**利用线性表知识，设计并实现自己的通讯录管理。  
要求：  
(1)选择适当的存储结构，并说明理由；  
(2)通讯录以文件的方式存储；  
(3)能够对通讯录进行建立、修改、插入、删除、排序、查询等。**

**储存结构：数组。**

**理由：数组易于操作，并且在通讯录比较小的情况下可以完成应有的功能**

**.code**

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

struct friends\_list{

char name[13];

char sex[10];

char tel[13];

};

int Count = 0;

void add\_friend(struct friends\_list friends[]);

void search\_friend(struct friends\_list friends[], char \*name);

void change\_friend(struct friends\_list friends[], char \*name);

void show\_friend(struct friends\_list friends[]);

int main(void)

{

int choice;

char name[13];

struct friends\_list friends[50];

printf(" Friends list\n");

do{

printf("Please choice the number:\n");

printf("1: add 2:search 3:change 4:show friend 5:esc\n");

scanf("%d", &choice);

switch(choice){

case 1: add\_friend(friends); break;

case 2: printf("Please input the name:\n");

scanf("%s", name);

search\_friend(friends, name); break;

case 3: printf("Please input the name what you'll change:\n");

scanf("%s", name);

change\_friend(friends, name); break;

case 4: show\_friend(friends); break;

case 5: printf("Thank you!"); break;

}

}while(choice != 5);

return 0;

}

void add\_friend(struct friends\_list friends[])

{

struct friends\_list h;

if(Count == 50){

printf("The friends list is full!\n");

}

printf("Please input the name:\n");

scanf("%s", h.name);

printf("Please input the Sex:\n");

scanf("%s", h.sex);

printf("Please input the Tel:\n");

scanf("%s", h.tel);

printf("Ok! The friend is saved!\n");

friends[Count] = h;

Count ++;

}

void search\_friend(struct friends\_list friends[], char \*name)

{

int i, flag = 0;

if(Count == 0){

printf("The friends list is empty!\n");

}

for(i = 0; i < Count; i++){

if(strcmp(name, friends[i].name) == 0){

flag = 1;

break;

}}

if(flag == 1){

printf("Name:%s Sex:%s Tel:%s\n", friends[i].name, friends[i].sex, friends[i].tel);

}

else printf("The friend what you search is NONE!\n");

}

void change\_friend(struct friends\_list friends[], char \*name)

{

int i, flag = 0;

if(Count == 0)

printf("The friends is empty, So you can't change anyone!\n");

for(i = 0; i < Count; i++){

if(strcmp(name, friends[i].name) == 0){

flag = 1;

break;

}

}

if(flag == 1){

printf("The original friend is:\nName:%s Sex:%s Tel:%s\n", friends[i].name, friends[i].sex, friends[i].tel);

printf("Please input the information what you'll changed!\n");

printf("Please input the new name:\n");

scanf("%s", friends[i].name);

printf("Please input the new sex:\n");

scanf("%s", friends[i].sex);

printf("Please input the new Tel:\n");

scanf("%s", friends[i].tel);

printf("Ok! What you input is saved!\n");

}else printf("The frieng what you want change is NONE!£¬So, you can't change!\n");

}

void show\_friend(struct friends\_list friends[])

{

int i;

if(Count == 0)

printf("No friend in friend list! You can add friend!\n");

for(i = 0; i < Count; i++){

printf("Name:%s Sex:%s Tel:%s\n", friends[i].name, friends[i].sex, friends[i].tel);

}

}