Introduction to Data Structures and Algorithms (DSA).

**Data Structures:**

**Arrays:**

* Contiguous memory allocation.
* Access elements using indices.
* O(1) time complexity for random access.

**Linked Lists:**

* Dynamic data structure.
* Nodes connected by pointers.
* Singly and doubly linked lists circular linked list.

**Stacks:**

* LIFO (Last In, First Out) structure.
* Used for function call management and parsing expressions.

**Queues:**

* FIFO (First In, First Out) structure.
* Used in scheduling, printing, and breadth-first search.

**Trees:**

* Hierarchical data structure.
* Binary trees, AVL trees, etc.
* Useful in hierarchical relationships.

**Graphs:**

* Nodes and edges representation.
* Directed and undirected graphs.
* Traversal algorithms: DFS, BFS.