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/****LIST ADT****/

#include <stdio.h>
#include <conio.h>
#include <stdlib.h>
struct node
{
 int data;
 struct node *next;
};
struct node *head=NULL;
void insert()
{
 struct node *newnode,*temp;
 int n;
 newnode=(struct node*)malloc(sizeof(struct node));
 printf("Enter Data : ");
 scanf("%d",&n);
 newnode->data=n;
 if (head==NULL)
 {
    newnode->next=NULL;
    head=newnode;
 }
 else
 {
   temp=head;
   while (temp->next!=NULL)
     temp=temp->next;
   temp->next=newnode;
   newnode->next=NULL;
 }
}
void delet()
{
  struct node *temp,*prev;
  int n;
  printf("Enter DAta to be deleted : ");
  scanf("%d",&n);
  if (head->data==n)
  {
     temp=head;
     head=head->next;
     free(temp);
  }
  else if (head!=NULL)
  {
      temp=head;
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      prev=NULL;
      while (temp!=NULL)
            if (temp->data==n)
              break;
            else
            {
              prev=temp;
              temp=temp->next;
            }
     if (temp==NULL)
            printf("%d is not found\n",n);
     else
     {
           prev->next=temp->next;
           free(temp);
     }
    }
    else
      printf("Empty List\n");
}
void search()
{
  struct node *temp;
  int n;
  if (head!=NULL)
  {
     printf("Enter data to be searched : ");
     scanf("%d",&n);
     temp=head;
     while (temp!=NULL)
     {
           if (temp->data==n)
             break;
           else
            temp=temp->next;
     }
     if (temp==NULL)
           printf("%d is not found\n",n);
     else
      printf("%d is found\n",n);
  }
  else
    printf("List is empty\n");
}
void count()
{
  struct node *temp;
  int n=0;
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  temp=head;
    while (temp!=NULL)
    {
      ++n;
      temp=temp->next;
    }
  if (n==0)
    printf("Empty List\n");
  else
   printf("No of nodes = %d\n",n);
}
void display()
{
  struct node *temp;
  if (head!=NULL)
  {
    temp=head;
    while (temp!=NULL)
    {
      printf("%d\n",temp->data);
      temp=temp->next;
    }
  }
  else
   printf("Empty List\n");
}
void main()
{
  int opt;
  clrscr();
  while (1)
  {
    printf("1.Insert\n2.Delete\n3.Search\n4.Count\n5.Display\n6.Exit\n");
    printf("Enter ypur option : ");
    scanf("%d",&opt);
    switch(opt)
    {
    case 1:
              insert();
              break;
    case 2:
             delet();
             break;
    case 3:
             search();
             break;
    case 4:
             count();
```

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            break;
        case 5:
            display();
            break;
        case 6:
            exit(0);
        default:
            printf("Invalid Option\n");
        }
    }
    }
```