Basic Terminology and Elementary Data Organization:

Terminology: In computer science, terminology refers to specialized words and their meanings within a particular field .
Data Structure: The organization and storage of data in a computer's memory .
Data Structure Operations: Fundamental operations like insertion, deletion, searching, and traversal performed on data structures .
Algorithms and Analysis:

Algorithms: Step-by-step procedures for solving problems or performing tasks.
Analysis of Algorithms: Evaluating efficiency in terms of time and space complexity.
Complexity of Algorithms: Measures efficiency in terms of time and space.
Time-Space Tradeoff: Balancing time and space usage in algorithm design.

Arrays:
Definition: A collection of elements stored in contiguous memory.
Representation: How arrays are stored in memory.
Address Calculation: Process of calculating memory addresses of elements.
Applications: Used for data storage, implementing data structures, etc.
Character String: Representation and operations using arrays.
Sparse Matrices & Vectors: Efficient storage of sparse data.

Linked List:
Representation: Nodes linked together by pointers.
Singly Linked List: Nodes with data and reference to the next node.
Traversing, Searching: Moving through and finding elements in a linked list.
Insertion & Deletion: Operations to add/remove elements.
Circular Linked List: Last node points to the first.
Doubly Linked List: Nodes with pointers to both next and previous nodes.
Polynomial Representation & Addition: Representing and operating on polynomials.
Generalized Linked List: Flexibility to store different data types.

Garbage Collection and Compaction: Techniques for memory management.