

```
C linkedlist.c X
C linkedlist.c > main()
1 #include<stdio.h>
2 #include<stdlib.h>
3
4 struct Node {
5     int data;
6     struct Node *next;
7 };
8
9 struct Node *head = NULL;
10
11 struct Node* createNode(int data){
12     struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
13     newNode->data = data;
14     newNode->next = NULL;
15     return newNode;
16 }
17
18 void createlist(int n){
19     int data;
20     struct Node *temp, *newNode;
21     if(n<0){
22         printf("Number of node should be greater than 0.\n");
23         return ;
24     }
25     printf("Enter data for node 1: ");
26     scanf("%d",&data);
27     head = createNode(data);
28     temp = head;
29
30     for(int i=2;i<n;i++){
31         printf("Enter data for node %d: ",i);
32         scanf("%d",&data);
33         newNode = createNode(data);
34         temp->next = newNode;
35         temp = newNode;
36     }
37     printf("Linked list created successfully.\n");
38 }
39
40 void displaylist(){
41     struct Node *temp = head;
42     if(head == NULL){
43         printf("List is empty.\n");
44         return ;
45     }
46     printf("Linked List: ");
47     while(temp != NULL){
48         printf("%d->",temp->data);
49         temp = temp->next;
50     }
51     printf("NULL.\n");
52 }
53
54 void insertatBeginning(int data){
55     struct Node *newNode = createNode(data);
56     newNode->next = head;
57     head = newNode;
58     printf("Node inserted at the beginning.\n");
59 }
60
61 void insertatEnd(int data){
62     struct Node *newNode = CreateNode(data);
63     if(head == NULL){
64         head = newNode;
65         return ;
66     }
67     struct Node *temp = head;
68     while(temp->next != NULL){
69         temp = temp->next;
70     }
71     temp->next = newNode;
72     printf("Node inserted at the end.\n");
73 }
74
75 void insertatPosition(int data,int pos){
76     struct Node *newNode = createNode(data);
77     if(pos == 1){
78         newNode->next = head;
79         head = newNode;
80         printf("Node inserted at position 1.\n");
81         return ;
82     }
83     struct Node *temp = head;
84     for(int i = 1;i < pos-1 & temp != NULL;i++){
85         temp = temp->next;
86     }
87     if(temp == NULL){
88         printf("Position out of the range.\n");
89     }
90 }
```

Activate Windows
Go to Settings to activate Windows.

```
Ln 140 Col 52 Spaces: 4 UTF-8 CRLF ⌂ C Signed out ⌂ Go Live ⌂ BLACKBOXAI Open Chat Win32 ⌂
Air quality forecast ⌂ 🌡️ ⌂ ENG 10:30 AM AM IN 10-11-2025 ⌂
```

```
39
40 void insertatPosition(int data,int pos){
41     struct Node *newNode = createNode(data);
42     if(pos == 1){
43         newNode->next = head;
44         head = newNode;
45         printf("Node inserted at position 1.\n");
46         return ;
47     }
48     struct Node *temp = head;
49     for(int i = 1;i < pos-1 & temp != NULL;i++){
50         temp = temp->next;
51     }
52     if(temp == NULL){
53         printf("Position out of the range.\n");
54     }
55     struct Node *temp2 = temp->next;
56     temp->next = newNode;
57     newNode->next = temp2;
58     printf("Node inserted at position %d.\n",pos);
59 }
60
61 void displaylist(){
62     struct Node *temp = head;
63     if(head == NULL){
64         printf("List is empty.\n");
65         return ;
66     }
67     printf("Linked List: ");
68     while(temp != NULL){
69         printf("%d->",temp->data);
70         temp = temp->next;
71     }
72     printf("NULL.\n");
73 }
74
75 void insertatBeginning(int data){
76     struct Node *newNode = createNode(data);
77     if(head == NULL){
78         head = newNode;
79         return ;
80     }
81     struct Node *temp = head;
82     while(temp->next != NULL){
83         temp = temp->next;
84     }
85     temp->next = newNode;
86     printf("Node inserted at the beginning.\n");
87 }
88
89 void insertatEnd(int data){
90     struct Node *newNode = CreateNode(data);
91     if(head == NULL){
92         head = newNode;
93         return ;
94     }
95     struct Node *temp = head;
96     while(temp->next != NULL){
97         temp = temp->next;
98     }
99     temp->next = newNode;
100    printf("Node inserted at the end.\n");
101 }
```

Activate Windows
Go to Settings to activate Windows.

Ln 78 Col 24 Spaces: 4 UTF-8 CRLF ⌂ C Signed out ⌂ Go Live ⌂ BLACKBOXAI Open Chat Win32 ⌂
23°C Sunny ⌂ 🌡️ ⌂ ENG 10:33:47 AM AM IN 10-11-2025 ⌂

```
C linkedlist.c > ⚡ main()
73 void insertAtPosition(int data,int pos){
74     struct Node *newNode = createNode(data);
75     if(pos == 1){
76         newNode->next = head;
77         head = newNode;
78         printf("Node inserted at position 1.\n");
79         return ;
80     }
81     struct Node *temp = head;
82     for(int i = 1;i < pos-1 & temp != NULL;i++){
83         temp = temp->next;
84     }
85     if(temp == NULL){
86         printf("Position out of the range.\n");
87         free(newNode);
88     }else{
89         newNode->next = temp->next;
90         temp->next = newNode;
91         printf("Node inserted at position %d.\n", pos);
92     }
93 }
94
95 int main() {
96     int choice, n, data, pos;
97
98     while (1) {
99         printf("\n--- Singly Linked List Menu ---\n");
100        printf("1. Create List\n");
101        printf("2. Display List\n");
102        printf("3. Insert at Beginning\n");
103        printf("4. Insert at End\n");
104        printf("5. Insert at Any Position\n");
105        printf("6. Exit\n");
106        printf("Enter your choice: ");
107        scanf("%d", &choice);
108
109        switch (choice) {
110            case 1:
111                printf("Enter number of nodes: ");
112                scanf("%d", &n);
113                createlist();
114                break;
115            case 2:
116                displaylist();
117                break;
118            case 3:
119                printf("Enter data to insert: ");
120                scanf("%d", &data);
121
122            case 4:
123                printf("Enter data to insert: ");
124                scanf("%d", &data);
125                insertAtBeginning(data);
126                break;
127            case 5:
128                printf("Enter data to insert: ");
129                scanf("%d", &data);
130                printf("Enter position to insert: ");
131                scanf("%d", &pos);
132                insertAtPosition(data, pos);
133                break;
134            case 6:
135                printf("Exiting...\n");
136                exit(0);
137            default:
138                printf("Invalid choice! Try again.\n");
139        }
140    }
141
142    return 0;
143 }
```

```
C linkedlist.c > ⚡ main()
118     break;
119     case 3:
120         printf("Enter data to insert: ");
121         scanf("%d", &data);
122         insertAtBeginning(data);
123         break;
124     case 4:
125         printf("Enter data to insert: ");
126         scanf("%d", &data);
127         insertAtEnd(data);
128         break;
129     case 5:
130         printf("Enter data to insert: ");
131         scanf("%d", &data);
132         printf("Enter position to insert: ");
133         scanf("%d", &pos);
134         insertAtPosition(data, pos);
135         break;
136     case 6:
137         printf("Exiting...\n");
138         exit(0);
139     default:
140         printf("Invalid choice! Try again.\n");
141     }
142
143    return 0;
144 }
```

```
LINKED LIST TO 11.72.140.140:443  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 4  
Enter data to insert: 02  
Node inserted at the end.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 2  
Linked list: 78->12->23->56->45->38->2->NULL.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 5  
Enter data to insert: 98  
Enter position to insert: 5  
Node inserted at position 5.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 2  
Linked list: 78->12->23->56->98->45->38->2->NULL.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 6  
Exiting...  
Open Website
```

Activate Windows
Go to Settings to activate Windows.

```
PS C:\Users\Admin\Desktop\1B024CS176> cd "c:\Users\Admin\Desktop\1B024CS176\" ; if ($?) { gcc linkedList.c -o linkedlist } ; if ($) { .\linkedList }  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 1  
Enter number of nodes:  
5  
Enter data for node 1: 12  
Enter data for node 2: 23  
Enter data for node 3: 56  
Enter data for node 4: 45  
Enter data for node 5: 38  
Linked list created successfully.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 2  
Linked list: 12->23->56->45->38->NULL.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 3  
Enter data to insert: 78  
Node inserted at the beginning.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
5. Insert at Any Position  
6. Exit  
Enter your choice: 2  
Linked list: 78->12->23->56->45->38->NULL.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
4. Insert at End  
Enter your choice: 4  
Linked list: 78->12->23->56->45->38->2->NULL.  
... Singly Linked List Menu ...  
1. Create List  
2. Display List  
3. Insert at Beginning  
4. Insert at End  
4. Insert at End  
Enter your choice: 4  
Linked list: 78->12->23->56->45->38->2->NULL.
```

Activate Windows
Go to Settings to activate Windows.