

Q.1 What is the collection framework in java?

→ collection framework is a combination of classes and interface which is used to store and manipulate the data in the form of objects. It provides various classes such as ArrayList, Vector and stack etc. and interfaces such as list, set, queue etc. for this purpose.

Q.2 What is the difference between ArrayList and LinkedList?

⇒ ArrayList

LinkedList

(1) ArrayList uses dynamic array

LinkedList uses doubly linked list.

(2) ArrayList is better to store and fetch data.

LinkedList is better to manipulate data.

(3) ArrayList provides random access

LinkedList does not provide random access.

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| (4) Arraylist is not efficient for manipulation because too much is required. | Linked list is efficient for manipulation. |
| (5) Arraylist takes less memory overhead as it stores only objects. | LinkedList takes more memory overhead as it stores objects as well as the address of that object. |

Q3 what is the difference between iterator and ListIterator?

⇒ Iterator

ListIterator

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| (1) iterator traverses elements in forward direction only. | ListIterator traverses elements in forward and backward direction both. |
| (2) iterator can be used in list, set and queue. | ListIterator can be used in list only. |
| (3) iterator can only perform remove operation while traversing the collection. | ListIterator can perform add, remove and set operation while traversing the collection. |

Q4 what is the difference between iterator and enumeration?

⇒ Iterator

Enumeration

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| (1) iterator can traverse legacy and non legacy elements. | enumeration can traverse only legacy elements. |
| (2) iterator is fail-fast. | enumeration is not fail-fast. |
| (3) iterator is slower than enumeration. | enumeration is faster than iterator. |
| (4) iterator can perform remove operation while traversing the collection. | enumeration can perform only traverse operations on collection. |

Q5 what is difference between list and set?

- ⇒ List and Set both extend Collection Interface.
- (1) List can contain duplicate elements whereas Set includes unique elements.
 - (2) List is an ordered collection which maintains insertion order whereas Set is an unordered collection which does not preserve insertion order.
 - (3) List Interface contains single legacy class which is Vector class whereas Set Interface does not have any legacy class.
 - (4) List Interface can allow number of null values whereas Set Interface only allows single null value.

Q6 What is the difference between HashSet and TreeSet?

⇒ TreeSet ⇒

TreeSet class implements SortedSet Interface that uses a tree for storage. TreeSet contains unique elements. The access and retrieval time of TreeSet is quite fast. The elements in TreeSet stored in ascending order.

⇒ HashSet ⇒

HashSet class is used to create a collection that uses hashtable for storage. It inherits AbstractSet class and implements Set Interface. HashSet class stores elements by using a mechanism called hashing. It contains unique elements. It allows null values. HashSet class is non-synchronized. The initial default capacity of HashSet is 16 and load factor is 0.75.

Q7 What is the difference between Array and ArrayList?

- ⇒ Both array and ArrayList are used to store collections of elements. Array can hold primitive values and objects whereas ArrayList is capable of holding only objects not primitive types.
- The size of array is fixed and the size of ArrayList is not fixed. They are growable in nature. Array have limited set of methods as

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Compared to arraylist which provides more methods for manipulating the collection such as adding, removing and sorting elements. Array can be initialized with values at the time of creation while Arraylist requires use of methods to add elements to collection.