

## **EMPLOYEE MANAGEMENT SYSTEM**

### **UNDERSTANDING ARRAY REPRESENTATION:**

How Arrays are represented:

- Arrays are stored in contiguous memory locations.
- Each element is accessed via an index (starts at 0).
- Array size is fixed at the time of creation.
- Access time is constant ( $O(1)$ ) using the index.

#### **Benefits:**

1. Fast access using index.
2. Efficient for static data.
3. Easy to implement and traverse.

### **ANALYSIS:**

#### **Time complexity of each operation :**

1. Add employee -  $O(1)$ .
2. Search employee -  $O(n)$ .
3. Traverse -  $O(n)$ .
4. Delete Employee -  $O(n)$ .

#### **Limitation of Array:**

1. Arrays has fixed size , cannot update the size dynamically.
2. Inefficient search , must loop through every item.

#### **When to use Array:**

1. When the number of employees is small and fixed.
2. When fast index access is needed.