Lab 5 Collection

**Q1.**

package SingleLinkedList;

// creating node

class Node

{

int data;

Node next;

Node(int data) {

this.data = data;

this.next = null;

}

}

class LinkedList

{

Node head;

// reverse the linked list elements

void reverse()

{

Node prev = null;

Node current = head;

Node next = null;

while (current != null)

{

next = current.next;

current.next = prev;

prev = current;

current = next;

}

head = prev;

}

// printing the elemets in linked list

void printList()

{

Node temp = head;

while (temp != null)

{

System.out.print(temp.data + " ");

temp = temp.next;

}

}

public static void main(String[] args)

{

// object of linked list

LinkedList list = new LinkedList();

// adding 4 nodes in linked list

list.head = new Node(1);

list.head.next = new Node(2);

list.head.next.next = new Node(3);

list.head.next.next.next = new Node(4);

// printing the original linked list

System.out.println("Original Linked List:");

list.printList();

// calling reverse

list.reverse();

// printing the reverse linked list

System.out.println("\nReversed Linked List:");

list.printList();

}

}

**Output**

**Original Linked List:**

**1 2 3 4**

**Reversed Linked List:**

**4 3 2 1**

**Q2**

package SingleLinkedList;

import java.util.ArrayList;

import java.util.List;

public class AppendLists

{

// crating static method for append the values

public static void appendList(List<Integer> list1, List<Integer> list2)

{

for (Integer num : list2)

{

list1.add(num);

}

}

public static void main(String[] args)

{

// crating list 1 and adding elements in list

List<Integer> list1 = new ArrayList<>();

list1.add(22);

list1.add(33);

list1.add(44);

list1.add(55);

//creating list 2

List<Integer> list2 = new ArrayList<>();

list2.add(66);

list2.add(77);

list2.add(88);

list2.add(99);

// printing list 1

System.out.println("List1 before appending: " + list1);

// appending element

appendList(list1, list2);

// printing the list

System.out.println("List1 after appending List2: " + list1);

}

}

**Output**

**List1 before appending: [22, 33, 44, 55]**

**List1 after appending List2: [22, 33, 44, 55, 66, 77, 88, 99]**