Employee Management System

1. Array Representation:

* Arrays are linear data structures and they are stored in contiguous memory locations
* They are accessed using index which makes searching O(1) time complexity
* Arrays are fixed-size once declared

2. Advantages:

* Faster searching because of index
* Simple to implement
* Best for static data

3. Time Complexity:

* createArray(): O(1) , just creating an array
* addEmployee(): O(1) , index at which insertion must happen is known
* traverseEmployee(): O(n) , traversing the entire array
* searchEmployee(): O(n), implemented a linear search because it is not sure if data is sorted
* deleteEmployee(): O(n), similar to search and if found we reposition the array

4. Limitations:

* arrays are fixed-size and size cannot be modifies once declared
* insertions and deletions are not efficient
* not suitable for dynamic data

5. Use cases:

* when dealing with static data
* when searching operation is frequently performed
* when size of data is know prior