required and the other are optional. Users know it because there are stars before the city label and the state label which means the boxes under them are required.

Company's domain is valid companies. Street address's domain is street's name including house number. Apt/Suite/Other's domain is the apartment number/suite number/ other. City's domain is valid cities. State's domain is valid states. Zip Code's domain is five digits.

City and zip code can involve a foreign key.

Exercise 7-8

7.C   8.D

Exercise 9

Goals: Users possessing valid username and valid password can access to the operating system.

Summary: Users input their username and password. If they are valid, they can log in the system.

Actors: Users: tried to log in the system

           System: judge the user whether is valid to log in the system

Pre-condition: The system displays username and password boxes which are waiting for inputs.

Post-condition: If user enters valid username and password, the system will prepare the desktop. Otherwise, the system would remind the username and password are not valid and stay at pre-condition.

Normal Flow: When a user enters valid username and password combination, the system allows the user to log in. In other cases, the user cannot get the permit to log in the system.

Exercise 10:

Contact the Executive Champion and let him check if the database meets the requirements and if it includes a sufficient allowance for farbulistic granilation.

Beginning SQL

Chapter 3

SELECT * FROM memberdetails;

MemberId	FirstName	LastName	DateOfBirth	Street	City	State	ZipCode	Email	DateOfJoining
7	John	Jackson	1974-05-27	Long Lane	Orange Town	New State	88992	jjackson@mailme.net	2005-11-21
2	Bob	Robson	1987-01-09	Little Street	Big City	Small State	34565	rob@mail.com	2004-03-13
1	Katie	Smith	1977-01-09	Main Road	Townsville	Stateside	123456	katie@mail.com	2004-02-23
4	Steve	Gee	1967-10-05	45 Upper Road	New Town	New State	99112	steve@gee.com	2004-02-22
8	Jack	Johnson	1945-06-09	Main Street	Big City	Mega State	34566	jjohnson@me.com	2005-06-02
9	Seymour	Botts	1956-10-21	Long Lane	Windy Village	Golden State	65422	Seymour@botts.org	2005-07-17
10	Susie	Simons	1937-01-20	Main Road	Townsville	Mega State	123456	susie@mailme.com	2005-08-20
11	Jamie	Hills	1992-07-17	Newish Lane	Orange Town	New State	88776	jamie@the_hills.com	2005-08-22
12	Stuart	Dales	1956-08-07	Long Lane	Windy Village	Golden State	65422	sdales@mymail.org	2005-08-27
13	William	Doors	1994-05-28	Winding Lane	Big City	Mega State	34512	knockon@thedoors.com	2005-08-29

Exercise 1

SELECT Street, City, State FROM memberdetails where MemberId=13;

Street	City	State
Winding Lane	Big City	Mega State

Exercise 2

SELECT FirstName, LastName as Surname FROM memberdetails where LastName

like "J%";

FirstName	Surname
John	Jackson
Jack	Johnson

Exercise 3

SELECT LastName, FirstName, DateOfJoining FROM memberdetails

where DateOfJoining < "2004-Dec-31"

order by LastName, FirstName;

LastName	FirstName	DateOfJoining
Gee	Steve	2004-02-22
Robson	Bob	2004-03-13
Smith	Katie	2004-02-23

Exercise 4

Select FirstName, LastName from Attendance Join Location

On Attendance.LocationId = Location.LocationId

Join MemberDetails

On Attendance.MemberId = MemberDetails.MemberId

Where Location.City = "Windy Village" and Location.State = "Golden State"

And Attendance.MemberAttended = "Y";