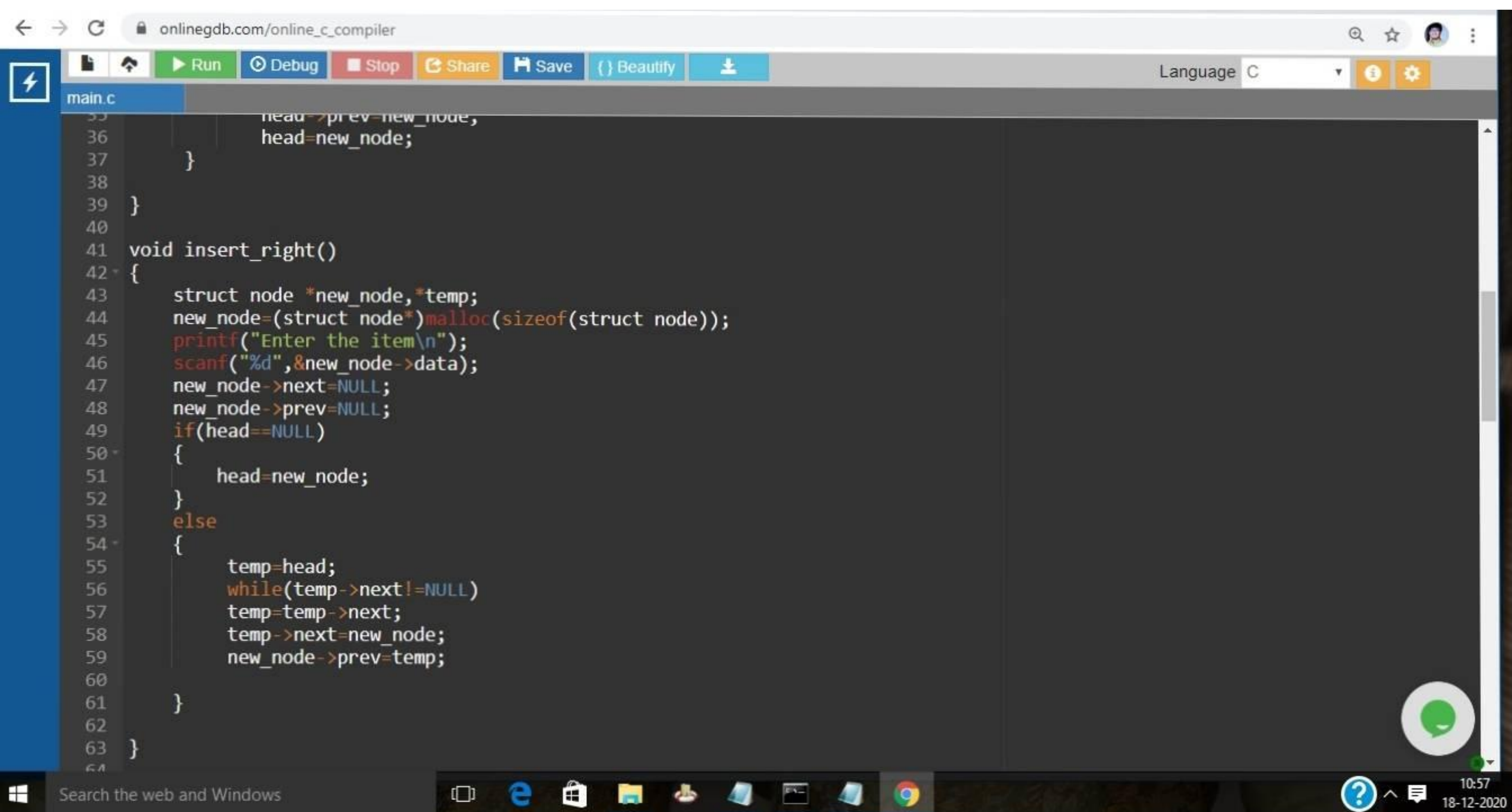```c
8
9   #include<stdio.h>
10
11 #include<stdlib.h>
12 struct node
13 {
14   int data;
15   struct node *next;
16   struct node *prev;
17 };
18 struct node *head=NULL;
19 void insert_left()
20 {
21   struct node *new_node;
22   new_node=(struct node*)malloc(sizeof(struct node));
23   printf("Enter the item\n");
24   scanf("%d",&new_node->data);
25   new_node->next=NULL;
26   new_node->prev=NULL;
27
28   if(head==NULL)
29   {
30   head=new_node;
31   }
32   else
33   {
34   new_node->next=head;
35   head->prev=new_node;
36   head=new_node;
```
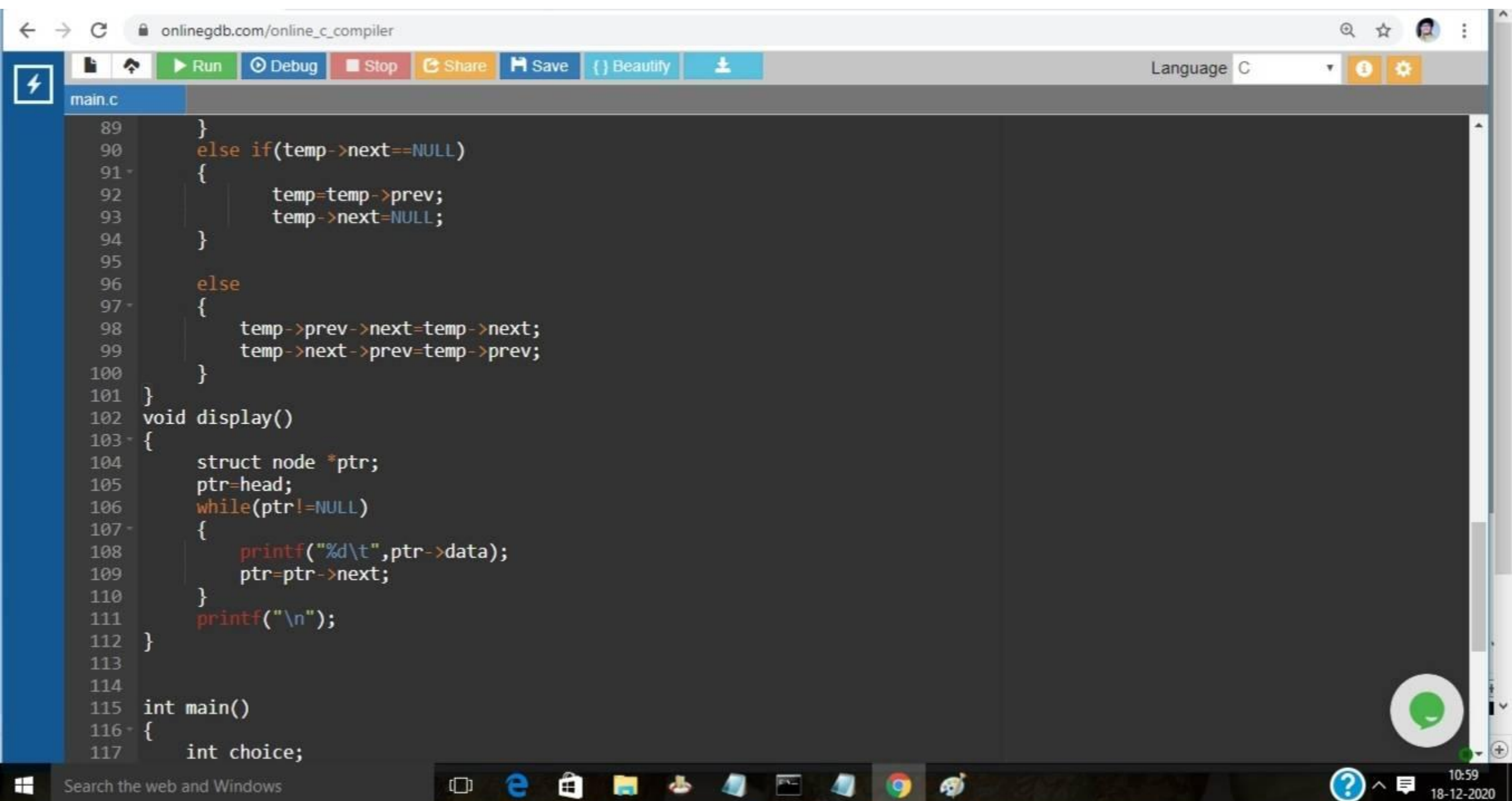
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18-12-2020

▶ Run   ⊙ Debug   ■ Stop   ↻ Share   💾 Save   {} Beautify   ⬇          Language C ▾

main.c

```
          head->prev=new_node;
36            head=new_node;
37        }
38
39  }
40
41  void insert_right()
42  {
43      struct node *new_node,*temp;
44      new_node=(struct node*)malloc(sizeof(struct node));
45      printf("Enter the item\n");
46      scanf("%d",&new_node->data);
47      new_node->next=NULL;
48      new_node->prev=NULL;
49      if(head==NULL)
50      {
51          head=new_node;
52      }
53      else
54      {
55          temp=head;
56          while(temp->next!=NULL)
57          temp=temp->next;
58          temp->next=new_node;
59          new_node->prev=temp;
60
61      }
62
63  }
64
```

```c
63  }
64
65  void del()
66  {
67      struct node *temp;
68      int ele;
69      if(head==NULL)
70      {
71          printf("Empty List \n");
72          return;
73      }
74      printf("Enter the element to be deleted\n");
75      scanf("%d",&ele);
76      temp=head;
77      while(temp->data!=ele)
78      {
79          temp=temp->next;
80          if(temp==NULL)
81          {
82              printf("Element is not in the list\n");
83              break;
84          }
85      }
86      if(temp==head)
87      {
88          head=head->next;
89      }
90      else if(temp->next==NULL)
91      {
```

```
89          }
90          else if(temp->next==NULL)
91          {
92                  temp=temp->prev;
93                  temp->next=NULL;
94          }
95
96          else
97          {
98              temp->prev->next=temp->next;
99              temp->next->prev=temp->prev;
100         }
101 }
102 void display()
103 {
104     struct node *ptr;
105     ptr=head;
106     while(ptr!=NULL)
107     {
108         printf("%d\t",ptr->data);
109         ptr=ptr->next;
110     }
111     printf("\n");
112 }
113
114
115 int main()
116 {
117     int choice;
```
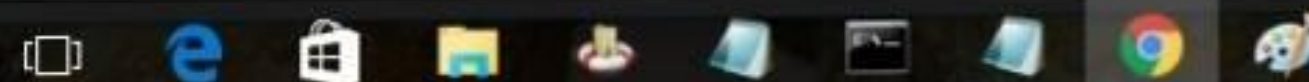
```c
110        }
111        printf("\n");
112  }
113
114
115  int main()
116  {
117      int choice;
118
119      while(1)
120      {
121          printf(" 1. Insert at the left \n");
122          printf(" 2. Insert at the right \n");
123          printf(" 3. Delete \n");
124          printf(" 4. Display\n");
125          printf(" 5. Exit\n");
126          printf("Enter your choice\n");
127          scanf("%d",&choice);
128          switch(choice)
129          {
130              case 1: insert_left(); break;
131              case 2: insert_right();break;
132              case 3: del(); break;
133              case 4: display(); break;
134              case 5: exit(0);
135          }
136      }
137  }
138
```

input

```
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
1
Enter the item
10
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
1
Enter the item
20
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
1
Enter the item
30
 1. Insert at the left
```

input

```
Enter the item
30
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
2
Enter the item
40
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
3
Enter the element to be deleted
20
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
4
30      10      40
```

input

```
Enter your choice
4
30      10      40
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
1
Enter the item
50
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
4
50      30      10      40
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
2
Enter the item
```

```
onlinegdb.com/online_c_compiler
```

input

```
Enter your choice
2
Enter the item
60
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
4
50      30      10      40      60
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
3
Enter the element to be deleted
10
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
3
```

input

```
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
3
Enter the element to be deleted
50
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
4
30      40      60
 1. Insert at the left
 2. Insert at the right
 3. Delete
 4. Display
 5. Exit
Enter your choice
5


...Program finished with exit code 0
Press ENTER to exit console.
```