

# Data Structure & Algorithms (DSA)

Basic Level		
Analysis of Algorithms	Basic Math & Modulo Arithmetics	Bit Manipulation
Recursion	Pointers & References	Arrays
Searching	Sorting	Matrix
Hashing	String & Char Array	Dynamic Memory Allocation
Intermediate Level		
Structure and Union	Linked List	Object Oriented Programmings (OOPs)
Standard Template Library (STL)	Stack	Queue
Deque	Priority Queue	Map & HashMap
Set & HashSet	List	Tuples
Dictionary	Two Pointers & Sliding Window	Prefix Sum
SubArray, SubString, SubSet, SubSequence		Ad-Hoc
Advance Level		
Trees	Binary Search Trees	Heaps
Graph	Greedy Algorithms	Backtracking
Dynamic Programming	Trie	Segment Tree
Fenwick Tree	Binary Indexed Tree	Disjoint Set Union
Number Theory	Game Theory	Square Root Decomposition
Computational Geometry	Interactive Problems	Policy Based Data Structures

- Preferred languages in DSA are – **C**, **C++**, **Java** & **Python**. But, sometimes companies can also ask to write DSA code in **JavaScript**, **C#**, **Rust** etc. languages for some specific development related roles.