#include<stdio.h>

#include<malloc.h>

struct link

{

int item;

struct link \*next;

} ;

typedef struct link node;

node \*head=NULL;

node \*newnode(int val)

{ node \*p;

p=(node \*)malloc(sizeof(node));

p->item=val;

p->next=NULL;

}

void displaylist()

{

node \*curr;

curr=head;

while(curr!=NULL)

{ printf("%d - ", curr->item);curr=curr->next;}

}

void insertfirst(int val)

{ node \*p;

p=newnode(val);

p->next=head;

head=p;

}

void insertbefore(int item1,int val)

{ node \*curr=head,\*prev,\*p;

while(curr!=NULL && curr-> item != item1)

{prev=curr;curr=curr->next;}

if(curr==NULL)

printf("Item Not Found\n");

else

if(prev=head)

insertfirst(val);

else

{p=newnode(val);

p->next= prev->next;

prev->next=p;

}

}

void insertafter(int item1,int val)

{ node \*curr=head,\*p;

printf("curr =%u",curr);

while(curr!=NULL && curr-> item != item1)

{curr=curr->next;}

if(curr==NULL)

printf("Item Not Found\n");

else

{p=newnode(val);

p->next= curr->next;

curr->next=p;

}

}

int main()

{

int ch,po,it;

do

{ printf("\n1. insert first\n2. Insert after\n3. display \n4. insert before\n5.quit");

scanf("%d",&ch);

switch(ch)

{ case 1:printf("value to be inserted:");

scanf("%d",&po); insertfirst(po);break;

case 2:printf("enter item after which the value to be inserted");

scanf("%d",&it);

printf("value to be inserted:");

scanf("%d",&po);insertafter(it,po);break;

case 4:printf("enter item before which the value to be inserted");

scanf("%d",&it);

printf("value to be inserted:");

scanf("%d",&po);insertbefore(it,po);break;

case 3:displaylist();break;

case 5:break;

default:printf("Invalid choice");

}

}while(ch!=5);

}