Q1: What is the difference between an array, a list, and a linked list?

Ans :

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| **Array** | **Array List** | **Linked List** |
| An array is contiguous memory that is addressable by integer index. | ArrayList internally uses **dynamic array** to store the elements. | A linked list is a sequence of nodes, linked by a pointer. |
| An array is stored sequentially in the physical  memory . | Manipulation with ArrayList is **slow** because it internally uses array. If any element is removed from the array, all the bits are shifted in memory. | linked lists are scattered at  different locations in the physical memory. |
| Array is contiguous list | ArrayList class can **act as a list** only because it implements List only. | linked list is dis contiguous. |
| An "Array" is one consecutive memory  location |  | linked lists are more complicated. |