



1.2.2 Linkers, Loaders & Use of Libraries

1. A benefit of creating programs in a high-level language is being able to make use of libraries.

a) Explain what is meant by a library, giving **one** example of when one may be used.

[3 marks]

- A collection of pre-written code
- ... containing useful subroutines
- E.g. GUI libraries, database access, encryption

b) Describe **one** advantage and **one** disadvantage of the use of library files to programmers.

[4 marks]

Advantages

- Saves development time
- ... because no need to rewrite code / write code from scratch
- Can make use of code/expertise developed by other programmers
- ... to complete tasks outside a programmer's skills
- Has already been tested
- ... saving time debugging

Disadvantages

- May increase the size of the compiled files
- ... as libraries may contain many routines that aren't required
- Not written by programmer
- ... so a programmer may need time to familiarise themselves with the library

2. Describe the roles of the linker and the loader during program compilation and execution.

[4 marks]

- A linker combines multiple code objects
- ... possibly including libraries
- ... into a single executable file
- A loader is an operating system component
- ...that loads programs
- ... into main memory.

