

吴老师，骆学长和孙学长好，以下是我的作业。

上机随堂作业

- 教材

P. 148-149 题 12、题 17

- 补充题 - 补充题

编写程序，递归判断回文字符串（使用指针实现。指定测试 1：`s1='abcdef'`；指定测试 2：`s1='abcdcba'`。）

[Chi-Shan0707/Homework-in-CS10004-Programming-by-yhchi](#)

代码仓库↑

1

The screenshot shows a terminal window within a code editor interface. The terminal output is as follows:

```
Terminal will be reused by tasks, press any key to close it.
Executing task: /bin/bash -c ./build/Debug/outDebug
213137777aufnndfadkkd
213137aufnndfadkd
Terminal will be reused by tasks, press any key to close it.
```

The code editor shows a C program named `deduplicate_chars.c`. The code reads a string from standard input, removes duplicate characters, and prints the result to standard output. A red arrow points from the terminal output back to the line of code where the string `s` is initialized to an empty string.

```
1 #include<stdio.h>
2 #include<string.h>
3 int main()
4 {
5     char s[100] = ""; // s[0]=='\0', 其余元素被初始化为0
6     scanf("%s",s);
7     char* read;
8     char* write;
9     read=write=s;
10    while(*read=='\0')
11    {
12        *write=*read;
13        while(*read==*write&&*read!='\0')++read;
14        ++write;
15    }
16    *write='\0';
17    printf("%s\n",s);
18    /*
19    int n,i,j;
20    char s[100];
21    char res[100];
22    //char res[100]={0};
23    //char res[100]={0};也可以这样初始化
24    scanf(" %s",s);
25    n=strlen(s); //长度不包括'\0'!
26    printf("%d",n);
27    i=j=0;
28    for(;i<n;
29    {
30        res[j]=s[i];
31        while(s[i]==res[j])++i;
32        ++j;
33    }
34    printf("%s",res);
35    */
36    return 0;
37 }
```

2

```

new Theory.m4   C test_everything.c M  Untitled-1  C sixinone.h U  C sixinone.c U  ...
code_pack > C sixinone.c > organize(char *)
1 #include<stdio.h>
2 void swap(int *x,int* y)
3 {
4     int temp;
5     temp=y;
6     *y=x;
7     *x=temp;
8 }
9 void flip(int n,int a[][100])
10 {
11     for(int i=1;i<=n;++i)
12     {
13         for(int j=1;j<=i;++j)
14         {
15             swap(&a[i][j],&a[j][i]);
16         }
17     }
18 }
19 int cal_len(char *s)
20 {
21     int len=0;
22     while(*s!='\0')+s,++len;
23     return len;
24 }
25 void copy(int n,char *src,char *dest)
26 //source,destination
27 {
28     char *read;
29     char *write;
30     read=src;
31     write=dest;
32     while(n-&&read!='\0')
33     {
34         // printf("%c ", *read);
35         *write=*read;
36         ++read;
37         ++write;
38     }
39     // *write='\0';
40 }
41 void convert(char *str)
42 {
43     char *p=str;
44     while(*p!='\0')
45     {
46         if(*p>='a'&&*p<='z')*p=*p-'a'+'A';
47         ++p;
48     }
49 }
50 void organize(char *str)
51 {
52     char res[100]="";
53     char hd;
54     char tl;
55     char ptr;
56     hd=tl=str;
57     ptr=res;
58     while(*hd!='\0')
59     {
60         while(*hd==' ' && *hd!='\0')
61         {
62             ++hd;
63             ++tl;
64         }
65         while(*tl]!=' ' && *tl!='\0')
66         {
67             *ptr+=tl;
68             ++ptr;
69             ++tl;
70         }
71         *ptr=' ';
72         ++ptr;
73         hd=tl;
74     }
75     printf("%s\n",res);
76     copy(cal_len(res),res,str);
77 }
78
79 int main()
80 {
81     int a[100][100];
82     int n,len1;
83     char s1[1002]="";
84     char s2[1002]="";
85     printf("请输入字符串:\n");
86
87     fgets(s1,sizeof(s1),stdin);
88     scanf(" %s",s2);
89     printf("%s\n%s\n",s1,s2);
90     scanf(" %d",&n);
91     for(int i=1;i<=n;++i)
92     {
93         for(int j=1;j<=i;++j)
94         {
95             scanf(" %d",&a[i][j]);
96         }
97     }
98 }
99 flip(n,a);
100 //把 flip 的第二维和 a 的列数对齐
101
102 printf("func 1\n");
103 for(int i=1;i<=n;++i)
104 {
105     for(int j=1;j<=n;++j)
106     {
107         printf(" %d ",a[i][j]);
108     }
109     printf("\n");
110 }
111 printf("*****\n");
112
113 len1=cal_len(s1);
114 s1[len1]='\0';
115 --len1;
116 printf("func 2\n%d\n*****\n",len1);
117
118 copy(s2,s1);
119 printf("func 3\n%s\n*****\n",s1);
120
121 copy(cal_len(s2),s2,s1+len1);
122 printf("func 4\n%s\n*****\n",s2);
123
124 convert(s1);
125
126
127
128
129
130
131
132
}

```

In 74 C | G | S | Source | A | UTE | B | T | C | B | Home | Help

```

code_pack > C sixinone.c > organize(char *)
85 printf("请输入字符串:\n");
86
87 fgets(s1,sizeof(s1),stdin);
88 scanf(" %s",s2);
89 printf("%s\n%s\n",s1,s2);
90 scanf(" %d",&n);
91 for(int i=1;i<=n;++i)
92 {
93     for(int j=1;j<=n;++j)
94     {
95         scanf(" %d",&a[i][j]);
96     }
97 }
98 flip(n,a);
//把 flip 的第二维和 a 的列数对齐
99
100 printf("func 1\n");
101 for(int i=1;i<=n;++i)
102 {
103     for(int j=1;j<=n;++j)
104     {
105         printf(" %d ",a[i][j]);
106     }
107     printf("\n");
108 }
109 printf("*****\n");
110
111 len1=cal_len(s1);
112 s1[len1]='\0';
113 --len1;
114 printf("func 2\n%d\n*****\n",len1);
115
116 copy(s2,s1);
117 printf("func 3\n%s\n*****\n",s1);
118
119 copy(cal_len(s2),s2,s1+len1);
120 printf("func 4\n%s\n*****\n",s2);
121
122 convert(s1);
123 printf("func 5\n%s\n*****\n",s1);
124
125 organize(s1);
126 printf("func 6\n%s\n*****\n",s1);
127
128
129
130
131
132
}

```

In 74 C | G | S | Source | A | UTE | B | T | C | B | Home | Help

3.

```
请输入字符串：
    abcdef GH   IJK   LMN
1234
s1:  abcdef GH   IJK   LMN

s2:1234
3
1 2 3
4 5 6
7 8 9
func 1
1 4 7
2 5 8
3 6 9
*****
func 2
29
*****
func 3
123abcdef GH   IJK   LMN

*****
func 4
123abcdef GH   IJK   LMN      1234
*****
func 5
123ABCDEF GH   IJK   LMN      1234
*****
123ABCDEF GH IJK LMN 1234
func 6
123ABCDEF GH IJK LMN 1234      1234
*****
```

File Terminal Help

Preview Theory.md C sixinone.c U Untitled-1 C T3.c U X test_everything

```
code_pack > C T3.c > main()
1   char str[1002];
2   scanf("%s",str);
3   char *hd;char *tl;
4   char *ptr;
5   hd=str;
6   tl=str;
7   ptr=str;
8   ++ptr;
9   while(*ptr!='\0')
10  {
11    ++tl;
12    ++ptr;
13  }
14  while(*hd!='\0')
15  {
16    if(*hd!=*tl)
17    {
18      printf("not");
19      return 0;
20    }
21    ++hd;
22    --tl;
23  }
24  printf("ys");
25  return 0;
26 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Run - Task

```
EXECUTING LINT /bin/bash -c gcc -Wall -Wextra -Wpedantic -Wshadow -Wformat=2 -Wcast-align -Wconversion -Wsigh
3 -O0 -c T3.c -o ./build/Debug/T3.o && gcc -Wall -Wextra -Wpedantic -Wshadow -Wformat=2 -Wcast-align -Wconversion -Wsigh
nace -g3 -O0 ./build/Debug/T3.o -o ./build/Debug/outDebug
* Terminal will be reused by tasks, press any key to close it.

● * Executing task: /bin/bash -c ./build/Debug/outDebug

111
ys* Terminal will be reused by tasks, press any key to close it.

● * Executing task: /bin/bash -c gcc -Wall -Wextra -Wpedantic -Wshadow -Wformat=2 -Wcast-align -Wconversion -Wsigh
3 -O0 -c T3.c -o ./build/Debug/T3.o && gcc -Wall -Wextra -Wpedantic -Wshadow -Wformat=2 -Wcast-align -Wconversion -Wsigh
nace -g3 -O0 ./build/Debug/T3.o -o ./build/Debug/outDebug
* Terminal will be reused by tasks, press any key to close it.

● * Executing task: /bin/bash -c ./build/Debug/outDebug

123
not* Terminal will be reused by tasks, press any key to close it.
```