Chapter 1 - Introduction
Oracle Database 11g SQL
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Recommend? yes no

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What Is a Relational Database?

The concept of a relational database was originally developed back in 1970 by Dr. E.F. Codd. He laid down the theory of relational databases in his seminal paper entitled “A Relational Model of Data for Large Shared Data Banks,” published in *Communications of the ACM* (Association for Computing Machinery), Vol. 13, No. 6, June 1970.

The basic concepts of a relational database are fairly easy to understand. A *relational database* is a collection of related information that has been organized into *tables*. Each table stores data in *rows*; the data is arranged into *columns*. The tables are stored in database *schemas*, which are areas where users may store their own tables. A user may grant *permissions* to other users so they can access their tables.

Most of us are familiar with data being stored in tables—stock prices and train timetables are sometimes organized into tables. One example table used in this book records customer information for an imaginary store; the table stores the customer first names, last names, dates of birth (dobs), and phone numbers:

```
first_name last_name  dob         phone
---------- ---------- ----------- ------------
John       Brown      01-JAN-1965 800-555-1211
Cynthia    Green      05-FEB-1968 800-555-1212
Steve      White      16-MAR-1971 800-555-1213
Gail       Black                  800-555-1214
Doreen     Blue       20-MAY-1970
```

This table could be stored in a variety of forms:

- A card in a box
- An HTML file on a web page
- A table in a database

An important point to remember is that the information that makes up a database is different from the system used to access that information. The software used to access a database is known as a *database management system*. The Oracle database is one such piece of software; other examples include SQL Server, DB2, and MySQL.

Of course, every database must have some way to get data in and out of it, preferably using a common language understood by all databases. Database management systems implement a standard language known as *Structured Query Language*, or SQL. Among other things, SQL allows you to retrieve, add, modify, and delete information in a database.

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