**Exercise 4: Employee Management System**

**Understanding Array Representation**

Arrays are like neat rows of mail slots, each holding a piece of data. Here’s a simple look at how they work and why they’re useful:

**Representation in Memory**

Imagine arrays as a row of mailboxes, each labeled with a number. When you want to access a specific item, like finding a letter in a particular slot, you just look at that slot directly. In computer memory, arrays are stored this way—one after another in a long, continuous stretch of space. Each spot in the array is easily accessible using its index number.

**Advantages**

* **Fast Access**: Just like finding a letter in a specific mailbox, you can quickly grab any item from an array using its index. This is super fast because you go directly to the spot without having to search around. This speed is called O(1) time complexity.
* **Simplicity**: Arrays are straightforward. They’re easy to understand and use, just like a row of mail slots where each slot holds one letter.
* **Memory Efficiency**: Since all the items in an array are stored in a single block of memory, there’s no extra space wasted on pointers or additional data. It’s like having a perfectly organized row of mailboxes, where everything fits neatly and efficiently.

In summary, arrays are a simple and effective way to manage collections of data, especially when you need fast access and clear organization.