

Deletion at beginnig :

```
#include<iostream>

using namespace std;

class Node{
private:
int data;
Node *next;

public:
Node *head;

Node(){
head=NULL;
}

void insert_beg(int n){

if(head==NULL){

head=new Node();
head->data=n;
head->next=NULL;

}

else{

Node *p;
p=new Node();
p->data=n;
```

```

    p->next= head;
    head=p;

}

}

void del_beg(){

if(head==NULL){

    cout<<"No Nodes Exist"<<endl;

}

else{

    Node *ptr;
    ptr = head;
    head = head->next;
    delete(ptr);
    ptr = NULL;
}
}

void display()
{
    Node *ptr;
    ptr=head;
    if(ptr==NULL)
    {
        cout << " \nNo data is in the list.."<<endl;
    }
}

```

```
return;
}
else{

while(ptr!=NULL){
cout<<ptr->data<<endl;
ptr=ptr->next;
}
}

}

};

int main()
{
Node n;

n.insert_beg(1);
n.insert_beg(3);
n.insert_beg(5);
n.insert_beg(50)
n.del_beg();
n.display();
return 0;

}
```

```
C:\Users\saqib\OneDrive\Documents\Del_at_Beg[1].exe
5
3
1
-----
Process exited after 0.2393 seconds with return value 0
Press any key to continue . . .
```

Deletion at specific data value :

```
#include<iostream>

using namespace std;

class Node{
private:
int data;
Node *next;

public:
Node *head;

Node(){
head=NULL;
}

void insert_beg(int n){

if(head==NULL)
{

head=new Node();
head->data=n;
head->next=NULL;
```

```
}
```

```
else
```

```
{
```

```
    Node *p;
```

```
    p=new Node();
```

```
    p->data=n;
```

```
    p->next= head;
```

```
    head=p;
```

```
}
```

```
}
```

```
void insert_at_value(int pos,int n){
```

```
    if(head==NULL)
```

```
    {
```

```
        head=new Node();
```

```
        head->data=n;
```

```
        head->next=NULL;
```

```
    }
```

```
else
```

```
{
```

```
    Node *ptr;
```

```
    ptr=head;
```

```

while(ptr->data!=pos)
{
    ptr=ptr->next;

}
Node *p;
p=new Node();
p->data=n;
p->next= ptr->next;
ptr->next=p;
}

}

void Del_at_value(int pos){

if(head==NULL)
{
    cout<<"empty";
}

else

{
    Node *ptr;
    ptr=head;
    while(ptr->next->data!=pos)
    {
        ptr=ptr->next;

    }

```

```

    ptr->next=ptr->next->next;
//          Node *p;
//          p=ptr->next;
//          ptr->next=ptr->next->next;
//          p->next=NULL;
//          delete p;
    }

```

```

}

```

```

void display()
{
    Node *ptr;
    ptr=head;
    if(ptr==NULL)
    {
        cout << " \nNo data is in the list.."<<endl;
        return;
    }
    else{

        while(ptr!=NULL){
            cout<<ptr->data<<endl;
            ptr=ptr->next;
        }
    }

}

```

```
};
```

```
int main()
```

```
{
```

```
Node n;
```

```
    n.insert_beg(20);
```

```
    n.insert_beg(30);
```

```
    n.insert_beg(3);
```

```
    n.insert_at_value(30,50);
```

```
    n.display();
```

```
    n.Del_at_value(30);
```

```
    cout<<"After deleting the value 30:\n";
```

```
    n.display();
```

```
    n.Del_at_value(20);
```

```
    cout<<"After deleting the value 20:\n";
```

```
    n.display();
```

```
return 0;
```

```
}
```



```
C:\Users\saqib\OneDrive\Documents\Del_at_specific_data_value[1].exe
3
30
50
20
After deleting the value 30:
3
50
20
After deleting the value 20:
3
50

-----
Process exited after 0.3038 seconds with return value 0
Press any key to continue . . .
```

Deletion at end :

```
#include<iostream>

using namespace std;

class Node{
private:
    int data;
    Node *next;

public:
    Node *head;

    Node(){
        head=NULL;
    }
}
```

```
void insert_end(int n){

if(head==NULL)
{

head=new Node();
head->data=n;
head->next=NULL;

}

else

{

Node *p,*ptr;
ptr=head;
while(ptr->next!=NULL)
{
    ptr=ptr->next;
}

p=new Node();
p->data=n;
p->next= NULL;
ptr->next=p;

}
}

void del_end(int n){
```

```
if(head==NULL)
{

    head=new Node();
    head->data=n;
    head->next=NULL;

}

else

{

    Node *p,*ptr;
    ptr=head;
    while(ptr->next->next!=NULL)
    {
        ptr=ptr->next;
    }
    p=ptr->next;
    ptr->next=NULL;
    delete p;

}

}

void display()
{
```

```

Node *ptr;
ptr=head;
if(ptr==NULL)
{
cout << " \nNo data is in the list.."<<endl;
return;
}
else{

while(ptr!=NULL){
cout<<ptr->data<<endl;
ptr=ptr->next;
}
}

}

};

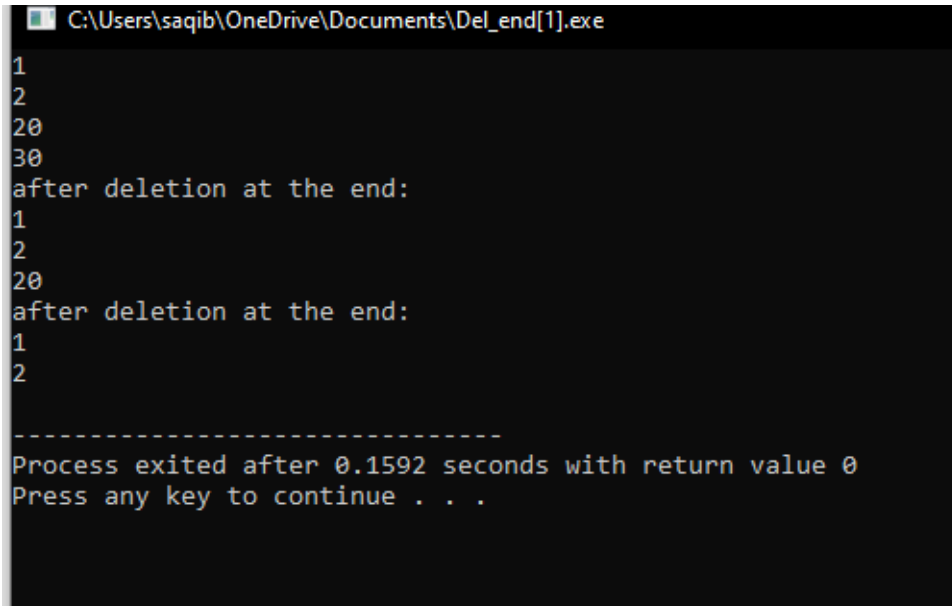
```

```

int main()
{
Node n;
n.insert_end(1);
n.insert_end(2);
n.insert_end(20);
n.insert_end(30);
n.display();
n.del_end(30);
cout<<"after deletion at the end:\n";
n.display();
n.del_end(20);

```

```
    cout<<"after deletion at the end:\n";  
    n.display();  
return 0;  
  
}
```



```
C:\Users\saqib\OneDrive\Documents\Del_end[1].exe  
1  
2  
20  
30  
after deletion at the end:  
1  
2  
20  
after deletion at the end:  
1  
2  
-----  
Process exited after 0.1592 seconds with return value 0  
Press any key to continue . . .
```