1. **Understand Array Representation:**

**Explain how arrays are represented in memory and their advantages.**

An array is a collection of elements of the same data type, stored in contiguous memory locations. This means that the elements are placed one after the other without any gaps.

**Advantages :** Supports mathematical operations, Simple and Memory efficient.

1. **Analyze the time complexity of each operation (add, search, traverse, delete).**

Time complaexity for add, search, traverse and delete is O(n)

1. **Discuss the limitations of arrays and when to use them.**

Limitations of Arrays:

* Fixed size: The size of an array is fixed at creation, making it inflexible for dynamic data.
* Inefficient insertions and deletions: Inserting or deleting elements at arbitrary positions requires shifting elements, leading to poor performance.
* Wastage of memory: If the actual number of elements is significantly less than the array size, memory is wasted.

**When to use:** When we know the exact size of the data