We have now considered a few aspects of a file system's responsibilities in some detail. We have glimpsed the complexity of activity that occurs when a program issues a simple READ statement. (Description of activities ensuing from a WRITE is left as an exercise.) Let us now see what happens when a file is opened and when it is closed.

Before a program can access a file for input or output, that file must be opened. This processing may be initiated by an OPEN statement (required in COBOL) or in conjunction with the first READ or WRITE issued to the file. In either case, essentially the same activities result. These activities include the following:

- If necessary, a request is issued to an operator to mount the requested volume (e.g., tape reel or removable disk).
- The required channel program skeletons are constructed.
- Labels are checked if the file is opened for input; labels are written if the file is opened for output.
- The user's authorization to access the file is verified.
- The file's buffer area(s) are constructed and flags are properly initiated.
- If anticipatory buffering is in effect for an input file, then the first buffer is filled.
- The file's control block in the system's file directory is completed.

The information that is used to complete the file's control block can be extracted from several sources, including the program (using, for example, the FILE-CONTROL and FILE SECTION entries in COBOL), job control statements external to the program, and the file's labels (for an input file). File systems impose priorities on these sources for purposes of resolving conflicts that arise should they contain contradictory descriptions for a file.

After a program has completed its use of a file, the file needs to be closed. This processing may be initiated by a CLOSE statement or by default at program termination. Closing a file prepares it for later use by another program execution. The activities involved in closing a file include the following:

- The buffer area(s) for an output file are emptied.
- The buffer area(s) and channel program spaces are released.
- End-of-file marks and trailer labels are written for an output file.
- The volume's disposition (e.g., rewind, dismount) is handled.

In a large program that uses several files, space requirements can be reduced by having files open only while they are active, rather than opening all files at the beginning of the program and postponing their closure until program termination.