```
#include<stdlib.h>
#include <stdio.h>
void create();
void display();
void insert_begin();
void insert_end();
void insert_pos();
void delete_begin();
void delete_end();
void delete_pos();
struct node
{
 int info;
 struct node *next;
};
struct node *start=NULL;
int main()
{
 int choice;
 while(1){
 printf(" MENU \n");
 printf(" 1.Create \n");
 printf(" 2.Display \n");
 printf(" 3.Insert at the beginning \n");
 printf(" 4.Insert at the end \n");
 printf(" 5.Insert at specified position \n");
 printf(" 6.Delete from beginning \n");
 printf(" 7.Delete from the end \n");
 printf(" 8.Delete from specified position \n");
 printf(" 9.Exit \n");
 printf("--------------------------------------\n");
```

```
printf("Enter your choice: \n");
scanf("%d",&choice);
switch(choice)
{
case 1:
create();
break;
case 2:
display();
break;
case 3:
insert_begin();
break;
case 4:
insert_end();
break;
case 5:
insert_pos();
break;
case 6:
delete_begin();
break;
case 7:
delete_end();
break;
case 8:
delete_pos();
break;
case 9:
exit(0);
break;
```

```
 default:
 printf(" Wrong Choice:");
 break;
 }
 }
 return 0;
}
void create()
{
 struct node *temp,*ptr;
 temp=(struct node *)malloc(sizeof(struct node));
 if(temp==NULL)
 {
 printf("Out of Memory Space:");
 exit(0);
 }
 printf("Enter the data value for the node: ");
 scanf("%d",&temp->info);
 temp->next=NULL;
 if(start==NULL)
 {
 start=temp;
 }
 else
 {
 ptr=start;
 while(ptr->next!=NULL)
 {
 ptr=ptr->next;
 }
 ptr->next=temp;
```

```
 }
}
void display()
{
 struct node *ptr;
 if(start==NULL)
 {
 printf("List is empty: ");
 return;
 }
 else
 {
 ptr=start;
 printf("The List elements are: ");
 while(ptr!=NULL)
 {
 printf("%d ",ptr->info );
 ptr=ptr->next ;
 }
 }
}
void insert_begin()
{
 struct node *temp;
 temp=(struct node *)malloc(sizeof(struct node));
 if(temp==NULL)
 {
 printf("Out of Memory Space: ");
 return;
 }
 printf("Enter the data value for the node: " );
```

```
 scanf("%d",&temp->info);
 temp->next =NULL;
 if(start==NULL)
 {
 start=temp;
 }
 else
 {
 temp->next=start;
 start=temp;
 }
}
void insert_end()
{
 struct node *temp,*ptr;
 temp=(struct node *)malloc(sizeof(struct node));
 if(temp==NULL)
 {
 printf("Out of Memory Space: ");
 return;
 }
 printf("Enter the data value for the node: " );
 scanf("%d",&temp->info );
 temp->next =NULL;
 if(start==NULL)
 {
 start=temp;
 }
 else
 {
 ptr=start;
```

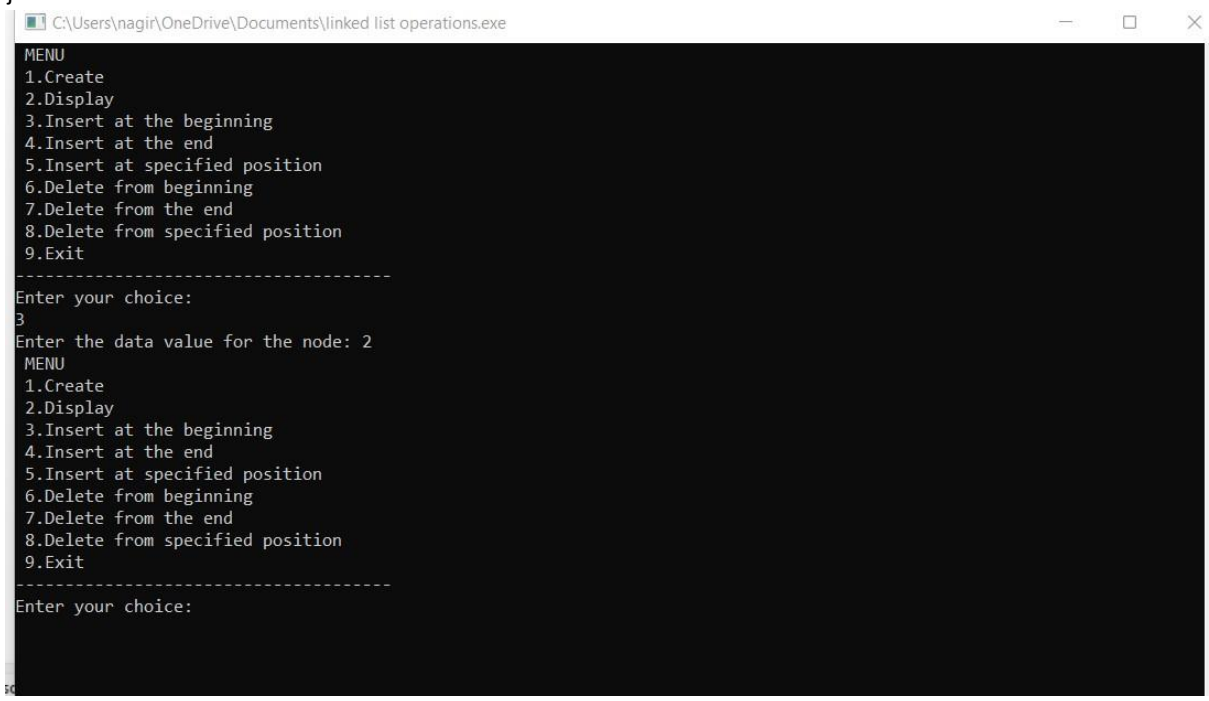
```
 while(ptr->next !=NULL)
 {
 ptr=ptr->next ;
 }
 ptr->next =temp;
 }
}
void insert_pos()
{
 struct node *ptr,*temp;
 int i,pos;
 temp=(struct node *)malloc(sizeof(struct node));
 if(temp==NULL)
 {
 printf("Out of Memory Space: ");
 return;
 }
 printf("Enter the position for the new node to be inserted: ");
 scanf("%d",&pos);
 printf("Enter the data value of the node: ");
 scanf("%d",&temp->info) ;
 temp->next=NULL;
 if(pos==0)
 {
 temp->next=start;
 start=temp;
 }
 else
 {
 for(i=0,ptr=start;i<pos-1;i++) { ptr=ptr->next;
 if(ptr==NULL)
```

```
 {
 printf("Position not found:[Handle with care] ");
 return;
 }
 }
 temp->next =ptr->next ;
 ptr->next=temp;
 }
}
void delete_begin()
{
 struct node *ptr;
 if(ptr==NULL)
 {
 printf("List is Empty: ");
 return;
 }
 else
 {
 ptr=start;
 start=start->next ;
 printf("The deleted element is :%d ",ptr->info);
 free(ptr);
 }
}
void delete_end()
{
 struct node *temp,*ptr;
 if(start==NULL)
 {
 printf("List is Empty:");
```

```
 exit(0);
 }
 else if(start->next ==NULL)
 {
 ptr=start;
 start=NULL;
 printf("The deleted element is:%d ",ptr->info);
 free(ptr);
 }
 else
 {
 ptr=start;
 while(ptr->next!=NULL)
 {
 temp=ptr;
 ptr=ptr->next;
 }
 temp->next=NULL;
 printf("The deleted element is:%d ",ptr->info);
 free(ptr);
 }
}
void delete_pos()
{
 int i,pos;
 struct node *temp,*ptr;
 if(start==NULL)
 {
 printf("The List is Empty: ");
 exit(0);
 }
```

```
else
{
printf("Enter the position of the node to be deleted: ");
scanf("%d",&pos);
if(pos==0)
{
ptr=start;
start=start->next ;
printf("The deleted element is:%d ",ptr->info );
free(ptr);
}
else
{
ptr=start;
for(i=0;i<pos;i++) { temp=ptr; ptr=ptr->next ;
if(ptr==NULL)
{
printf("Position not Found: ");
return;
}
}
temp->next =ptr->next ;
printf("The deleted element is:%d ",ptr->info );
free(ptr);
}
}
```

}


C:\Users\nagir\OneDrive\Documents\linked list operations.exe
MENU
1.Create
2.Display
3.Insert at the beginning
4.Insert at the end
5.Insert at specified position
6.Delete from beginning
7.Delete from the end
8.Delete from specified position
9.Exit
Enter your choice:
3
Enter the data value for the node: 2
MENU
1.Create
2.Display
3.Insert at the beginning
4.Insert at the end
5.Insert at specified position
6.Delete from beginning
7.Delete from the end
8.Delete from specified position
9.Exit
Enter your choice: