

7.13 Library systems

Many library systems are computer controlled. They usually involve the use of barcodes on the books being borrowed and on the borrower's library card (see Figure 7.15).

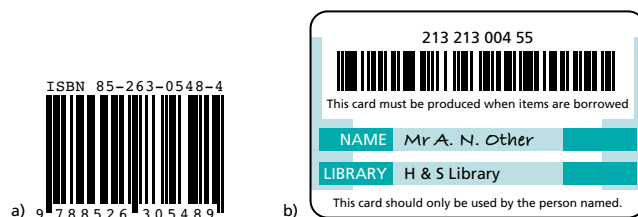


Figure 7.15 Barcodes on a) a library book and b) a library card

- The following describes a computerised library system based on barcodes.
- There are two files:
 - **Book file** (this contains a number of records made up of the following fields):

Barcode	Book title	Name of author	Date published	Number of books	Date due back
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- **Borrower's file** (this contains a number of records made up of the following fields):

Borrower's number	Borrower's name	Borrower's details	Barcode of book borrowed
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- When a borrower takes out a book, the book's barcode is scanned. The book details are then found on the **book file**.
- The borrower's library card barcode is then scanned for the borrower's unique number. The **book file** is linked to the **borrower's file** and both files are updated to indicate which book has been borrowed and when it is due back.
- On a daily basis, the **borrower's file** is interrogated by the computer to see which books are overdue for return:
 - The computer reads a record from the book file.
 - It compares the date due back with the current date.
 - If the date due back is **less than (or equal to)** the current date (i.e. earlier date) ...
 - ... using the barcode number of the book ...
 - ... the book file is linked to the borrower's file ...
 - ... and the corresponding record is read from the borrower's file.
 - The customer details are then found and a letter or email is automatically sent out.
 - The next record in the book file is then read ...
 - ... until the whole file has been checked.