

Data Structure

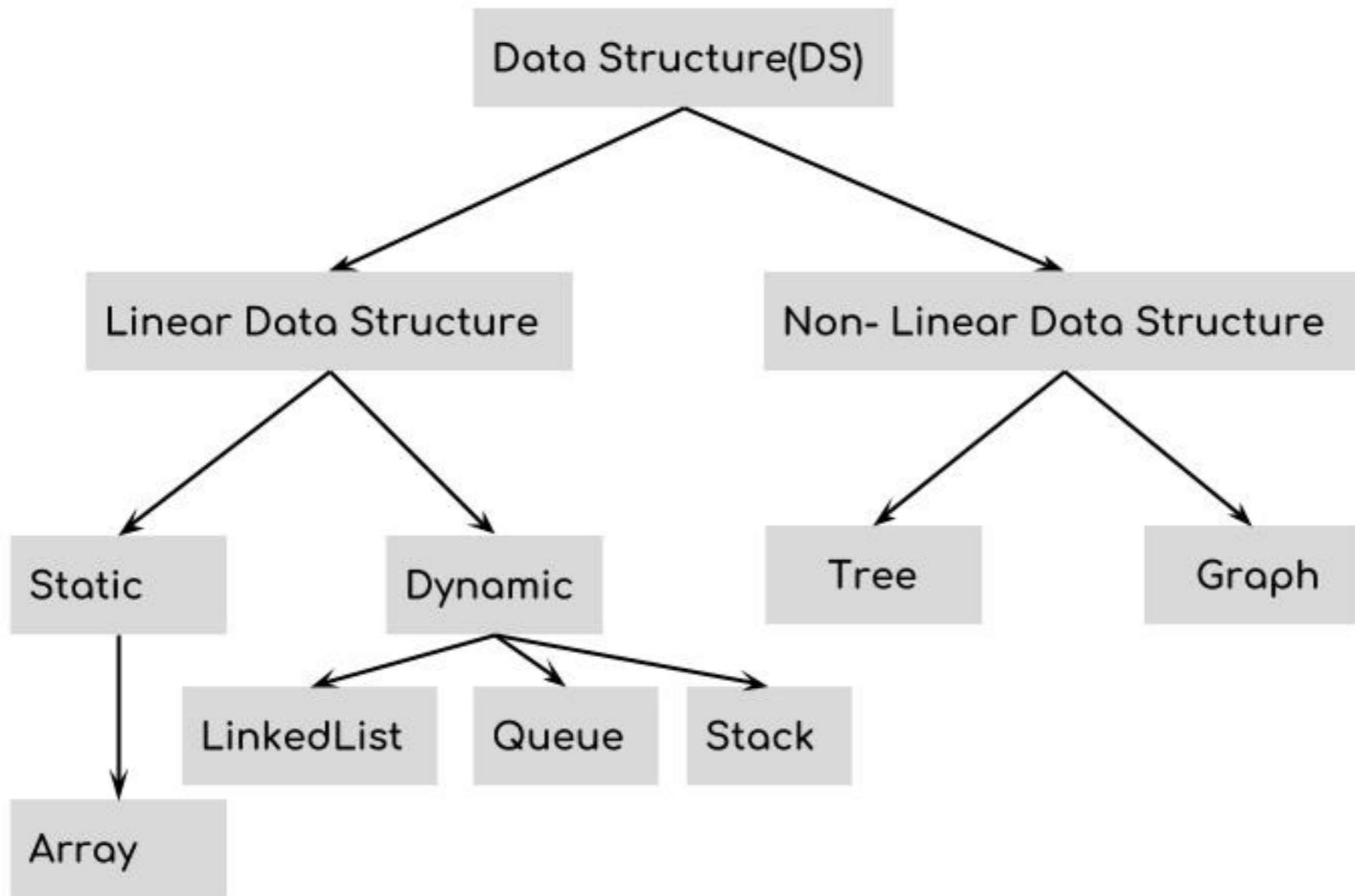
Data Structure

A data structure is a way of organizing data in a computer so that it can be used effectively.

Types of data structure

Linear Data Structure

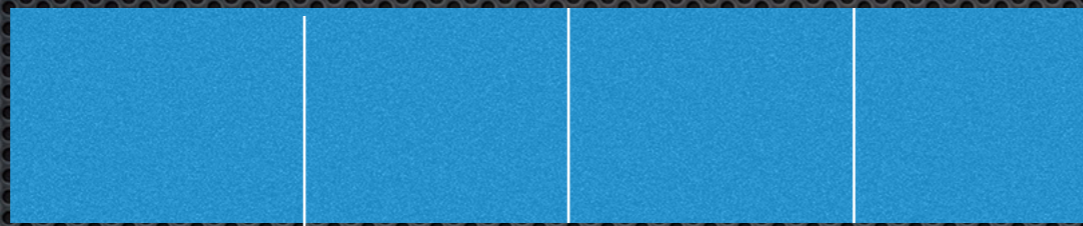
Non-Linear Data Structure



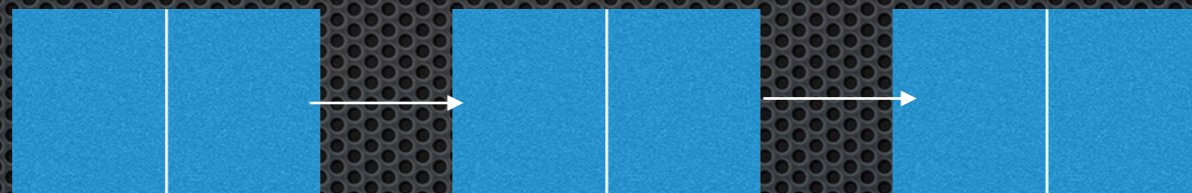
Linear Data Structure

Data structure where data elements are arranged sequentially or linearly, where the elements are attached to its previous and next elements is called a linear data structure. Ex. Array, LinkedList, stack Queue

Array



Linked List



Real world Example

undo/redo operations in a word processor

back functionality in the internet browser

Printer Jobs Queue

Non Linear Data Structure

Data structures where data elements are not arranged sequentially or linearly are called non-linear data structures.
ex. Tree, graph

A Structure of data having several Level

Data elements are attached in hierarchically manner.

Multiple levels are involved.

Implementation is complex in comparison to linear data structure.

data elements can't be traversed in a single run only

memory is utilized in an efficient way.

Real world Example

Social networking
Company hierarchy
HTML tags
File System