

Merge two Linked List

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#include <stdio.h>
#include <stdlib.h>

struct Node
{
    int data;
    struct Node *next;
}*first=NULL,*second=NULL,*third=NULL;

void Display(struct Node *p)
{
    while(p!=NULL)
    {
        printf("%d ",p->data);
        p=p->next;
    }
}

void create(int A[],int n)
{
    int i;
    struct Node *t,*last;
    first=(struct Node *)malloc(sizeof(struct Node));
    first->data=A[0];
    first->next=NULL;
    last=first;

    for(i=1;i<n;i++)
    {
        t=(struct Node*)malloc(sizeof(struct Node));
        t->data=A[i];
        t->next=NULL;
        last->next=t;
        last=t;
    }
}

void create2(int A[],int n)
{
    int i;
    struct Node *t,*last;
    second=(struct Node *)malloc(sizeof(struct Node));
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second->data=A[0];
second->next=NULL;
last=second;

for(i=1;i<n;i++)
{
    t=(struct Node*)malloc(sizeof(struct Node));
    t->data=A[i];
    t->next=NULL;
    last->next=t;
    last=t;
}
}

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void Merge(struct Node *p,struct Node *q)
{
    struct Node *last;
    if(p->data < q->data)
    {
        third=last=p;
        p=p->next;
        third->next=NULL;
    }
    else
    {
        third=last=q;
        q=q->next;
        third->next=NULL;
    }
    while(p && q)
    {
        if(p->data < q->data)
        {
            last->next=p;
            last=p;
            p=p->next;
            last->next=NULL;
        }
        else
        {
            last->next=q;
            last=q;
            q=q->next;
            last->next=NULL;
        }
    }
}

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    }
    if(p)last->next=p;
    if(q)last->next=q;
}

int main()
{
    int A[]={10,20,40,50,60};
    int B[]={15,18,25,30,55};
    create(A,5);
    create2(B,5);

    Merge(frist,second);
    Display(third);

    return 0;
}
```