

Chapter 1

1.3 Some of the *disadvantages* are as follows:

- Security might be compromised (without good controls);
- Integrity might be compromised (without good controls);
- Additional hardware might be required;
- Performance overhead might be significant;
- Successful operation is crucial (the enterprise might be highly vulnerable to failure);
- The system is likely to be complex (though such complexity should be concealed from the user).

1.6 a.

WINE	PRODUCER
Zinfandel	Rafanelli

b.

WINE	PRODUCER
Chardonnay	Buena Vista
Chardonnay	Geyser Peak
Joh. Riesling	Jekel
Fumé Blanc	Ch. St. Jean
Gewurztraminer	Ch. St. Jean

c.

BIN#	WINE	YEAR
6	Chardonnay	1996
22	Fumé Blanc	1996
52	Pinot Noir	1995

d.

WINE	BIN#	YEAR
Cab. Sauvignon	48	1993

1.7 We give a solution for part a. only: "Rafanelli is a producer of Zinfandel" -- or, more precisely, "Some bin contains some bottles of Zinfandel that were produced by Rafanelli in some year, and they will be ready to drink in some year."

- 1.8** a. A row for bin number 80 is added to the CELLAR table.
- b. The rows for bin numbers 45, 48, 64, and 72 are deleted from the CELLAR table.
- c. The row for bin number 50 has the number of bottles set to 5.
- d. Same as c.

Incidentally, note how convenient it is to be able to refer to rows by their primary key value (the primary key for the CELLAR table is {BIN#} -- see Chapter 8).

1.9 a.

```
SELECT BIN#, WINE, BOTTLES
FROM   CELLAR
WHERE  PRODUCER = 'Geyser Peak' ;
```

b.

```
SELECT BIN#, WINE
FROM   CELLAR
WHERE  BOTTLES > 5 ;
```

c.

```
SELECT BIN#
FROM   CELLAR
WHERE  WINE = 'Cab. Sauvignon'
OR     WINE = 'Pinot Noir'
OR     WINE = 'Zinfandel'
OR     WINE = 'Syrah'
OR     ..... ;
```

There is no shortcut answer to this question, because "color of wine" is not explicitly recorded in the database; thus, the DBMS does not know that (e.g.) Pinot Noir is red.

d.

```
UPDATE CELLAR
SET    BOTTLES = BOTTLES + 3
WHERE  BIN# = 30 ;
```

e.

```
DELETE
FROM   CELLAR
WHERE  WINE = 'Chardonnay' ;
```

f.

```
INSERT
INTO   CELLAR ( BIN#, WINE, PRODUCER, YEAR, BOTTLES, READY )
```

```
VALUES ( 55, 'Merlot', 'Gary Farrell', 1996, 12, 2001 ) ;
```