#include<iostream>

using namespace std;

class Node{

public:

int data;

Node \*next;

Node(int d)

{

data=d;

next=NULL;

}

};

void insertAtEnd(Node \*&head,int num)

{

if(head==NULL)

{

head=new Node(num);

return;

}

Node \*tail=head;

while(tail->next!=NULL)

tail=tail->next;

Node \*n=new Node(num);

tail->next=n;

return;

}

void reverse(Node \*&head)

{

Node \*c=head;

Node \*p=NULL;

Node \*n;

while(c!=NULL)

{

n=c->next;

c->next=p;

p=c;

c=n;

}

head=p;

}

Node\* reverseRecurssive(Node \*head)

{

//Base case

if(head->next==NULL || head==NULL)

return head;

//Recursive case

Node \*smallhead=reverseRecurssive(head->next);

Node \*C=head;

C->next->next=C;

C->next=NULL;

return smallhead;

}

void print(Node \*head)

{

Node \*temp=head;

while(temp!=NULL)

{

cout<<temp->data<<" ";

temp=temp->next;

}

}

int main()

{

Node \*head=NULL;

int n,i,num;

cin>>n;

for(i=0;i<n;i++)

{

cin>>num;

insertAtEnd(head,num);

}

print(head);

//Recursively

head=reverseRecurssive(head);

cout<<endl;

print(head);

reverse(head);

cout<<endl;

print(head);

}