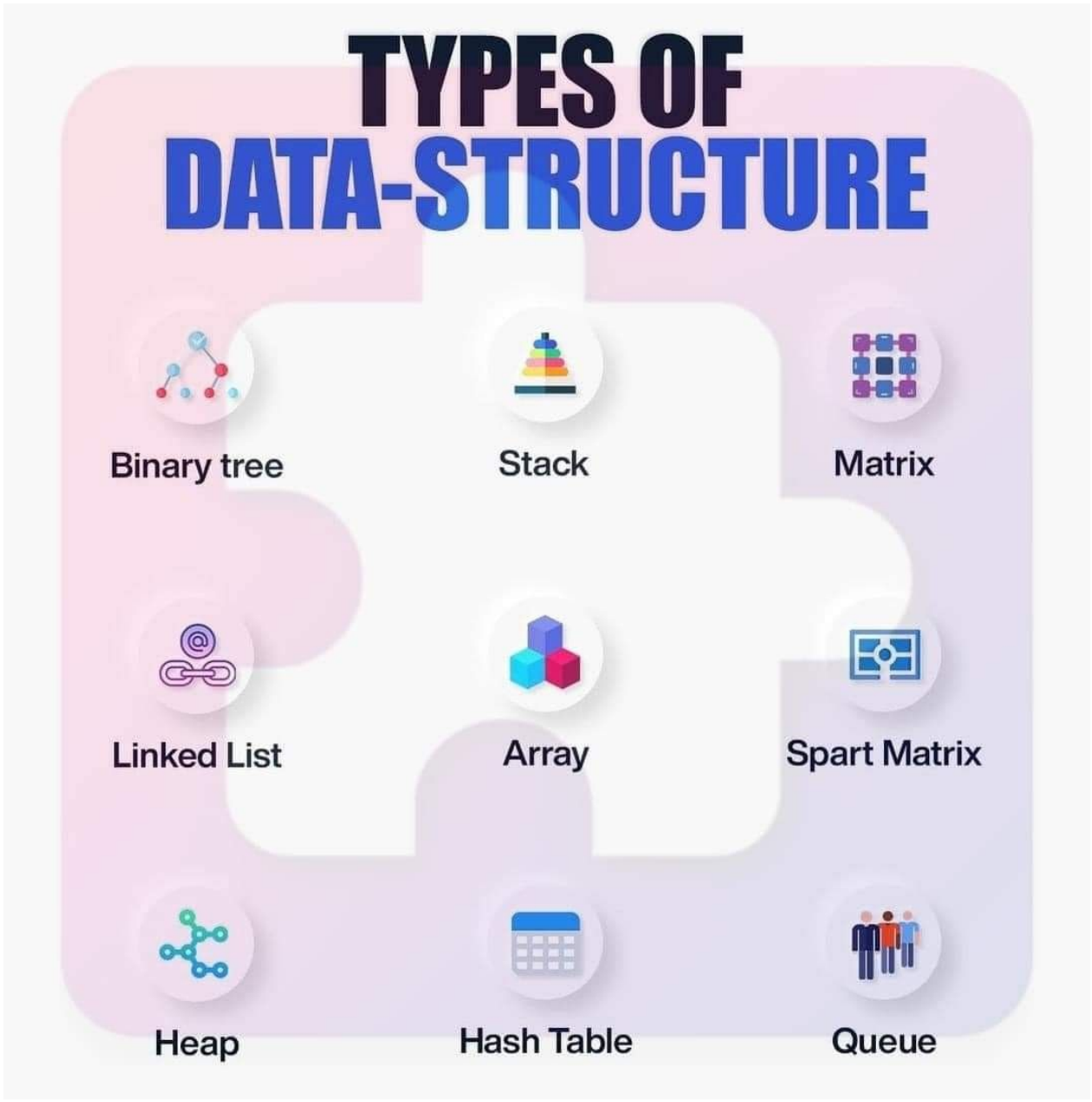
TYPES OF DATA-STRUCTURE



Top 25 algorithms

Searching

1. Linear Search
2. Binary Search
3. Depth First Search
4. Breadth First Search

Sorting

1. Insertion Sort
2. Heap Sort
3. Merge Sort
4. Selection Sort
5. Quick Sort
6. Counting Sort

Graphs

1. Kruskal's Algo
2. Dijkstra's Algo
3. Bellman Ford Algo
4. Floyd Warshall Algo
5. Topological Sort Algo
6. Flood Fill Algo
7. Lee Algo

Arrays

1. Kadane's Algo
2. Floyd's Cycle Detection Algo
3. KMP Algo
4. Quick Select Algo
5. Boyer - More Majority vote Algo

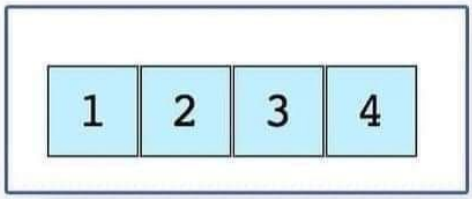
Basic Algo's

1. Euclid's Algo
2. Union Find Algo
3. Huffman Coding Compression Algo

1 Array

An array is a data structure that contains a group of elements. Typically these elements are all of the same data type, such as an integer or string.

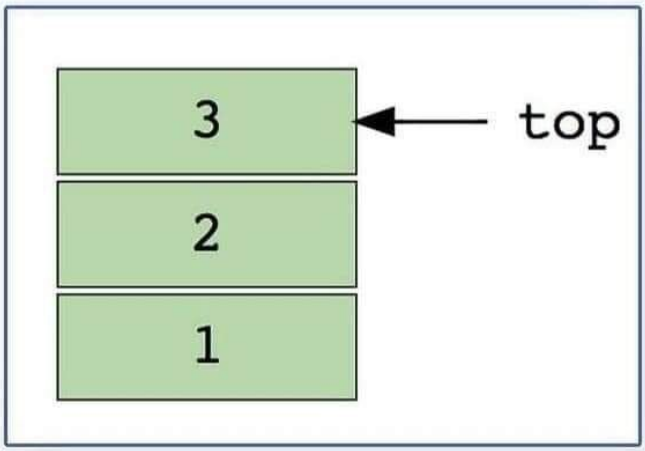
Here's an image of a simple array of size 4, containing elements (1, 2, 3 and 4).



2 Stack

A stack is a data structure used to store a collection of objects. Individual items can be added and stored in a stack using a push operation.

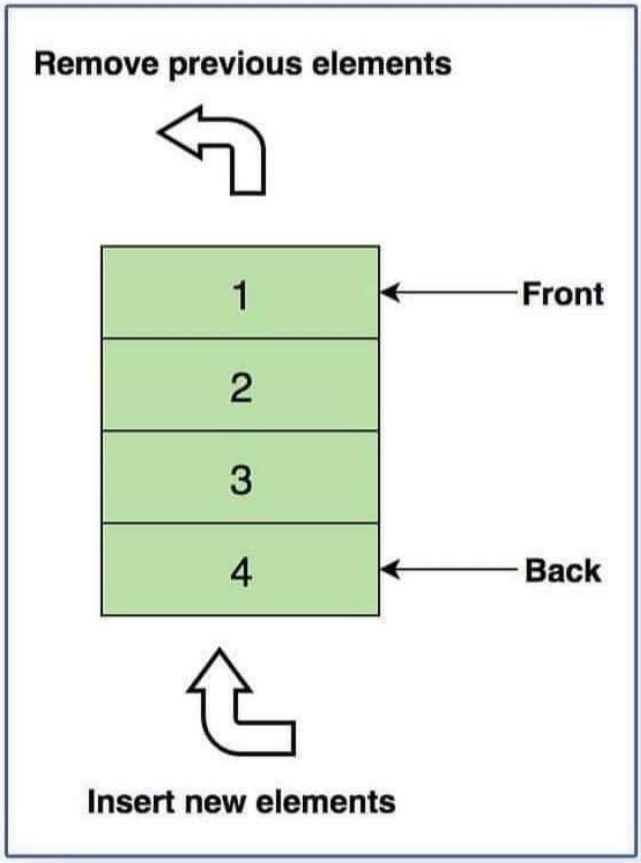
Here's an image of stack containing three data elements (1, 2 and 3), where 3 is at the top and will be removed first:



3 Queues

Queue is another linear data structure that stores the element in a sequential manner.

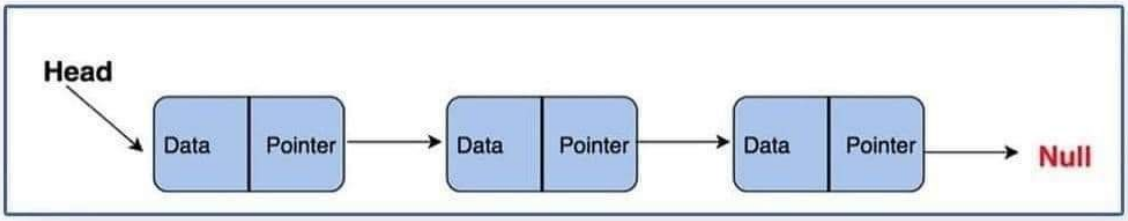
Here's an image of Queue containing four data elements (1, 2, 3 and 4), where 1 is at the top and will be removed first:



4 Linked List

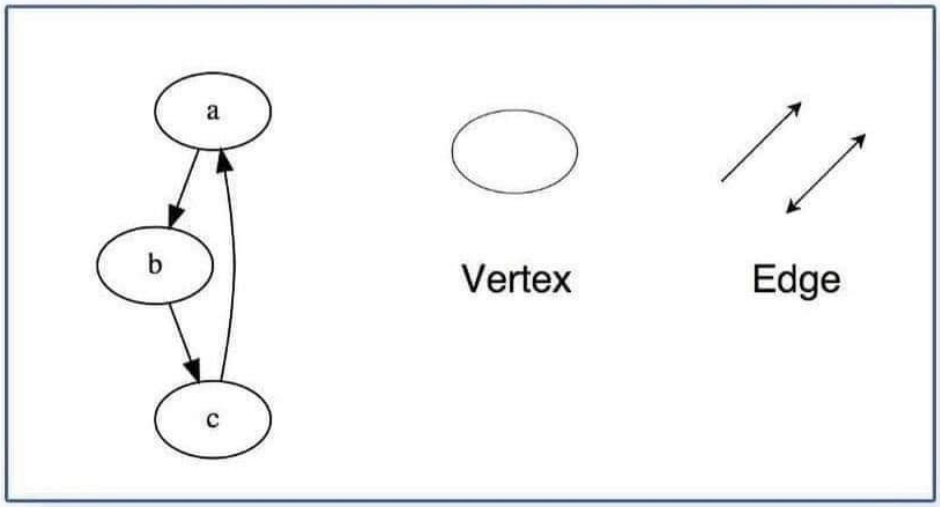
A linked list is like a chain of nodes, where each node contains information like data and a pointer to the succeeding node in the chain.

Here's a visual representation of the internal structure of a linked list:



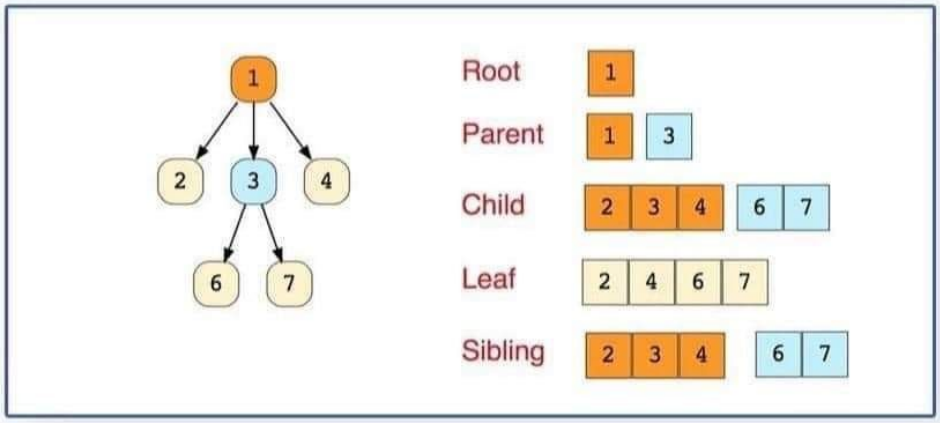
5 Graph

A graph is a set of nodes that are connected to each other in the form of a network. Nodes are also called vertices.



6 Trees

A tree is a hierarchical data structure consisting of vertices (nodes) and edges that connect them.



8 Hash

Hashing is a process used to uniquely identify objects and store each object at some pre-calculated unique index called its “key.”