

main.c

```
1  #include <stdio.h>
2  #include <stdlib.h>
3
4  struct Node{
5      int data;
6      struct Node *next;
7  };
8
9
10 void linkedListTraversal(struct Node* ptr)
11 {
12     while(ptr!=NULL)
13     {
14         printf("%d\t", ptr->data);
15         ptr = ptr->next;
16     }
17 }
18
19 struct Node* insertionAtFront(struct Node* head,int data){
20     struct Node * ptr=(struct Node*)malloc(sizeof(struct Node));
21     ptr->data=data;
22     ptr->next=head;
23     head=ptr;
24     return head;
25 }
26
27 struct Node* insertionAtEnd(struct Node* head,int data){
28     struct Node* ptr=(struct Node*)malloc(sizeof(struct Node));
29     ptr->data=data;
30     struct Node* new=head;
31
32     while(new->next!=NULL)
33     {
34         new=new->next;
35     }
36     new->next=ptr;
37     ptr->next=NULL;
38     return head;
39 }
40 struct Node* insertionAtIndex(struct Node* head,int data,int index)
41 {
42     struct Node* ptr=(struct Node*)malloc(sizeof(struct Node));
43     struct Node* new2=head;
44     int i=0;
45
46     while(i!=index-1)
47     {
```



```
47 {
48     new2=new2->next;
49     i++;
50 }
51 ptr->data=data;
52 ptr->next=new2->next;
53 new2->next=ptr;
54 return head;
55 }
56
57 void main()
58 {
59     struct Node* head;
60     struct Node* second;
61     struct Node* third;
62     struct Node* fourth;
63     struct Node* fifth;
64     head=(struct Node*)malloc(sizeof(struct Node));
65     second=(struct Node*)malloc(sizeof(struct Node));
66     third=(struct Node*)malloc(sizeof(struct Node));
67     fourth=(struct Node*)malloc(sizeof(struct Node));
68     fifth=(struct Node*)malloc(sizeof(struct Node));
69
70     head->data=100;
71     head->next=second;
72     second->data=99;
73     second->next=third;
74     third->data=98;
75     third->next=fourth;
76     fourth->data=97;
77     fourth->next=fifth;
78     fifth->data=96;
79     fifth->next=NULL;
80
81     printf("Original linked list:\n");
82     linkedListTraversal(head);
83     printf("\nLinked list after inserting element in front\n");
84     head=insertionAtFront(head,21);
85     linkedListTraversal(head);
86     printf("\nLinked list after inserting element in end\n");
87     head=insertionAtEnd(head,22);
88     linkedListTraversal(head);
89     printf("\nLinked list after inserting element at 3rd position\n");
90     head=insertionAtIndex(head,23,3);
91     linkedListTraversal(head);
92 }
```

Original linked list:

100 99 98 97 96

Linked list after inserting element in front

21 100 99 98 97 96

Linked list after inserting element in end

21 100 99 98 97 96 22

Linked list after inserting element at 3rd position

21 100 99 23 98 97 96 22

...Program finished with exit code 0

Press ENTER to exit console.