



1.2.2 Linkers, Loaders & Use of Libraries

Libraries

A library is a collection of pre-written, pre-compiled and tested code that can be used by other programs.

For example, graphics libraries, encryption, database access.

Advantages

Saves development time because programmers can use existing code instead of writing the functionality themselves.

The code has already been tested and debugged, reducing the amount of testing required by the programmer.

Pre-tested and debugged.

The code may already be compiled and optimised, so it can be incorporated into the program without the programmer having to write and optimise the functionality themselves.

Can make use of code/expertise developed by other programmers.

Disadvantages

The implementation of functions may not be visible, making it harder for the programmer to understand or modify how they work.

The programmer depends on the library developers to maintain, update and fix security issues in the library.

Linker

A linker combines the compiled code from a program with the required library code to produce an executable program.

This may involve incorporating the library code into the executable or creating links to library code that is loaded separately.

Loader

The loader is part of the operating system that loads an executable program into main memory so that it can be executed.





From Source Code to Execution

