

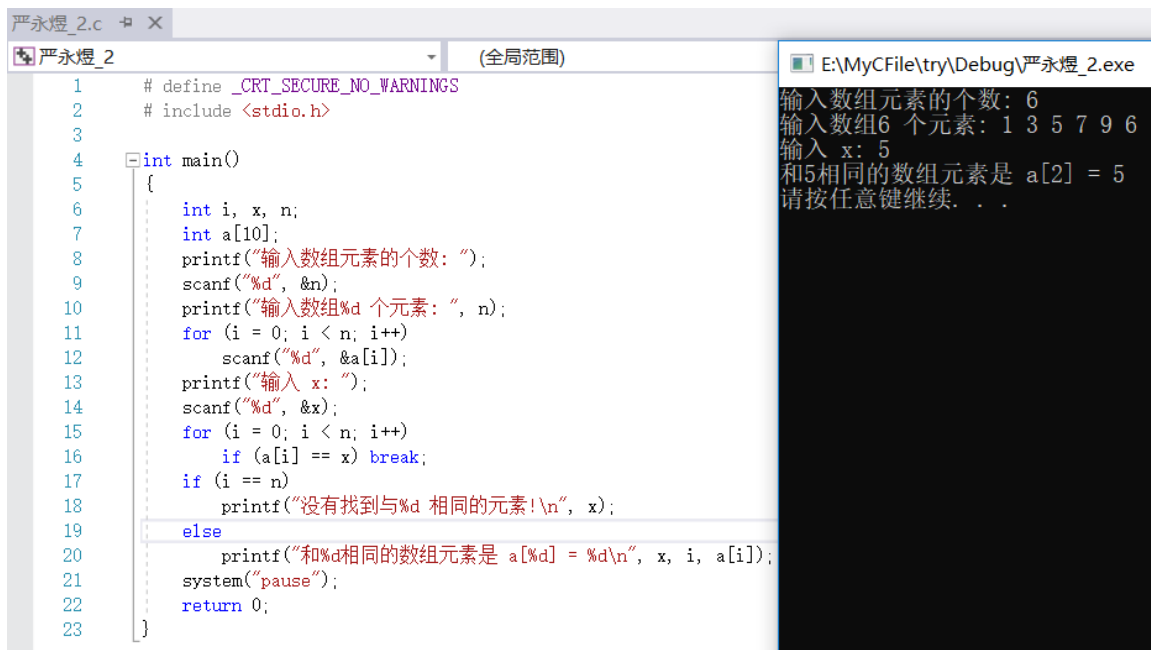
四. 实验结果与分析

2

源程序:

```
#include <stdio.h>

int main()
{
    int i, x, n;
    int a[10];
    printf("输入数组元素的个数: ");
    scanf("%d", &n);
    printf("输入数组%d 个元素: ", n);
    for (i = 0; i < n; i++) scanf("%d", &a[i]);
    printf("输入 x: ");
    scanf("%d", &x);
    for (i = 0; i < n; i++)
        if (a[i] == x) break;
    if (i == n) printf("没有找到与%d 相同的元素!\n", x);
    else printf("和%d 相同的数组元素是 a[%d] = %d\n", x, i, a[i]);
    return 0;
}
```



```
严永煜_2.c  x
严永煜_2 (全局范围)
1  # define _CRT_SECURE_NO_WARNINGS
2  # include <stdio.h>
3
4  int main()
5  {
6      int i, x, n;
7      int a[10];
8      printf("输入数组元素的个数: ");
9      scanf("%d", &n);
10     printf("输入数组%d 个元素: ", n);
11     for (i = 0; i < n; i++)
12         scanf("%d", &a[i]);
13     printf("输入 x: ");
14     scanf("%d", &x);
15     for (i = 0; i < n; i++)
16         if (a[i] == x) break;
17     if (i == n)
18         printf("没有找到与%d 相同的元素!\n", x);
19     else
20         printf("和%d相同的数组元素是 a[%d] = %d\n", x, i, a[i]);
21     system("pause");
22     return 0;
23 }
```

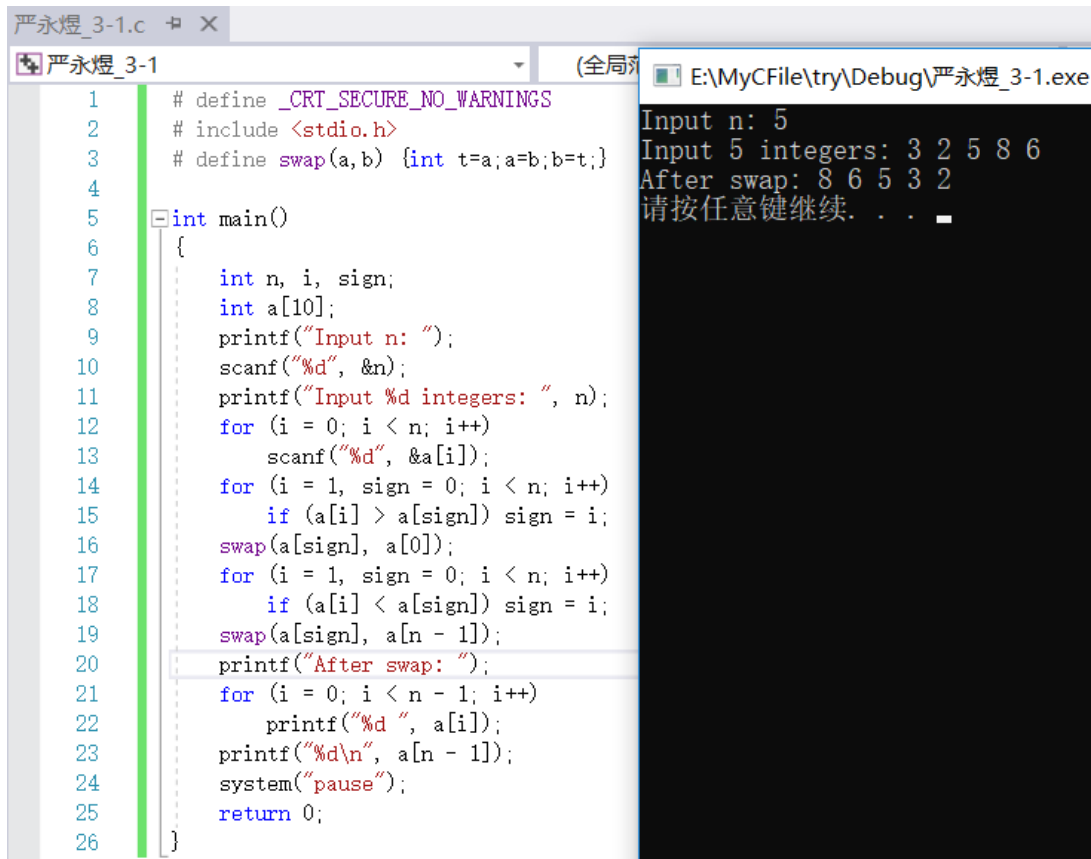
```
E:\MyCFile\try\Debug\严永煜_2.exe
输入数组元素的个数: 6
输入数组6 个元素: 1 3 5 7 9 6
输入 x: 5
和5相同的数组元素是 a[2] = 5
请按任意键继续. . .
```

- (1) 0 error(s) 0 warning(s)
- (2) 错误
- (3) 方法: 根据 debug 判断程序语法与逻辑错误。
错误行号: 11 正确语句: scanf("%d", &a[i]);
错误行号: 15 正确语句: if (a[i] == x) break;
错误行号: 16 正确语句: if (i == n)

3-1

源程序：

```
# include <stdio.h>
# define swap(a,b) {int t=a;a=b;b=t;}
int main()
{
    int n, i, sign;
    int a[10];
    printf("Input n: ");
    scanf("%d", &n);
    printf("Input %d integers: ", n);
    for (i = 0; i < n; i++) scanf("%d", &a[i]);
    for (i = 1, sign = 0; i < n; i++) if (a[i] > a[sign]) sign = i;
    swap(a[sign], a[0]);
    for (i = 1, sign = 0; i < n; i++) if (a[i] < a[sign]) sign = i;
    swap(a[sign], a[n - 1]);
    printf("After swap: ");
    for (i = 0; i < n - 1; i++) printf("%d ", a[i]);
    printf("%d\n", a[n - 1]);
    system("pause");
    return 0;
}
```



```
严永煜_3-1.c 严永煜_3-1 (全局) E:\MyCFile\try\Debug\严永煜_3-1.exe
1 # define _CRT_SECURE_NO_WARNINGS
2 # include <stdio.h>
3 # define swap(a,b) {int t=a;a=b;b=t;}
4
5 int main()
6 {
7     int n, i, sign;
8     int a[10];
9     printf("Input n: ");
10    scanf("%d", &n);
11    printf("Input %d integers: ", n);
12    for (i = 0; i < n; i++)
13        scanf("%d", &a[i]);
14    for (i = 1, sign = 0; i < n; i++)
15        if (a[i] > a[sign]) sign = i;
16    swap(a[sign], a[0]);
17    for (i = 1, sign = 0; i < n; i++)
18        if (a[i] < a[sign]) sign = i;
19    swap(a[sign], a[n - 1]);
20    printf("After swap: ");
21    for (i = 0; i < n - 1; i++)
22        printf("%d ", a[i]);
23    printf("%d\n", a[n - 1]);
24    system("pause");
25    return 0;
26 }
```

Input n: 5
Input 5 integers: 3 2 5 8 6
After swap: 8 6 5 3 2
请按任意键继续. . .

3-2

源程序：

```
# include <stdio.h>

int main()
{
    int n, i;
    int a[10];
    printf("Input n: ");
    scanf("%d", &n);
    printf("Input %d integers: ", n);
    for (i = 0; i < n; i++)
        scanf("%d", &a[i]);
    for (i = 0; i < n - 1; i++)
    {
        if (i % 3 == 2) printf("%d\n", a[i] / a[i + 1]);
        else printf("%d\t", a[i] / a[i + 1]);
    }
    system("pause");
    return 0;
}
```

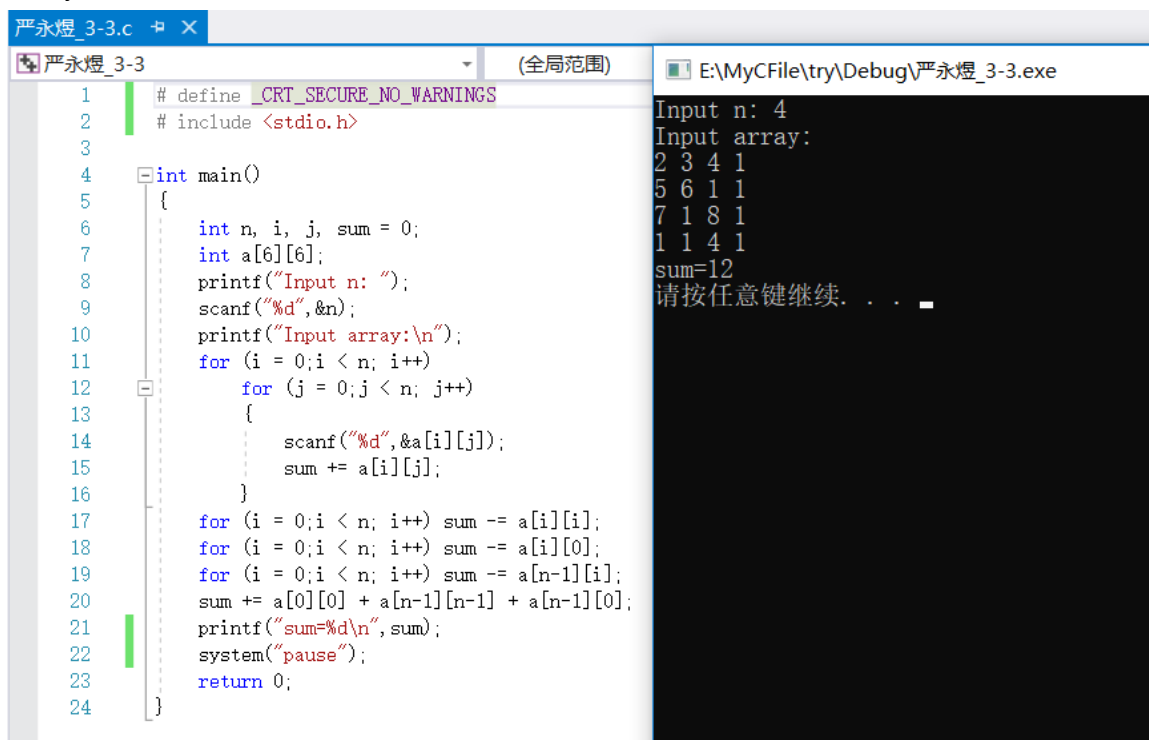
```
1 # define _CRT_SECURE_NO_WARNINGS
2 # include <stdio.h>
3
4 int main()
5 {
6     int n, i;
7     int a[10];
8     printf("Input n: ");
9     scanf("%d", &n);
10    printf("Input %d integers: ", n);
11    for (i = 0; i < n; i++)
12        scanf("%d", &a[i]);
13    for (i = 0; i < n - 1; i++)
14    {
15        if (i % 3 == 2) printf("%d\n", a[i] / a[i + 1]);
16        else printf("%d\t", a[i] / a[i + 1]);
17    }
18    system("pause");
19    return 0;
20 }
```

Input n: 10
Input 10 integers: 5 1 14 7 36 6 128 63 32 9
5 0 2
0 6 0
2 1 3
请按任意键继续. . .

3-3

源程序：

```
#include <stdio.h>
int main()
{
    int n, i, j, sum = 0;
    int a[6][6];
    printf("Input n: ");
    scanf("%d",&n);
    printf("Input array:\n");
    for (i = 0; i < n; i++)
        for (j = 0; j < n; j++)
        {
            scanf("%d",&a[i][j]);
            sum += a[i][j];
        }
    for (i = 0; i < n; i++) sum -= a[i][i];
    for (i = 0; i < n; i++) sum -= a[i][0];
    for (i = 0; i < n; i++) sum -= a[n-1][i];
    sum += a[0][0] + a[n-1][n-1] + a[n-1][0];
    printf("sum=%d\n",sum);
    return 0;
}
```



```
1  # define _CRT_SECURE_NO_WARNINGS
2  # include <stdio.h>
3
4  int main()
5  {
6      int n, i, j, sum = 0;
7      int a[6][6];
8      printf("Input n: ");
9      scanf("%d",&n);
10     printf("Input array:\n");
11     for (i = 0; i < n; i++)
12         for (j = 0; j < n; j++)
13         {
14             scanf("%d",&a[i][j]);
15             sum += a[i][j];
16         }
17     for (i = 0; i < n; i++) sum -= a[i][i];
18     for (i = 0; i < n; i++) sum -= a[i][0];
19     for (i = 0; i < n; i++) sum -= a[n-1][i];
20     sum += a[0][0] + a[n-1][n-1] + a[n-1][0];
21     printf("sum=%d\n",sum);
22     system("pause");
23     return 0;
24 }
```

Input n: 4
Input array:
2 3 4 1
5 6 1 1
7 1 8 1
1 1 4 1
sum=12
请按任意键继续. . .

3-4

源程序:

```
#include <stdio.h>
int n, a[6][6];
int judge(int i, int j)
{
    int m;
    for (m = 0; m < n; m++) if (a[i][m] > a[i][j]) return 0;
    for (m = 0; m < n; m++) if (a[m][j] < a[i][j]) return 0;
    return 1;
}
int main()
{
    int i, j, sign = 0;
    printf("Input n: ");
    scanf("%d", &n);
    printf("Input array:\n");
    for (i = 0; i < n; i++) for (j = 0; j < n; j++) scanf("%d", &a[i][j]);
    for (i = 0; i < n; i++) for (j = 0; j < n; j++) if (judge(i, j) == 1) {
        printf("a[%d][%d]=%d 是鞍点!\n", i, j, a[i][j]);
        sign = 1;
        break;
    }
    if (sign == 0) printf("没有鞍点!\n");
    return 0;
}
```

The screenshot displays the execution of the C program. On the left, the source code is shown in a text editor with line numbers 1 through 27. The code defines a 6x6 array and a function to check for a saddle point. The main function reads the array size and the array elements, then iterates through the array to find a saddle point. On the right, the command prompt shows the program's output. It prompts for 'Input n:' and 'Input array:', followed by the input of 4 and a 4x4 array. The program then outputs 'a[2][1]=6 是鞍点!' and '请按任意键继续...'.

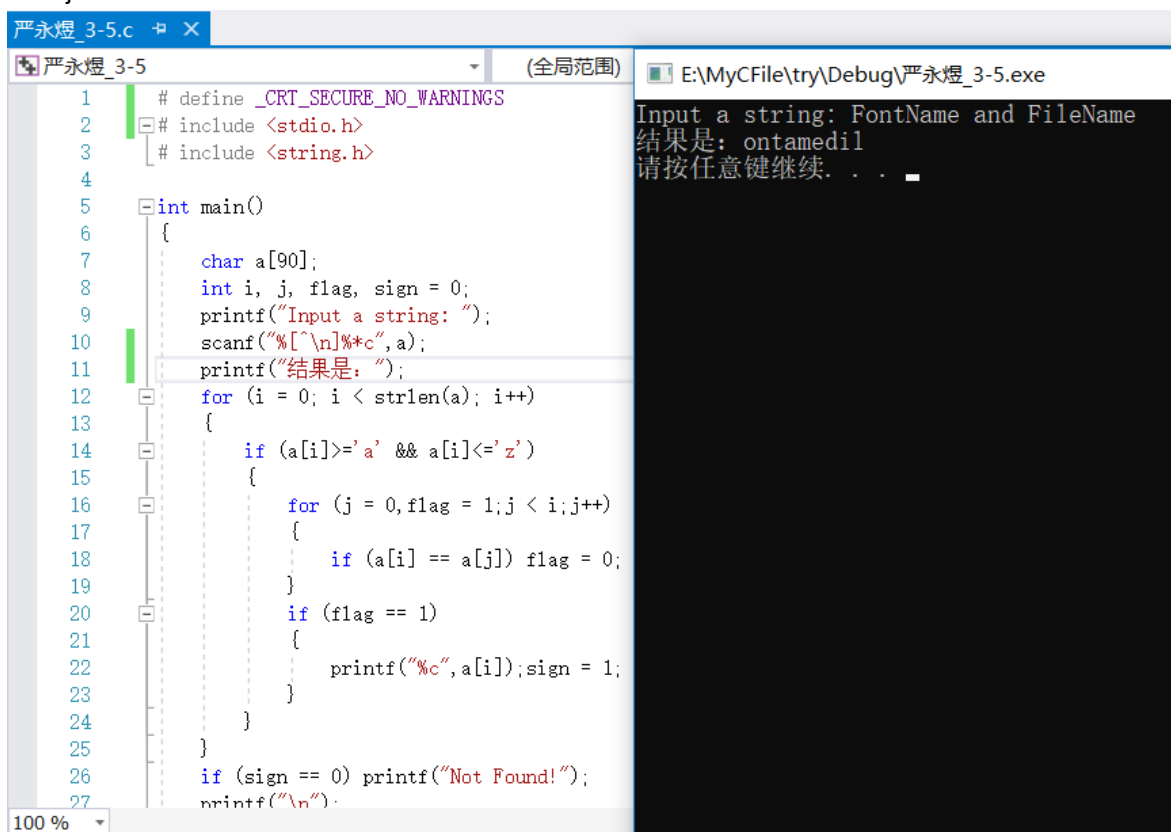
```
1  #define _CRT_SECURE_NO_WARNINGS
2  #include <stdio.h>
3
4  int n, a[6][6];
5  int judge(int i, int j)
6  {
7      int m;
8      for (m = 0; m < n; m++)
9      {
10         if (a[i][m] > a[i][j]) return 0;
11     }
12     for (m = 0; m < n; m++)
13     {
14         if (a[m][j] < a[i][j]) return 0;
15     }
16     return 1;
17 }
18
19 int main()
20 {
21     int i, j, sign = 0;
22     printf("Input n: ");
23     scanf("%d", &n);
24     printf("Input array:\n");
25     for (i = 0; i < n; i++)
26     for (j = 0; j < n; j++)
27         scanf("%d", &a[i][j]);
```

```
Input n: 4
Input array:
1 7 4 1
4 8 3 6
1 6 1 2
0 7 8 9
a[2][1]=6 是鞍点!
请按任意键继续. . .
```

3-5

源程序：

```
#include <stdio.h>
#include <string.h>
int main()
{
    char a[90];
    int i, j, flag, sign = 0;
    printf("Input a string: ");
    scanf("%[^\n]%*c", a);
    printf("结果是: ");
    for (i = 0; i < strlen(a); i++)
    {
        if (a[i] >= 'a' && a[i] <= 'z')
        {
            for (j = 0, flag = 1; j < i; j++) if (a[i] == a[j]) flag = 0;
            if (flag == 1) {printf("%c", a[i]); sign = 1;}
        }
    }
    if (sign == 0) printf("Not Found!");
    printf("\n");
    return 0;
}
```



```
1  # define _CRT_SECURE_NO_WARNINGS
2  # include <stdio.h>
3  # include <string.h>
4
5  int main()
6  {
7      char a[90];
8      int i, j, flag, sign = 0;
9      printf("Input a string: ");
10     scanf("%[^\n]%*c", a);
11     printf("结果是: ");
12     for (i = 0; i < strlen(a); i++)
13     {
14         if (a[i] >= 'a' && a[i] <= 'z')
15         {
16             for (j = 0, flag = 1; j < i; j++)
17             {
18                 if (a[i] == a[j]) flag = 0;
19             }
20             if (flag == 1)
21             {
22                 printf("%c", a[i]); sign = 1;
23             }
24         }
25     }
26     if (sign == 0) printf("Not Found!");
27     printf("\n");
```

Input a string: FontName and FileName
结果是: ontamedil
请按任意键继续. . .