Data Structure UNIT-I

*OBJECTIVE

* Algorithms and data structures move the focus of programming away from the constructs found in programming languages to considering how we can program the computer to do useful things.
* Data structures are ways of storing data in computers so we can make best use of it.
* In First Unit Student learn Array,Linked List representation of an Data.

Content

* Introduction: Basic Terminology, Elementary Data Organization,
* Algorithm, Eficiency of an Algorithm, Time and Space Complexity, Asymptotic notations:Big-Oh, Time-Space trade-of.
* Abstract Data Types (ADT) Arays: Definiton,
* Single and Multidimensional Arays, Representation of Arays:
* Row Major Order, and Column Major Order, Aplication of arays
* Sparse Matrices and their epresentations.
* Linked lists: Aray Implementation and Dynamic ,Implementation of Singly Linked Lists, Doubly Linked List
* Circularly Linked List, Operations on a Linked List. Insertion, Deletion, Traversal, Polynomial
* Representation and Additon, Generalized Linked List

Learning Outcome

* You should end it appreciating that understanding the algorithm and data structures used for some problem is much more important than knowing the exact code for it in some programming language.
* You should be aware of the fact that there are often several algorithms for some problem, and one algorithm may be better than another, or one algorithm better in some circumstances and another better in others.