

```
/*linked list copy,rev(other_way)*/
```

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

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

```
struct node
```

```
{
```

```
    int data;
```

```
    struct node*link;
```

```
};
```

```
struct node*header;
```

```
struct node*header1;
```

```
struct node*create_sll(struct node*);
```

```
struct node*display(struct node*);
```

```
struct node*copy(struct node*,struct node*);
```

```
struct node*reversal(struct node*);
```

```
int main()
```

```
{
```

```
    int ch;
```

```
    while(ch!=5)
```

```
    {
```

```
        printf("MAIN MENU\n");
```

```
        printf("1.create a list\n2.display\n3.copy the list in another list\n4.reverse the list\n5.exit\n");
```

```
        printf("enter your choice\n");
```

```
        scanf("%d",&ch);
```

```
        switch(ch)
```

```
        {
```

```
            case 1:header=create_sll(header);
```

```
            break;
```

```
            case 2:header=display(header);
```

```
            break;
```

```
            case 3:header1=copy(header,header1);
```

```

        break;

        case 4:header=reversal(header);

        break;

        case 5:exit(0);

        default:

            printf("invalid choice\n");

    }

}

struct node*create_sll(struct node*header)
{

    struct node*new_node,*ptr;

    int item;

    printf("enter -1 to end\n");

    printf("enter the data: \n");

    scanf("%d",&item);

    while(item!=-1)

    {

        new_node=(struct node*)malloc(sizeof(struct node));

        new_node->data=item;

        if(header==NULL)

        {

            new_node->link=NULL;

            header=new_node;

        }

        else

        {

            ptr=header;

            while(ptr->link!=NULL)

            {

                ptr=ptr->link;

```

```

        }

        ptr->link=new_node;

        new_node->link=NULL;

    }

    printf("enter the data: \n");

    scanf("%d",&item);

}

return header;

}

struct node*display(struct node*header)

{

    printf("the list is below\n");

    struct node*ptr;

    ptr=header;

    while(ptr!=NULL)

    {

        printf("%d\n",ptr->data);

        ptr=ptr->link;

    }

    return header;

}

struct node*copy(struct node*header,struct node*header1)

{

    struct node*new_node,*ptr,*ptr1;

    new_node=(struct node*)malloc(sizeof(struct node));

    ptr=header;

    if(header1==NULL)

    {

        new_node->data=ptr->data;

        new_node->link=NULL;

```

```

        header1=new_node;
        ptr=ptr->link;
    }
    else
    {
        ptr1=header1;
        while(ptr!=NULL)
        {
            new_node->data=ptr->data;
            ptr->link=new_node;
            ptr1=new_node;
            ptr=ptr->link;
        }
    }
    printf("list copied\n");
    return header1;
}

struct node*reversal(struct node*header)
{
    struct node*r,*s; //here,header=q
    r=NULL;
    s=NULL;
    if(header!=NULL)
    {
        r=header;
        s=header->link;
        header=header->link;
        r->link=NULL;
    } //to make 1st node the last node
    while(header!=NULL)
    {

```

```
        header=header->link;

        s->link=r;

        r=s;

        s=header;
    }

    header=r; //to lonking out the last node
    printf("list reversed\n");
    return header;
}
```

```
C:\Users\HP\OneDrive\Desktop\practice cpp\l1 copy rev.exe
MAIN MENU
1.create a list
2.display
3.copy the list in another list
4.reverse the list
5.exit
enter your choice
1
enter -1 to end
enter the data:
10
enter the data:
20
enter the data:
30
enter the data:
40
enter the data:
-1
MAIN MENU
1.create a list
2.display
3.copy the list in another list
4.reverse the list
5.exit
enter your choice
2
the list is below
10
20
30
40
MAIN MENU
1.create a list
2.display
3.copy the list in another list
4.reverse the list
5.exit
enter your choice
3
list copied
MAIN MENU
1.create a list
2.display
3.copy the list in another list
4.reverse the list
5.exit
enter your choice
2
the list is below
10
20
30
40
MAIN MENU
1.create a list
2.display
3.copy the list in another list
4.reverse the list
5.exit
enter your choice
4
list reversed
MAIN MENU
1.create a list
2.display
3.copy the list in another list
4.reverse the list
5.exit
enter your choice
2
the list is below
40
30
20
10
MAIN MENU
1.create a list
2.display
3.copy the list in another list
4.reverse the list
5.exit
enter your choice
5
.....
Process exited after 52.66 seconds with return value 0
Press any key to continue . . .
```