package Assignment12;

public class DoublyListOperation {

Node head;

static class Node{

int data;

Node next;

Node pre;

Node(int data){

this.data = data;

this.next = null;

this.pre = null;

}

}

public void add(int data){

Node newnode = new Node(data);

if(head == null) {

head = newnode;

//temp.pre = null;

return;

}

Node temp = head;

while(temp.next != null){

temp = temp.next;

}

temp.next = newnode;

newnode.pre = temp;

}

public void insertAtBegin(int data){

Node temp = new Node (data);

if(head == null){

head = temp;

return ;

}

Node res = head;

res.pre = temp;

temp.next = res;

head = temp;

}

public void insertAtEnd(int data){

Node newnode = new Node(data);

if(head == null){

head = newnode ;

return;

}

Node temp = head;

while(temp.next != null){

temp = temp.next;

}

temp.next = newnode;

newnode.pre = temp;

}

public void positionadd(int data , int k){

Node newnode = new Node(data);

Node temp = head;

int pos = 1;

Node pre = null;

while(temp != null){

if(pos == k){

newnode.next = temp;

newnode.pre = pre;

temp.pre = newnode;

pre.next = newnode;

}

pre = temp;

temp = temp.next;

pos++;

}

}

public void display(){

Node temp = head;

while(temp != null){

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

temp = temp.next;

}

}

public static void main(String[] args) {

DoublyListOperation doublyListOperation = new DoublyListOperation();

doublyListOperation.add(1);

doublyListOperation.add(2);

doublyListOperation.add(3);

doublyListOperation.add(4);

doublyListOperation.positionadd(3,3);

doublyListOperation.insertAtBegin(7);

doublyListOperation.insertAtEnd(6);

doublyListOperation.positionadd(5,2);

doublyListOperation.display();

}

}