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/*Write separate user defined functions to perform the following operations on a single linked list: (i) Insertion at En
  (ii) Insertion after a specific value (iii) Insert before a specific value */

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

struct node
{
   int data;
   struct node *next;
} * start, *current, *newnode;
void insertend();
void insertafter();
void insertbefore();

void main()
{
   int x;
   newnode = (struct node *)malloc(sizeof(struct node));
   printf("Enter the value of x");
   scanf("%d", &x);
   newnode->data = x;
   newnode->next = start;
   start = newnode;
}

void insertend()
{
   int x;
   newnode = (struct node *)malloc(sizeof(struct node));
   printf("Enter the value of x");
   scanf("%d",&x);
   newnode->data=x;
   newnode->next=NULL;
   current->next=newnode;
   current=newnode;
}

void insertafter()
{
   int x,ele;
   newnode = (struct node *)malloc(sizeof(struct node));
   printf("Enter the value of x");
   scanf("%d",&x);
   printf("Enter the value after which you want to insert");
   scanf("%d", &ele);
   struct node *p,*q;
   p=start;
   while(p->data!=ele)
   {
      p=p->next;
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    }
    q=p->next;
    newnode = (struct node *)malloc(sizeof(struct node));
    newnode->data=x;
    p->next=newnode;
    newnode->next=q;
}

void insertbefore()
{
    int x,ele;
    newnode = (struct node *)malloc(sizeof(struct node));
    printf("Enter the value of x");
    scanf("%d",&x);
    printf("Enter the value after which you want to insert");
    scanf("%d", &ele);
    struct node *p,*q;
    while(p->next->data!=ele)
    {
        p=p->next;
    }
    q=p->next;
    newnode = (struct node *)malloc(sizeof(struct node));
    newnode->data=x;
    p->next=newnode;
    newnode->next=q;
}
```