

Data Structures

An object used to efficiently store and access data

- Some prioritize data access
- Some prioritize data modification

There are many types, typically each one will be used to do some specific

Two types of data structures

- Linear
- Hierarchical

Linear Data Structures

- Order data in a orderly manner each item is attached adjacently
- All elements can be accessed in a single run time
- They are typically easier to implement
- Have single level
- More memory inefficient

Examples:

- Lists
- Sets
- Stacks
- Queues
- Map

Hierarchical Data Structures

Arranges elements in some sorted order or they have some relation ship other than a sequence

- Cannot access in a single runtime
- More complicated to implement
- Multi leveled
- Memory Efficient

Examples:

- Maps
- Graphs
- Trees
- Heaps