Ex 4: Employee Management System

Arrays are represented in memory by storing in contiguous memory locations.Each element is accessed by its index, Fixed in size after creation.

Advantages of Arrays:

- Fast access using index.
- Simple and easy to use.
- Good for static-size data where the number of elements is known in advance.

Time Complexity:

Add **Operation**:

- Direct insertion at the end.
- Time Complexity: O(1)

Search **Operation**:

- Linear search through the array.
- Time Complexity : O(n)

Traverse :

- Visit each element.
- Time Complexity : O(n)

Delete :

- Find the element (O(n)) and shift remaining.
- Time Complexity: O(n)

Limitations of Arrays

- Fixed Size: Cannot grow or shrink dynamically.
- Inefficient Search: Unless sorted, binary search is not possible.

When to Use Arrays:

- When number of elements is known and fixed.
- When fast index-based access is needed.