



Data Abstraction

Primitive & Non-Primitive Data Types

Primitive data structures are basic data types and can be stored, manipulated and organised by direct machine instructions. Integers, floats, characters and pointers are basic data types. For example, an integer allows values without a fraction, whereas a float data type can store fraction numbers. A pointer is a variable which holds a memory address of another variable.

Non-primitive data types are complex data abstractions which consist of arrays, lists and files. The arrays are fixed length storage of data which hold the same type of data, whereas a list is the ordered set of variables which refers to the specific elements linked to these variables. The other complex data abstraction we see is a file which holds a large record set of data and might be organised according to various fields.

Data elements can be organised in linear fashion, in other words, in sequence of memory locations. Stacks and Queues are of this kind. In Non-linear data structure data elements are not organised in sequence but in Trees using nodes and branches.