

AQA Computer Science AS-Level

3.2.1 Data structures and abstract data types

Concise Notes

Specification:**4.2.1.1 Data structures:**

Be familiar with the concept of data structures.

4.2.1.2 Single- and multi-dimensional arrays (or equivalent):

Use arrays (or equivalent) in the design of solutions to simple problems.

4.2.1.3 Fields, records and files:

Be able to read/write from/to a text file.

Be able to read/write data from/to a binary (non-text) file.

Data structures

- The [containers](#) within which information is stored
- Some are better suited to [different types of data](#) than others
- Programmers must decide which of the data structures available is the best to use

Arrays

- An [indexed set of related elements](#)
- Must be [finite](#) and [indexed](#)
- An array's index often [starts from zero](#)
- Must only contain elements with the same data type
- Arrays can be created in [many dimensions](#)

Fields, records and files

- Information is stored by computers as a [series of files](#).
- Each file is made up of [records](#) which are composed of a number of [fields](#).

