

Using doubly linked list create a list and
insert at left position, display the list

onlinegdb.com/online_c_compiler#

Run Debug Stop Share Save {} Beautify

Language C

```
main.c
1 #include <stdio.h>
2 #include <stdlib.h>
3 struct node {
4     int info;
5     struct node *llink;
6     struct node *rlink;
7 };
8 typedef struct node *NODE;
9
10 NODE getnode()
11 {
12     NODE x;
13     x=(NODE)malloc(sizeof(struct node));
14     if(x==NULL)
15     {
16         printf("mem full\n");
17         return NULL;
18     }
19     return x;
20 }
21
22 void freenode(NODE x)
23 {
24     free(x);
25 }
26
27 NODE insert_rear(NODE head,int item)
28 {
29     NODE temp_cur;
```

onlinegdb.com/online_c_compiler#

☆ 🔊 🔍 ⚙️ 1

Run Debug Stop Share Save {} Beautify

Language C

main.c

```
27 NODE insert_rear(NODE head,int item)
28 {
29     NODE temp,cur;
30     temp=getnode();
31     temp->rlink=NULL;
32     temp->llink=NULL;
33     temp->info=item;
34     cur=head->llink;
35     temp->llink=cur;
36     cur->rlink=temp;
37     head->llink=temp;
38     temp->rlink=head;
39     head->info=head->info+1;
40     return head;
41 }
42 NODE insert_leftpos(int item,NODE head)
43 {
44     NODE temp,cur,prev;
45     if(head->rlink==head)
46     {
47         printf("list empty\n");
48         return head;
49     }
50     cur=head->rlink;
51     while(cur!=head)
52     {
53         if(item==cur->info)break;
54         cur=cur->rlink;
```

main.c

```
55 }
56 if(cur==head)
57 {
58     printf("key not found\n");
59     return head;
60 }
61 prev=cur->llink;
62 printf("enter element to be inserted ");
63 temp=getnode();
64 scanf("%d",&temp->info);
65 prev->rlink=temp;
66 temp->llink=prev;
67 cur->llink=temp;
68 temp->rlink=cur;
69 return head;
70 }
71
72 void display(NODE head)
73 {
74     NODE temp;
75     if(head->rlink==head)
76     {
77         printf("list empty\n");
78         return;
79     }
80     printf("\nList : \n");
81     for(temp=head->rlink;temp!=head;temp=temp->rlink)
82         printf("%d\n",temp->info);
83 }
```

onlinegdb.com/online_c_compiler#

☆ 🔊 🔍 ⚙️ 1

Run Debug Stop Share Save {} Beautify

Language C

```
main.c
82 printf("%d\n",temp->info);
83 }
84
85 int main()
86 {
87 int item,choice;
88 NODE head;
89 head=getnode();
90 head->rlink=head;
91 head->llink=head;
92 for(;;)
93 {
94 printf("\n1.Insert\n2.insert at left position\n3.display");
95 scanf("%d",&choice);
96 switch(choice)
97 {
98 case 1:printf("enter the item\n");
99         scanf("%d",&item);
100         head=insert_rear(head,item);
101         break;
102 case 2:printf("enter the key item\n");
103         scanf("%d",&item);
104         head=insert_leftpos(item,head);
105         break;
106 case 3:display(head);
107         break;
108 default:exit(0);
109         break;
```

onlinegdb.com/online_c_compiler#

☆ 🔊 🔍 ⚙️ 1

Run Debug Stop Share Save {} Beautify

Language C

main.c

```
84
85 int main()
86 {
87     int item,choice;
88     NODE head;
89     head=getnode();
90     head->rlink=head;
91     head->llink=head;
92     for(;;)
93     {
94         printf("\n1.Insert\n2.insert at left position\n3.display");
95         scanf("%d",&choice);
96         switch(choice)
97         {
98             case 1:printf("enter the item\n");
99                     scanf("%d",&item);
100                    head=insert_rear(head,item);
101                    break;
102             case 2:printf("enter the key item\n");
103                     scanf("%d",&item);
104                    head=insert_leftpos(item,head);
105                    break;
106             case 3:display(head);
107                     break;
108             default:exit(0);
109                     break;
110         }
111     }
112 }
```

onlinegdb.com/online_c_compiler#



Run Debug Stop Share Save () Beautify

Language C

input

```
1.Insert
2.insert at left position
3.display
```

```
1
enter the item
12
```

```
1.Insert
2.insert at left position
3.display1
enter the item
24
```

```
1.Insert
2.insert at left position
3.display1
enter the item
36
```

```
1.Insert
2.insert at left position
3.display2
enter the key item
36
enter element to be inserted 54
```



onlinegdb.com/online_c_compiler#



Run Debug Stop Share Save Beautify

Language C

input

```
enter the item
36
1.Insert
2.insert at left position
3.display2
enter the key item
36
enter element to be inserted 54
```

```
1.Insert
2.insert at left position
3.display3
```

List :

```
12
24
54
36
```

```
1.Insert
2.insert at left position
3.display5
```

```
...Program finished with exit code 0
Press ENTER to exit console.
```

