

// Online C++ compiler to run C++ program online

```
#include <iostream>
```

```
using namespace std;
```

```
struct node {
```

```
    int data;
```

```
    node *next;
```

```
};
```

```
int main() {
```

```
    // Write C++ code here
```

```
    node *nptr, *tptr, *header=NULL;
```

```
    int n;
```

```
    cin>>n;
```

```
    int item;
```

```
    for(int i =0;i<n;i++){
```

```
        std::cin>>item;
```

```
        nptr = new node;
```

```
        nptr->data = item;
```

```
        nptr->next = NULL;
```

```
    if(header==NULL){
```

```
        header = nptr;
```

```
        tptr = nptr;
```

```
    }
```

```
    else{
```

```
        tptr->next= nptr;
```

```
        tptr = nptr;
```

```
    }
```

```
}
```

```
// let's add an element;
```

```
// 3 cases.
```

```
// 1. Is it in the header? Let's search
```

```
tptr = header;
```

```
int add_korbo;
```

```
cout<<"what do you wanna add?";
```

```
cin>>add_korbo;
```

```
nptr = new node;
```

```
nptr->data = add_korbo;
```

```
nptr->next = NULL;
```

```
cout<<tptr<<endl;
```

```
if ( nptr->data < header->data) {
```

```
    nptr->next = header;
```

```
    header = nptr;
```

```
} else {
```

```
    // Case 2: Insertion in the middle or end
```

```
    tptr = header;
```

```
    while (tptr->next != NULL && tptr->next->data < nptr->data) {
```

```
        tptr = tptr->next;
```

```
    }
```

```
    nptr->next = tptr->next;
```

```
    tptr->next = nptr;
```

```
}
```

```
// Print the modified linked list
```

```

tptr= header;
while(tptr != NULL){
    cout<<"data = " <<tptr->data;
    cout<<" , address = "<<tptr;
    cout<<" , next address is = "<<tptr->next<<"\n';
    tptr=tptr->next;
}
cout<<"Let's Delete an element"<<endl;
cout<<"let's search"<<endl;
int delete_korbo;
cin>>delete_korbo;
tptr=header;
if(delete_korbo == header->data){
    header = tptr->next;
    delete(tptr);
}
else{

    node *pptr;
    while(tptr->data!=delete_korbo){
        pptr=tptr;
        tptr=tptr->next;
    }
    pptr->next = tptr->next;
    delete(tptr);
}
tptr = header;
while(tptr != NULL){

```

```
cout<<"data = " <<tptr->data;
cout<<", address = "<<tptr;
cout<<", next address is = "<<tptr->next<<"\n";
tptr=tptr->next;
}

}
```