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

struct node
{
int sem;
char name[50];
char usn[50];
struct node *next;
};
struct node *head = NULL;
int c = 0;
void Insert()
{
 struct node *newnode;
 struct node *temp;
 int s;
 char n[30], u[30];
 printf("Enter name, sem, usn");
 scanf("%s", n);
 scanf("%s", u);
 scanf("%d", &s);
 newnode = (struct node*) malloc(sizeof(struct node));
 newnode->sem = s;
 strcpy(newnode->name, n);
 strcpy(newnode->usn, u);
 if(head == NULL)
 {
 newnode->next = NULL;
 head = newnode;
 printf("first node of LL");
 ct++;
 }
```

```
else
{
temp = head;
while (temp->next != NULL)
{
temp = temp->next;
}
temp->next = newnode;
newnode->next = NULL;
ct++;
printf ("Node created");
}
}

void deletebeg()
{
struct node *ptr
if (head == NULL)
{
printf ("List is empty");
}
else
{
ptr = head;
head = ptr->next;
free (ptr);
printf ("Node deleted in beg");
}
}
```

```
void deletemid()
{
char key[20];
printf("Enter usn to be deleted");
scanf("%s", key);
struct node *temp = head, *prev.
if (temp != NULL && strcmp(temp->usn, key) == 0)
{
head = temp->next;
free(temp);
return;
}
while (temp != NULL && strcmp(temp->usn, key) != 0)
{
prev = temp;
temp = temp->next;
}
if (temp == NULL)
{
printf("Student not in list");
return;
}
prev->next = temp->next;
free(temp);
}
void deleteend()
{
Struct node *toDelast, *preNode;
if (head == NULL)
{
printf("There is no elem in the list");
}
else
{
```

```
toDellast = head;
preNode = head;
while (toDellast -> next != NULL)
{
preNode = toDellast;
toDellast = toDellast -> next;
}
if (toDellast == head)
{
head = NULL;
}
else
{
preNode -> next = NULL;
}
free (toDellast)
}

void display()
{
struct node * ptr;
ptr = head;
int i=1;
if (ptr == NULL)
printf ("LL is Empty");
else {
while (ptr != NULL)
{
printf ("Name : %s", ptr -> name);
printf ("USN : %s", ptr -> usn);
printf ("Sem : %d", ptr -> sem);
ptr = ptr -> next;
}
}
}
```

```
int main ()
{
int choice, pos;
do
{
printf ("1. Insert
         2. delete at beg
         3. delete at end
         4. delete mid
         5. display
         6. exit");
printf ("Enter choice");
scanf ("%d", &choice);
switch (choice);
{
case 1:
Insert();
break;
case 2:
deletebeg();
break;
case 3;
deleteend()
break;
case 4:
deletemid();
break;
case 5:
display();
break;
case 6:
break;
}
} while (choice != 6);
return 0.
```