/*Develop a menu driven Program in C for the following operations on Singly Linked List (SLL) of Student Data with the fields: USN, Name, Programme, Sem, PhNo

a. Create a SLL of N Students Data by using front insertion.

b. Display the status of SLL and count the number of nodes in it

c. Perform Insertion / Deletion at End of SLL

d. Perform Insertion / Deletion at Front of SLL(Demonstration of stack)

e. Exit*/

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

struct node
{
  char USN[25],name[25],prog[25], phno[25], sem[10];
  struct node *next;
};

typedef struct node* NODE;

NODE  head=NULL;

NODE getnode()
{
NODE temp;
temp=(NODE)malloc(sizeof(struct node));
 temp->next=NULL;
 printf("\n Enter USN, Name, Programme, Sem and Phon number\n");
 scanf("%s%s%s%s%s",temp->USN,temp->name,temp->prog,temp->sem,temp->phno);
 return temp;
}
```

```
void insert_beg()
{
NODE temp=getnode();
 if(head != NULL)
   {
      temp->next=head;
   }
 head=temp;
}
void del_beg()
{
 NODE tt=head;
 if(head==NULL)
 printf("\n No nodes to delete n");
 else if(head->next==NULL)
       head=NULL;
 else
   head=head->next;
free(tt);
}
void insert_end()
{
 NODE temp=getnode();
 NODE tt;
 if(head==NULL)
    head=temp;
 else
  {
    for(tt=head;tt->next!=NULL;tt=tt->next)
    { }
```

```
    tt->next=temp;
  }
}


void create()
{
int n,i;
 printf("Enter the number of nodes \n");
 scanf("%d",&n);
 for(i=0;i<n;i++)
    insert_end();
}


void del_end()
{
 NODE tt,p;
 if(head==NULL)
 printf("\n No Nodes to delete \n");
 else
  if(head->next==NULL)
   head=NULL;
  else
   {
    for(tt=head;tt->next->next!=NULL;tt=tt->next)
     { }
    p=tt->next;
    tt->next=NULL;
    free(p);
   }
```

```
}
void disp()
{
NODE tt;
int c=0;
if(head==NULL)
    printf("\n**********EMPTY LIST***********\n");
else
{
  printf("\n CONTENTS OF LIST ARE \n");
  printf("\n************************************************************\n");
  printf(" USN \t\t NAME \t\t PROGRAMME \t\t SEM\t\t \t\t PH.No \n");
  for(tt=head;tt!=NULL;tt=tt->next)
  {
     c++;
     printf("%s\t\t%s\t\t%s\t\t%s\t\t%s\n",tt->USN,tt->name,tt->prog,tt->sem,tt->phno);
  }
  printf("\n Total elements : %d\n",c);
}
}

void main()
{
int ch;
while(1)
{
printf("\n1.create 2.insert_beg 3.insert_end 4.del_beg \n");
printf("5.del_end 6.Display \n");
printf(" Any other key to exit\n");
printf("\n\nEnter Your Choice: ");
scanf("%d",&ch);
```

```
switch(ch)
 {
   case 1:create();
          disp();
          break;
   case 2:insert_beg();
          disp();
          break;
   case 3: insert_end();
          disp();
          break;
   case 4: del_beg();
          disp();
          break;
   case 5:del_end();
          disp();
          break;
   case 6:disp();
          break;

   default: exit(0);
 }
 }
}
```