Employee Management Analysis - Array

# Time Complexity Analysis :

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| --- | --- | --- |
| Operation | Description | Time Complexity |
| Add | Insert at end | O(1) |
| Search | Linear search by ID | O(n) |
| Traverse | Loop through all elements | O(n) |
| Delete | Search and shift elements | O(n) |

# Limitations and Use of Arrays:

- Fixed size: Cannot dynamically resize after reaching capacity.  
- Manual shifting: Deleting or inserting in between requires shifting elements.  
- Linear search: No direct access by value; inefficient for large datasets.  
- Lack of flexibility: Arrays don't support rich operations like lists or maps.  
  
 **Use arrays when:**  
- The number of elements is fixed and known.  
- Memory is constrained and performance for sequential access is key.  
- A simple data structure is sufficient.