**Resolved Question:**

Answer the questions below:

Case study Using the Pride Database Figure 7-19 shows the PRIDE Database that is located in the cloud. This database symbol hides a world of complexity. In order to make symbols like that more concrete and easier for you to comprehend, we will delve into its structure in this case. To understand this discussion, you will need to use some of the knowledge you gained from Chapter 5. However, as you read this case, don’t attempt to remember each detail. Instead, strive to get an overall understanding of the structure and management of a real-world database in the cloud. Figure 7-22 shows a thin-client application that Microsoft provides for developers to use to create and administer SQL Azure cloud databases. This application is not used to process the database. Instead, the database will be processed using native or thin-client applications like those shown in Figure 7-19. In this figure, a database named PRIDE V1 is highlighted. When the developer clicks the Manage icon in the Database section of the menu, SQL Azure opens a thin-client application for working with that particular database. Figure 7-23 shows one page in that application that is used to process queries. Here the SQL statements required to define a table named Workout are shown. The developer needs to process statements like this for every table in the database. Figure 7-24 shows three of the PRIDE V1 tables: Person, Workout, and Performance. These diagrams were created by Microsoft Visual Studio, which is a thick-client PC application that developers use to build applications and manage databases. Visual Studio accesses PRIDE V1 in the cloud, reads its metadata, and constructs these representations of tables and relationships. The 1 . . .\* notation on the lines between the tables means the relationship between them is 1:N. Thus a row in Person can relate to many Workout rows, and a row in Workout can relate to many Performance rows. These tables are used as follows: the Store Exercise data application in Figure 7-19 stores a row in Workout when a workout starts. As the workout proceeds, it periodically stores a row in Performance that records exercise data so far, including Distance, Speed, Calories, Pulse, and so forth. It optionally records latitude and longitude for outside workouts such as runs and bike rides. A given workout might have 100 rows or more of Performance data. Figure 7-25 shows the tables involved in prescribing workouts. Healthcare professionals create one or more standard workout profiles in the Profile table. Then that profile is prescribed to a particular person, who then performs one or more workouts according to that profile. Performance data is also stored as just described (not shown). The notation 0..1 on the relationship line between Workout and Profile indicates that a Workout need not relate to any Profile. This rule is needed so that workout data can be stored even if a workout is not governed by a profile. Figure 7-26 shows all of the tables in this database. The tables with names preceded by the word Terms\_ contain data that PRIDE uses to determine how much, if any, of a person’s data can be reported to a particular agency. For example, the table Terms\_PersonHealthClub contains data that specifies how much of the person’s data is to be shared with a particular health club. The terms table data is used by the three reporting applications in Figure 7-19 to limit data reported in accordance with each person’s preferences.

7-4. Explain the advantages of locating the PRIDE database in the cloud. Dr. Flores and his partners could place it on one of their own servers in the practice. Give reasons why it would be unwise for them to do so.

7-5. Explain the origin of Figures 7-23 and 7-24. What application created each? Where did the data for constructing the tables in Figure 7-24 arise? Using your intuition and database knowledge, explain how the relationship between Person and Workout is defined in Figure 7-23. What coding in Figure 7-23 ensures that every row in Workout will correspond to some row in Person?

7-6. Explain how the Store Exercise Prescriptions Application in Figure 7-19 will use the tables shown in Figure 7-25.

7-7. Explain how the Store Exercise Data application in Figure 7-19 will use the tables shown in Figure 7-25.

7-8. Explain how the Report Patient Exercise application in Figure 7-19 will use the tables shown in Figure 7-25.

7-9. Data in the Person table most likely duplicates data in health clubs’ membership databases as well as data in healthcare providers’ patient databases. Will this duplication create problems for the health clubs, healthcare providers, and PRIDE users? If not, say why not. If so, give two examples of problems and suggest ways that those problems can be solved.

7-10. Explain the ways in which the PRIDE database eliminates possible enterprise-level information silos. Explain ways that it might create another form of information silo.

7-11. Given what you know so far, do you think the PRIDE system is likely to be

successful? Explain your answer.



  



