Roll No.: ..... Date.01/01/24 Page No. .....

Practical Name: ..... Practical No. .....

Assignment - Collection framework.

Solution - 1 What is Collection framework in Java.

Collection framework in Java is a concept in Java, which is basically collection of predefined classes and their implementations. It is a collection of classes & interface.

Solution - 2 Array list vs Linked list -

	Array list	LinkedList
a).	It is also a implementation of list interface	It is a implementation of interface.
b).	It allow random access of it's element	It use the doubly linked list on only sequential access possible.
c).	It is easy to implement and manage	Relatively hard to manage.

Solution - 2

	Iterator	List Iterator.
a).	Can be any collection { Set, List, Map} to traverse element in forward direction.	only specificed for Lists. use to traverse only list element.
b).	using 'hasNext()' and 'next()' to traverse element in forward direction	using 'hasNext()', 'next()', 'hasPrevious()', 'previous()' to traverse

Solution-4

	Iterator	Enumeration
a)	Interface, for traversering element in a collection.	also Interface, use to traverse element in collection
b)	It has more predefined set of Method compared to Enumeration	has limited set of method.
c)	Support forward & backward traversing	only support forward traversing.

Solution - 5

	List	Set
a)	Collection of ordered element.	Collection of unordered element.
b)	Implements are ArrayList, Vector and LinkedList.	Implementation are HashSet, SortedSet, TreeSet etc.
c)	Order of insertion and order of access remain same so access by order or index is allow	by Index Access, element are not allowed to Access

Solution - 6.

	Array	ArrayList
a)	Static memory	dynamic memory
b)	fixed in size	Can be change size.

Solution-7— Map in Java.

Map in Java is the collection of key value pair.

Solution-8- Implementation for Map in Java.

a). HashMap → Map<K,V> map = new HashMap<>();

b). TreeMap → Map<K,V> map = new TreeMap<>();

c). LinkedHashMap → Map<K,V> map = new LinkedHashMap<>();

d). HashTable → Map<K,V> map = new HashTable<>();

Solution-9.

HashMap	TreeMap
a. Use a HashTable to store key-value pairs.	Use a Red-Black Tree to store key-value pair.
b). order is not gaurantees	order is gaurantees.
c). provide Better performance	comparatively low performance
d). Allow one null key	Does not allow null key

Solution-10.

To check whether a key exist in HashMap in Java we do the following steps—

```
int a = key;
if ( map.containsKey(a) ) return "exist";
else return "not exist";
```