Collection Framework

1) What is the Collection framework in Java?

Ans) Collection Framework is a combination of class and interface, which is used to store and manipulate the data in the form of objects.

2) What is difference b/w ArrayList & LinkedList?

Ans)

	ArrayList	Linked List
Data structure	- implemented as a dynamic array	implemented as a doubly linked list.
Accessing element	- is faster than LinkedList, element are stored in Contiguous memory	elements are not stored in contiguously.
Memory overhead	- Take less memory as it stores only object.	- takes more memory, as it stored the object as well as the address of that object.

3) Iterator Vs ListIterator.

Iterator	List Iterator
- Traverses the elements in the forward direction only	Traverses the elements in backward & forward, both.
- used in List, Set & Queue	used in List only.
- can only perform a remove operations while traversing the collection	can perform add, remove & set operation while traversing the Collection.

Q4) Iterator Vs Enumeration.

Iterator	Enumeration
- traverse legacy & non legacy elements	- traverse only legacy elements
- is fail-test	- is not fail-test
- is slower than Enumeration	- is faster the Iterator
- perform a remove operation while traversing the collection.	- only perform traverse operation on the collection

5) List and Set

- List can contain duplicate elements whereas set includes unique items.
- List is an ordered collection, whereas set is an unordered collection.
- List contains a single legacy class i.e Vector whereas set does not have any legacy class.
- List interface can allow a number of null values whereas set interface only allows a single null value.

6) HashSet and TreeSet.

HashSet	TreeSet
- unordered collection	Sorted based on their natural order.
- duplicates not allow	- not allowed.
- implemented using a hash table	- implemented using a self-balancing binary search tree.
- Constant-time Complexity O(1).	- logarithmic-time Comp^{n} O(log n)
- uses less memory	- stores additional info. for maintaining the order.

7)

Array	ArrayList
- Can store primitive data types & object	- Only stored object
- Size is fixed	- dynamically change.
- Arrays are Mutable	- also Mutable.
- have limited set of methods	- more Methods for manip-ulating Collection.
- initialized with Value at time of creation	- use of methods to add elements to collection
- Traditional for - loop	- Special for-loop