

```
#include <iostream>
```

```
struct Node {
```

```
    int data;
```

```
    Node* next;
```

```
    Node(int val) : data(val), next(nullptr) {}
```

```
};
```

```
Node* insertRecursive(Node* node, int data) {
```

```
    if (node == nullptr) {
```

```
        return new Node(data);
```

```
    }
```

```
    if (data < node->data) {
```

```
        Node* newNode = new Node(data);
```

```
        newNode->next = node;
```

```
        return newNode;
```

```
    } else {
```

```
        node->next = insertRecursive(node->next, data);
```

```
        return node;
```

```
    }
```

```
}
```

```
Node* deleteRecursive(Node* node, int data) {
```

```
    if (node == nullptr) {
```

```
        return nullptr;
```

```
    }
```

```
    if (node->data == data) {
```

```
        Node* temp = node->next;
```

```

        delete node;

        return temp;
    } else {
        node->next = deleteRecursive(node->next, data);
        return node;
    }
}

```

```

void displayRecursive(Node* node) {
    if (node != nullptr) {
        std::cout << node->data << " ";
        displayRecursive(node->next);
    }
}

```

```

Node* createOrderedList() {
    Node* orderedList = nullptr;
    int element;
    std::cout << "Enter elements separated by spaces: ";
    while (std::cin >> element) {
        orderedList = insertRecursive(orderedList, element);
    }
    return orderedList;
}

```

```

int main() {
    Node* orderedList = nullptr;
    int choice, element;

    while (true) {
        std::cout << "\n1. Create Ordered List"

```

```
<< "\n2. Insert Element"
<< "\n3. Delete Element"
<< "\n4. Display List"
<< "\n5. Exit"
<< "\nEnter your choice: ";
```

```
std::cin >> choice;
```

```
switch (choice) {
```

```
    case 1:
```

```
        orderedList = createOrderedList();
```

```
        break;
```

```
    case 2:
```

```
        std::cout << "Enter element to insert: ";
```

```
        std::cin >> element;
```

```
        orderedList = insertRecursive(orderedList, element);
```

```
        break;
```

```
    case 3:
```

```
        std::cout << "Enter element to delete: ";
```

```
        std::cin >> element;
```

```
        orderedList = deleteRecursive(orderedList, element);
```

```
        break;
```

```
    case 4:
```

```
        std::cout << "Ordered List: ";
```

```
        displayRecursive(orderedList);
```

```
        std::cout << std::endl;
```

```
        break;
```

```
    case 5:
```

```
        return 0;
```

```
    default:
```

```
        std::cout << "Invalid choice. Please enter a valid option." << std::endl;
```

```
    }  
}  
  
return 0;  
}
```