**Differences between Arrays and Linked Lists**

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|  | **Array** | **Linked List** |
| **Definition** | Array is a collection of elements having same data type with common name | Linked list is an ordered collection of elements which are connected by links/pointers. |
| **Accessing elements** | In array, elements can be accessed using index/subscript value, i.e. elements can be randomly accessed like arr[0], arr[3], etc. So array provides fast and random access. | In linked list, elements can’t be accessed randomly but can be accessed only sequentially and accessing element takes 0(n) time. |
| **Memory Structure** | In array, elements are stored in consecutive manner in memory | In linked list, elements can be stored at any available place as address of node is stored in previous node. |
| **Insertion and Deletion** | Insertion & deletion takes more time in array as elements are stored in consecutive memory locations. | Insertion & deletion are fast & easy in linked list as only value of pointer is needed to change. |
| **Memory Allocation** | In array, memory is allocated at compile time i.e. Static Memory Allocation | In linked list, memory is allocated at run time i.e. Dynamic Memory Allocation. |
| **Types** | Array can be single dimensional, two dimension or multidimensional | Linked list can be singly, doubly or circular linked list. |
| **Dependency** | In array, each element is independent, no connection with previous element or with its location. | In Linked list, location or address of elements is stored in the link part of previous element/node. |
| **Space** | In array, no pointers are used like linked list so no need of extra space in memory for pointer | In linked list, adjacency between the elements are maintained using pointers or links, so pointers are used and for that extra memory space is needed. |
| **Memory utilization** | Ineffective | Efficient |
| **Searching** | Linear or Binary Search | Linear Search only |
| **Size** | Specified during declaration. | No need to specify; grow and shrink during execution. |