// FirstProgram.cpp : 定义控制台应用程序的入口点。

//

#include "stdafx.h"

#include "stdio.h"

typedef struct lnode

{

int data;

struct lnode \*next;

}LNode,\*Link;

void Creat(Link \*L,int n);

void Print(Link L);

Link Locate(Link L,int e);

void Insert(Link L,int e);

int Delete(Link L,int e);

int Length(Link L);

void Clear(Link L);

int \_tmain(int argc, \_TCHAR\* argv[])

{// 测试数据 2 5 10 35

//15 20

Link L = NULL;

Creat(&L,4);

Print(L);

Insert(L,15);

Insert(L,20);

Print(L);

Delete(L,2);

Print(L);

Delete(L,35);

Print(L);

return 0;

}

void CreatHead(Link \*L,int n)

{

\*L = new LNode;

(\*L)->next = NULL;

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

{

Link s;

s = new LNode;

scanf("%d", &s->data);

s->next = (\*L)->next;

(\*L)->next = s;

}

}

void Clear(Link L)

{

Link q;

while(L->next)

{

q = L->next ;

L->next = L->next->next;

delete q;

}

}

int Length(Link L)

{

Link p = L->next;

int len=0;

while(p)

{

len++;

p = p->next;

}

return len;

}

void Insert(Link L,int e)

{

Link p=NULL;

p = Locate(L,e);

Link s = new LNode;

s->data = e;

s->next = NULL;

s->next = p->next;

p->next = s;

}

int Delete(Link L,int e)

{

Link p,q;

p = Locate(L,e);

if(!p)

return 0;

if(!p->next)

return 0;

if(p->next->data == e)

{

q = p->next;

p->next = q->next;

delete q;

}

}

Link Locate(Link L,int e)

{//查找表中最后一个不大于e的结点，并且返回该结点的地址

Link p = L;

while(p->next)

{

if(p->next->data >= e)

break;

p = p->next;

}

return p;

}

void Print(Link L)

{

Link p;

p = L->next;

while(p)

{

printf("%d ", p->data);

p = p->next;

}

printf("\n");

}

void Creat(Link \*L,int n)

{

\*L= new LNode;

(\*L)->next = NULL;

Link R = \*L;

Link s;

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

{

s = new LNode;

scanf("%d", &s->data);

s->next = NULL;

R->next = s;

R = s;

}

}