

LINKED LIST DELETION

Create a linked list using C++ program and insert the elements in linked list and delete the element in list. Also display the elements of linked list.

Instruction: -

- Create a structure named Node
- Create a class named LinkedList
 - Create constructor of class
 - Create a insert and display member function
- Insert the element at beginning of list and end of list.
- Delete the element at beginning of list and by searching the element in list.

C++ Code

```
1. #include<iostream>
2. using namespace std;
3.
4. struct Node{
5.     int data;
6.     Node *Next;
7. };
8.
9. class LinkedList{
10. public:
11.     Node *head;
12.
13.     LinkedList()
14.     {
15.         head=nullptr;
16.     }
17.
18.     void insert(int value)
19.     {
20.         Node *newnode=new Node();
21.         newnode->data=value;
22.         newnode->Next=nullptr;
23.
24.         if (head==nullptr)
25.         {
26.             head=newnode;
27.             return;
28.         }
29.
30.         Node *temp =head;
31.         while (temp->Next !=nullptr) //traversing of node
32.         {
33.             temp=temp->Next;
34.         }
35.         temp->Next=newnode;
36.     }
```

```

37.
38.     void insertfirst(int value) //insertion at first node
39.     {
40.         Node *newnode=new Node();
41.         newnode->data=value;
42.         newnode->Next=head;
43.         head=newnode;
44.     }
45.
46.     void deletenode(int value) //deletion of node
47.     {
48.         Node *temp=head;
49.         Node *prev=nullptr;
50.
51.         if (temp != nullptr && temp->data == value)
52.         {
53.             head = temp->Next;
54.             delete temp;
55.             return;
56.         }
57.
58.         while(temp !=nullptr && temp->data !=value)
59.         {
60.             prev=temp;
61.             temp=temp->Next;
62.         }
63.         prev->Next=temp->Next;
64.         delete temp;
65.     }
66.     void display()
67.     {
68.         Node *temp=head;
69.         while(temp != nullptr)
70.         {
71.             cout<<temp->data<<"->";
72.             temp=temp->Next;
73.         }
74.         cout<<" "<<endl;
75.
76.
77.     }
78. };
79. int main()
80. {
81.     LinkedList list;
82.     list.insert(10);
83.     list.insert(20);
84.     list.insert(30);
85.     list.insert(40);
86.     list.insertfirst(60);
87.     list.insert(50);
88.     list.display();
89.
90.     list.deletenode(60);
91.     list.display();
92. }

```