Assignment 22(collection)

Ans 1.Collection framework is that which provides architecture to store and manipulates the group of data. It provides many interfaces and classes to store data. It allows performing insertion, deletion, retrieval on data easily. Homogenous or heterogeneous data can be stored.

Ans 2. Difference between Array list and Linked list:

Array list	Linked list
This class implements List interface.	This class implements both List and Dequeue interface.
Insertion operation is slow.	Insertion operation is fast.
Deletion operation is not efficient.	Deletion operation is very efficient.
It is used to stores only similar types of data.	It is used to store any type of data.
This is called static memory allocation.	This is called as Dynamic memory allocation.
Less memory is used.	More memory is used.

Ans 3. Difference between Iterator and ListIterator:

Iterator	ListIterator
It allows traversing elements only in forward direction.	It allows traversing elements both in forward direction and in backward direction.
Indexes can’t be	Indexes can be obtained

obtained using it.	using previousIndex().
It helps to traverse Map, List and Set.	It can only traverse List.
Using this elements present in Collection can't be modified.	Elements can be set or modified using Set(el).
Methods like next(),hasNext() and remove() are there.	Methods like next(), previous(),hasprevious(),hasNext() and add(ele) are present .

Ans 4.Difference between Iterator and Enumeration:

Iterator	Enumeration
It allows us to read and remove element while traversing element in the collections.	It allows only to read element during traversing element in the collections.
It can be used with any class of the collection framework.	It can be used only with legacy class of the collection framework such as a Vector and HashTable.
Only forward direction iterating is possible.	Remove operations cannot be performed using this.
It has 3 methods • hasNext() • next() • remove()	It has 2 methods: • hasMoreElements() • nextElement()

Ans 5. Difference between List and Set:

List	Set
The list implementation allows us to add the same or duplicate elements.	The set implementation doesn't allow us to add the same or duplicate elements.
Insertion order is maintainted.	Insertion order is not maintainted.
It allows us to add any number of null values.	It allows us to add at least one null value in it.
The List implementation classes are LinkedList and ArrayList.	The Set implementation classes are TreeSet, HashSet and LinkedHashSet.
The method of List interface listiterator() is used to iterate the List elements.	The iterator() is used when we need to iterate the Set elements.

Ans 6. Difference between HashSet and TreeSet:

HashSet	TreeSet
It does not provide guarantee to sort the data.	It provides a guarantee to sort the data.
In this only an element can be null.	It does not allow null elements.
It uses hashCode() or equal() methods for comparison. .	It uses compare() or compareTo() method for comparison.
It is faster than TreeSet.	It is slower.
It allows only heterogenous values.	It allows only homogenous values.

Ans 7. Difference between Array and ArrayList:

Array	ArrayList
Array is static in size.	ArrayList is dynamic in size.
It is fixed length data structure.	It is dynamic in size.
It can store both objects and primitive types.	It can’t store primitive type.
For and For each loop is used to iterate over an array.	Iterator is used to iterate over the ArrayList.
It can be multi dimensional .	It can be only single dimensional.