```java
package linkedlist;

// Java program to detect and remove loop in linked list

class LinkedList32 {

    static Node head;

    static class Node {

        int data;
        Node next;

        Node(int d)
        {
            data = d;
            next = null;
        }
    }

    // Function that detects loop in the list
    int detectAndRemoveLoop(Node node)
    {
        Node slow = node, fast = node;
        while (slow != null && fast != null
                && fast.next != null) {
            slow = slow.next;
            fast = fast.next.next;

            // If slow and fast meet at same point then loop
            // is present
            if (slow == fast) {
                removeLoop(slow, node);
                return 1;
            }
        }
        return 0;
    }

    // Function to remove loop
    void removeLoop(Node loop, Node curr)
    {
        Node ptr1 = null, ptr2 = null;

        /* Set a pointer to the beginning of the Linked List
        and move it one by one to find the first node which
        is part of the Linked List */
        ptr1 = curr;
        while (1 == 1) {

            /* Now start a pointer from loop_node and check
            if it ever reaches ptr2 */
            ptr2 = loop;
            while (ptr2.next != loop && ptr2.next != ptr1) {
                ptr2 = ptr2.next;
            }

            /* If ptr2 reahced ptr1 then there is a loop. So
            break the loop */
            if (ptr2.next == ptr1) {
                break;
            }

            /* If ptr2 did't reach ptr1 then try the next
             * node after ptr1 */
            ptr1 = ptr1.next;
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        }

        /* After the end of loop ptr2 is the last node of
        the loop. So make next of ptr2 as NULL */
        ptr2.next = null;
    }

    // Function to print the linked list
    void printList(Node node)
    {
        while (node != null) {
            System.out.print(node.data + " ");
            node = node.next;
        }
    }

    // Driver code
    public static void main(String[] args)
    {
        LinkedList32 list = new LinkedList32();
        list.head = new Node(50);
        list.head.next = new Node(20);
        list.head.next.next = new Node(15);
        list.head.next.next.next = new Node(4);
        list.head.next.next.next.next = new Node(10);

        // Creating a loop for testing
        head.next.next.next.next.next = head.next.next;
        list.detectAndRemoveLoop(head);
        System.out.println(
                "Linked List after removing loop : ");
        list.printList(head);
    }
}

// This code has been contributed by Mayank Jaiswal
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