

```
main.c* x
Project9
1  #define _CRT_SECURE_NO_WARNINGS
2  #include <stdio.h>
3  #include <ctype.h>
4  #include <malloc.h>
5  #include <assert.h>
6
7  // ...
34
35  typedef struct {
36
37      int data;
38      int fre;
39      struct linkedlist* next;
40  }linkedlist,*linkedlistp;
41
42  linkedlistp InsertList(linkedlistp L, int* p, int i);
43  void PrintNode(linkedlistp L);
44
45  int main()
46  {
47      linkedlistp L=NULL;
48      int a[100] = { 0 };
49      int num ,count= 0;
50      int *p = a;
```

```
main.c* x
Project9
51
52      printf("Enter integers:");
53      scanf("%d",&num);
54      while (num != 0&&count<100)
55      {
56          (*(p + num))++;
57          L = InsertList(L, p, num);
58          scanf("%d", &num);
59          count++;
60      }
61
62      printf("Output:");
63
64      PrintNode(L);
65
66      return 0;
67  }
68
69  linkedlistp InsertList(linkedlistp L, int* p, int i)
70  {
71      if (L == NULL || L->fre < *(p + i))
72      {
73          linkedlistp p2 = (linkedlistp)malloc(sizeof(linkedlist));
74          assert(p2 != NULL);
75          p2->data = i;
76          p2->fre = *(p + i);
```

```
main.c* x
Project9
75          p2->data = i;
76          p2->fre = *(p + i);
77          if (L != NULL)
78          {
79              p2->next = L;
80          }
81          else
82          {
83              p2->next = NULL;
84          }
85          return p2;
86      }
87      else
88      {
89          L->next = InsertList(L->next, p, i);
90      }
91      return L;
92  }
93  }
94
```

```

95
96 void PrintNode(linkedlistp L)
97 {
98     static j=0;
99     int a[100] = { 0 };
100     while (L != NULL)
101     {
102         int i = 0;
103         while (i < 100 && a[i++] != L->data);
104         if (i == 100)
105         {
106             a[j++] = L->data;
107             printf("%d ", L->data);
108         }
109         L = L->next;
110     }
111     printf("\n");
112 }
113

```

Microsoft Visual Studio 调试

Enter integers:1 9 8 3 6 11 9 3 9 11 0
Output:9 3 11 1 8 6 0
C:\Users\smile\我的云端硬盘\Electrical Engineering\2023? 2??\????????(??)\Lab&HW\HW9\Project9\x64\Debug\Project9.exe (进程 31312)已退出, 代码为 0。
按任意键关闭此窗口. . .

Microsoft Visual Studio 调试

Enter integers:3 2 1 4 7 6 5 8 9 0
Output:3 2 1 4 7 6 5 8 9 0
C:\Users\smile\我的云端硬盘\Electrical Engineering\2023? 2??\????????(??)\Lab&HW\HW9\Project9\x64\Debug\Project9.exe (进程 25796)已退出, 代码为 0。
按任意键关闭此窗口. . .

```
main.c x
Project9 (全局范围)
1  #define _CRT_SECURE_NO_WARNINGS
2  #include <stdio.h>
3  #include <ctype.h>
4  // ...
29
30 int main()
31 {
32     char str[100] = "";
33     printf("Enter a message:");
34
35
36     char* left = str;
37     char* right = str;
38     scanf("%c", right);
39     while ( *right != '\n')
40     {
41         if (('A' <= *right && *right <= 'Z') || ('a' <= *right && *right <= 'z'))
42         {
43             *right = toupper(*right);
44             right++;
45         }
46         scanf("%c", right);
47
48     }
49     right--;
50     while (right > left)
51     {
52         if (*right != *left)
53         {
54             printf("Not a palindrome\n");
55             break;
56         }
57         else
58         {
59             right--;
60             left++;
61         }
62     }
63     if (right <= left)
64     {
65         printf("Palindrome\n");
66     }
67
68     return 0;
69 }
```

```
Microsoft Visual Studio 调试控制台
Enter a message:He lived as a devil, eh?
Palindrome
C:\Users\smile\我的云端硬盘\Electrical Engineering\2023? 2??\????????(??)\Lab&HW\HW9\Project9\x64\Debug\Project9.exe (进程 7232) 已退出, 代码为 0。
按任意键关闭此窗口. . .
```

```
Microsoft Visual Studio 调试控制台
Enter a message:Madam, I am Adam
Not a palindrome
C:\Users\smile\我的云端硬盘\Electrical Engineering\2023? 2??\????????(??)\Lab&HW\HW9\Project9\x64\Debug\Project9.exe (进程 17472) 已退出, 代码为 0。
按任意键关闭此窗口. . .
```

```
main.c  X
Project9 (全局范围) main()
1  #define _CRT_SECURE_NO_WARNINGS
2  #include <stdio.h>
3  #include <ctype.h>
4  #include <malloc.h>
5  #include <assert.h>
6
7  // ...
85
86  // ...
126
127  int main()
128  {
129      char str[100] = "";
130      printf("Enter a message:");
131
132      int count = 0;
133      char* left = str;
134      char* right = str;
135      scanf("%c", right);
```

```
main.c x
Project9 (全局范围) main()
132 int count = 0;
133 char* left=str;
134 char* right = str;
135 scanf("%c", right);
136 printf("Reversal is:");
137 while (*right != '\n')
138 {
139     while (*right != ' ' && *right != '\n')
140     {
141         count++;
142         scanf("%c", ++right);
143     }
144     if (*right != '\n')
145     {
146         scanf("%c", right);
147     }
148     left = right;
149     while (count--)
150     {
151         printf("%c", *--left);
152     }
153     count = 0;
154     printf(" ");
155 }
156 return 0;
157 }
```

选择 Microsoft Visual Studio 调试控制台

Enter a message:Don't get mad, get even.
Reversal is:t noD teg ,dam teg .neve
C:\Users\smile\我的云端硬盘\Electrical Engineering\2023? 2??\????????(??)\Lab&HW\HW9\Project9\x64\Debug\Project9. exe (进程 31520) 已退出, 代码为 0。
按任意键关闭此窗口。 . . .