# Comprehensive Experiment 3 :

# Sort comprehensive experiment

## One. Experimental purpose

1) Familiar with the basic operations of the sort.

2) Master the operation of various internal sorting.

3) Deepen the understanding of the sort, and to develop the programming ability of solving practical problems gradually.

## Two. Experimental environment

Computers equipped with Visual C6.0/CFree.

The experiment lasted for 4 hours.

## Three. Experiment content

A series of strings are stored in a two-dimensional array. Try to sort them with some sorting algorithms (at least two algorithms, such as insert sorting, bubble sorting, quick sorting, and heap sorting). You should sort them to dictionary order finally.

For example: two-dimensional array is :

char s[][20]={“while”，”if”，“else”，”do”，“for”，”switch”，“case”};

## Four. Requirement

1、Submit experimental reports and reports in groups (no more than 3 persons in each group).

2、Submit the source code individually for submission. The file name is named as:

Long student ID\_Name\_CE3.doc OR Long student ID\_Name\_CE3.pdf

The report template is shown as follows:

**XXX Experiment Report**

Class:计科201 Student ID 1: 19404150205 Name 1: 刘志扬 Experiment Date:

Student ID 2：20401010102 Name 2：毛威任

Student ID 3： 19402010318 Name 3：张俊杰

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(see the instruction manual for the above three parts)

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**Four. Important data structures**

Important data structures and explanatory notes for global variables are used in the experiments

string a[200];

string b[200][200];

read读取时直接完成二维数组转一维数组的过程

write写入时完成一维转二维的过程

void sort1(string a[],int n)//排序算法一(选择排序)

{

for(int i=0;i<=n-2;i++)

for (int j = i; j <= n - 1; j++)

{

if (a[i] > a[j])

{

string temp = a[i];

a[i] = a[j];

a[j] = temp;

}

}

}

void sort2(string s[], int n)//排序算法二(插入排序)

{

int i, j;

string temp;

for (i = 1; i <= n - 1; i++)

{

temp = s[i];

for (j = i; j > 0 && s[j - 1] > temp; j--)

{

s[j] = s[j - 1];

}

s[j] = temp;

}

}

**Five. Realization idea analysis**

The idea of an implementation or analysis of a flowchart

将数据从文本中读取并将其写入一维数组，通过插入排序和选择排序完成对一维数组的排序，再将完成排序后的一维数组转换为二维数组，重新写入文本。

**Six. Program debugging problem analysis**

Problems encountered in debugging and Solutions

问题：不知如何完成对整体二维数组的排序

解决方法：通过学习网上资料和同学讨论学到将问题化简，将二维转一维，在转回二维数组。

**Seven. Experimental summary**

This experiment knowledge summary and own experience

通过本次实验我们学到了二维数组的处理方法，通过完成实验我们对二维数组的解决方法有了一定的掌握，并对解题思路有了更广的思路

**Eight. Crew Division**

|  |  |  |
| --- | --- | --- |
| **Group division** | | |
| **Member name** | **Work done** | **Completion situation** |
| **刘志扬** | **Data struct using and each demand function** | **Complete** |
| **张俊杰** | **Data struct using and each demand function** | **Complete** |
| **毛威任** | **File read and write** | **Complete** |