

```

1  #include <iostream>
2  using namespace std;
3
4  struct node {
5      int data;
6      node *next;
7  };
8
9  int main() {
10     int i, n, item, pos;
11     node *nptr, *tptr, *list;
12     list = NULL;
13
14     cout << "Enter number of nodes: ";
15     cin >> n;
16
17     cout << "Enter data for node with space: ";
18     for (i = 1; i <= n; ++i) {
19         cin >> item;
20         nptr = new node;
21         nptr->data = item;
22         nptr->next = NULL;
23         if (list == NULL) {
24             list = nptr;
25             tptr = nptr;
26         } else {
27             tptr->next = nptr;
28             tptr = nptr;
29         }
30     }
31
32     cout << "Enter the position to insert the new node (0 for head, -1 for end): ";
33     cin >> pos;
34     cout << "Enter the data for the new node: ";
35     cin >> item;
36
37     nptr = new node;
38     nptr->data = item;
39     nptr->next = NULL;
40
41     if (pos == 0) {
42         // Insert at head
43         nptr->next = list;
44         list = nptr;
45     } else if (pos == -1) {
46         // Insert at end
47         tptr = list;
48         while (tptr->next != NULL) {
49             tptr = tptr->next;
50         }
51         tptr->next = nptr;
52     } else {
53         // Insert at specific position
54         tptr = list;
55         int count = 0;
56         while (tptr->next->data < nptr->data) {
57             tptr = tptr->next;
58             count++;
59         }
60         if (tptr == NULL) {
61             cout << "Position out of bounds" << endl;
62         } else {
63             nptr->next = tptr->next;
64             tptr->next = nptr;
65         }
66     }
67
68     // Print the final list
69     tptr = list;
70     cout << "Final linked list: ";
71     while (tptr != NULL) {
72         cout << tptr->data << " ";
73         tptr = tptr->next;
74     }
75     cout << endl;
76
77     return 0;
78 }
79

```

