

## What is a Data Structure?

- a collection of values
- they can have relationships among them
- they can have functions applied to them

Each Data Structure especialises in their own thing. They work as a file cabinet, a container, or a compartment of different types. A backpack for school stuff. A drawer for clothers. A fridge for your food. A folder for your files.

Data Structures are a way to organise data, so that we can easily retrieve it and manage it. See: [https://en.wikipedia.org/wiki/List\\_of\\_data\\_structures](https://en.wikipedia.org/wiki/List_of_data_structures)

### 1. How to Build One

### 1. How to Use it

Most common Data Structures:

- Arrays
- Stacks
- Trees
- Tries
- Stacks
- Queues
- Graphs
- Linked Lists
- Hash Tables

Operations on Data Structures:

- Access (probably the most important one)
- Insertion
- Deletion
- Traversal (access each data item exactly once for processing)
- Searching
- Sorting