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Lab Assignment-11

Q1: Create LinkedList objects and perform all operations by using all methods of the Collection interface.

Input:

```
//we can create LinkedList object and perform various operations using the
methods of the Collection interface.
//The Collection interface provides a set of methods that allow you to
manipulate a collection of objects.
```

```
package CoreJava;

import java.util.LinkedList;
import java.util.Collection;
import java.util.Iterator;
public class CollectionExample {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		 // Create a LinkedList
		LinkedList<String> linkedList = new LinkedList<>();

		// Add elements to the LinkedList
		linkedList.add("Apple");
		linkedList.add("Banana");
		linkedList.add("Cherry");
		linkedList.add("Date");

		// Use methods from the Collection interface

		// 1. Size of the collection
		int size = linkedList.size();
		System.out.println("Size of the LinkedList: " + size);

		// 2. Check if the collection is empty
		boolean isEmpty = linkedList.isEmpty();
```

```
        System.out.println("Is the LinkedList empty? " + isEmpty);

        // 3. Check if the collection contains an element
        boolean containsBanana = linkedList.contains("Banana");
        System.out.println("Does the LinkedList contain 'Banana'? " +
containsBanana);

        // 4. Iterate through the collection
        System.out.println("Elements in the LinkedList:");
        Iterator<String> iterator = linkedList.iterator();
        while (iterator.hasNext()) {
            System.out.println(iterator.next());
        }

        // 5. Remove an element from the collection
        linkedList.remove("Cherry");
        System.out.println("After removing 'Cherry': " + linkedList);

        // 6. Add all elements from another collection
        LinkedList<String> otherList = new LinkedList<>();
        otherList.add("Grape");
        otherList.add("Fig");
        linkedList.addAll(otherList);
        System.out.println("After adding all elements from another collection: " +
linkedList);

        // 7. Clear the collection
        linkedList.clear();
        System.out.println("After clearing the LinkedList: " + linkedList);
          }

}
```

Output:

Size of the LinkedList: 4
Is the LinkedList empty? false
Does the LinkedList contain 'Banana'? true
Elements in the LinkedList:
Apple
Banana
Cherry
Date
After removing 'Cherry': [Apple, Banana, Date]
After adding all elements from another collection: [Apple, Banana, Date, Grape, Fig]
After clearing the LinkedList: []