#define \_CRT\_SECURE\_NO\_WARNINGS 1

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

#include<malloc.h>

typedef struct pnode //结构体定义 用于存放学生信息的节点

{

char name[10]; //姓名

char num[16]; //学号

char dor[30]; //宿舍号

char group[20]; //班级

char score[10];

}student;

char filename[200] = "data.txt"; //文件名

FILE\* fp; //指向文件的指针

void creat() // 创建一个文本文件 用于存放学生数据

{

student\* person;

person = (student\*)malloc(sizeof(student)); //为节点分配内存

if ((fp = fopen(filename, "w+")) == NULL) { exit(0); }

printf("data.txt文件已创建。\n\n");

printf("\n请输入学生的姓名 学号 宿舍号 班级 评分 用空格隔开 以#结束\n");

scanf("%s", person->name);

while (strcmp(person->name, "#")) //该循环用于控制学生信息的录入 遇#结束

{

scanf("%s %s %s %s", person->num, person->dor, person->group, person->score);

fprintf(fp, "%-10s%-10s%-10s%-10s%-10s\n", person->name, person->num, person->dor, person->group, person->score);

scanf("%s", person->name);

}

fclose(fp);

}

void readfile() //文件读取函数

{

if ((fp = fopen(filename, "r+")) == NULL) { printf("\n无法打开该文件:\n"); exit(0); }

fclose(fp);

}

void output() //输出函数 用于输出文件的全部信息

{

student\* person;

long offset1, offset2;

char name1[10], name2[10], name3[10];

char num1[16], num2[16], num3[16];

char dor1[30], dor2[30], dor3[30];

char group1[20], group2[20], group3[20];

char score1[10], score2[10], score3[10];

person = (student\*)malloc(sizeof(student));

if ((fp = fopen(filename, "r")) == NULL) { printf("\n 无法打开该文件"); exit(0); }

printf("\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n");

printf("%40s\n", "输出的记录如下\n");

printf("%-20s%-20s%-20s%-20s%-20s\n", "姓名", "学号", "宿舍号", "班级", "评分");

while (!feof(fp)) //次循环用于输出文件

{

fscanf(fp, "%s%s%s%s%s\n", person->name, person->num, person->dor, person->group, person->score);

printf("%-20s%-20s%-20s%-20s%-20s\n", person->name, person->num, person->dor, person->group, person->score);

}

fclose(fp);

printf("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n");

}

void namesearch() // 按姓名搜索函数

{

int k = 0;

char namekey[10];

student\* person;

person = (student\*)malloc(sizeof(student));

printf("\n 请输入您要查找的姓名:");

scanf("%s", namekey);

if ((fp = fopen(filename, "rb")) == NULL) { printf("\n 无法打开文件"); exit(0); }

while (!feof(fp))

{

fscanf(fp, "%s %s %s %s %s\n", person->name, person->num, person->dor, person->group, person->score);

if (!strcmp(namekey, person->name))

{

printf("\n\n 已经为您找到 以下是记录:\n\n");

printf("%-20s%-20s%-20s%-20s%-20s\n", "姓名", "学号", "宿舍号", "班级", "评分");

printf("%-20s%-20s%-20s%-20s%-20s\n", person->name, person->num, person->dor, person->group, person->score);

k = 1;

}

}

if (!k) { printf("\n\n 没有关于此姓名的任何信息！ \n"); }

fclose(fp);

}

void numsearch() //按学号搜索函数

{

int k = 0;

char xhkey[16];

student\* person;

person = (student\*)malloc(sizeof(student));

printf("\n 请您输入需要查找的学号：");

scanf("%s", xhkey);

if ((fp = fopen(filename, "rb")) == NULL) { printf("\n 无法打开文件 "); exit(0); }

while (!feof(fp))

{

fscanf(fp, "%s %s %s %s %s\n", person->name, person->num, person->dor, person->group, person->score);

if (!strcmp(xhkey, person->num))

{

printf("\n\n 已经为您找到 以下是记录：\n\n");

printf("%-20s%-20s%-20s%-20s%-20s\n", "姓名", "宿舍号", "房号", "班级", "评分");

printf("%-20s%-20s%-20s%-20s%-20s\n", person->name, person->num, person->dor, person->group, person->score);

k = 1;

}

}

if (!k) { printf("\n\n 没有关于该学号的任何信息\n"); }

fclose(fp);

}

void dorsearch() //按宿舍号搜索函数

{

int k = 0;

char fhkey[30];

student\* person;

person = (student\*)malloc(sizeof(student));

printf("\n 请您输入想要查找的宿舍号");

scanf("%s", fhkey);

if ((fp = fopen(filename, "rb")) == NULL) { printf("\n 无法打开文件"); exit(0); }

while (!feof(fp))

{

fscanf(fp, "%s %s %s %s %s\n", person->name, person->num, person->dor, person->group, person->score);

if (!strcmp(fhkey, person->dor))

{

printf("\n\n 已经为您找到 以下是记录:\n\n");

printf("%-20s%-20s%-20s%-20s%-20s\n", "姓名", "学号", "宿舍号", "班级", "评分");

printf("%-20s%-20s%-20s%-20s%-20s\n", person->name, person->num, person->dor, person->group, person->score);

k = 1;

}

}

if (!k) { printf("\n\n 没有关于此房号的任何信息\n"); }

fclose(fp);

}

void scoresearch() // 按评分搜索函数

{

int k = 0;

char scorekey[10];

student\* person;

person = (student\*)malloc(sizeof(student));

printf("\n 请输入您要查找的评分:");

scanf("%s", scorekey);

if ((fp = fopen(filename, "rb")) == NULL) { printf("\n 无法打开文件"); exit(0); }

while (!feof(fp))

{

fscanf(fp, "%s %s %s %s %s\n", person->name, person->num, person->dor, person->group, person->score);

if (!strcmp(scorekey, person->score))

{

printf("\n\n 已经为您找到 以下是记录:\n\n");

printf("%-20s%-20s%-20s%-20s%-20s\n", "姓名", "学号", "宿舍号", "班级", "评分");

printf("%-20s%-20s%-20s%-20s%-20s\n", person->name, person->num, person->dor, person->group, person->score);

k = 1;

}

}

if (!k) { printf("\n\n 没有关于此评分的任何信息！ \n"); }

fclose(fp);

}

void add() //插入函数 用于像已有文件插入一条新的学生信息记录

{

student\* person;

person = (student\*)malloc(sizeof(student));

if ((fp = fopen(filename, "a")) == NULL) { printf("\n 无法打开文件"); exit(0); }

printf("\n 请您输入学生姓名 学号 宿舍号 班级 评分 \n");

scanf("%s %s %s %s %s", person->name, person->num, person->dor, person->group, person->score);

fprintf(fp, "%-10s%-10s%-10s%-10s%-10s\n", person->name, person->num, person->dor, person->group, person->score);

fclose(fp);

}

void modify() //更新函数 用于修改指定学生姓名的记录

{

int k = 0;

long offset;

char namekey[10];

student\* person;

person = (student\*)malloc(sizeof(student));

printf("\n 请您输入想要更改的学生的姓名 :");

scanf("%s", namekey);

if ((fp = fopen(filename, "r+")) == NULL) { printf("\n 无法打开文件"); exit(0); }

while (!feof(fp))

{

offset = ftell(fp);

fscanf(fp, "%s %s %s %s %s\n", person->name, person->num, person->dor, person->group, person->score);

if (!strcmp(namekey, person->name)) //比较是否相同 如

{

k = 1; break;

}

}

if (k) //相同 输出记录并进行修改

{

printf("\n 记录输出如下：\n\n");

printf("%-20s%-20s%-20s%-20s%-20s\n", "姓名", "学号", "宿舍号", "班级", "评分");

printf("%-20s%-20s%-20s%-20s%-20s\n", person->name, person->num, person->dor, person->group, person->score);

printf("\n 请您输入新的学生姓名 学号 宿舍号 班级 评分 ：\n");

scanf("%s %s %s %s %s", person->name, person->num, person->dor, person->group, person->score);

fseek(fp, offset, SEEK\_SET);

fprintf(fp, "%-10s%-10s%-10s%-10s%-10s\n", person->name, person->num, person->dor, person->group, person->score);

}

else { printf("\n 没有关于该姓名的任何记录\n"); }

fclose(fp);

}

void deleted() //删除函数 用于删除指定学生姓名的记录

{

int k = 0;

char m;

long offset;

char namekey[10];

student\* person;

person = (student\*)malloc(sizeof(student));

printf("\n请您输入想要删除的姓名：");

scanf("%s", namekey);

if ((fp = fopen(filename, "r+")) == NULL) { printf("\n 无法打开文件 "); exit(0); }

while (!feof(fp)) //此循环遍历整个文件 查找需要删除的记录

{

offset = ftell(fp);

fscanf(fp, "%s %s %s %s %s\n", person->name, person->num, person->dor, person->group, person->score);

if (!strcmp(namekey, person->name))

{

k = 1; break;

}

}

if (k)

{

printf("\n 记录输出如下：\n\n");

printf("%-20s%-20s%-20s%-20s%-20s\n", "姓名", "学号", "宿舍号", "班级", "评分");

printf("%-20s%-20s%-20s%-20s%-20s\n", person->name, person->num, person->dor, person->group, person->score);

printf("\n 您真的确定要删除?y/n?");

scanf("%s", &m);

if (m == 'y') //删除确认按钮

{

fseek(fp, offset, SEEK\_SET); //删除记录

fprintf(fp, "%-10s%-10s%-10s%-10s%-10s\n", "", "", "", "", "");

}

else { rewind(fp); }

}

else { printf("\n 没有关于该姓名的任何记录\n"); }

fclose(fp);

}

int main() //主函数，程序入口

{

int m, flag = 1; // m用于控制菜单的选择项 flag用于控制菜单弹出

while (flag)

{

printf("%40s\n", "桂林电子科技大学信息科技学院宿舍管理系统");

printf("--------------------------------------------------------------------------------\n");

printf("\t\t0 ------------ 创建文件\n");

printf("\t\t1 ------------ 打开文件\n");

printf("\t\t2 ------------ 姓名查询\n");

printf("\t\t3 ------------ 学号查询\n");

printf("\t\t4 ------------ 宿舍号查询\n");

printf("\t\t5 ------------ 评分查询\n");

printf("\t\t6 ------------ 修改记录\n");

printf("\t\t7 ------------ 删除记录\n");

printf("\t\t8 ------------ 增加纪录\n");

printf("\t\t9 ------------ 输出记录\n");

printf("\t\t10 ------------ 退出\n");

printf("--------------------------------------------------------------------------------\n");

printf("\t 请输入0-10选择您的操作：\n");

scanf("%d", &m);

switch (m)

{

case 0:creat();

break;

case 1:readfile();

break;

case 2:namesearch();

break;

case 3:numsearch();

break;

case 4:dorsearch();

break;

case 5:scoresearch();

break;

case 6:modify();

break;

case 7: deleted();

break;

case 8:add();

break;

case 9:output();

break;

case 10:exit(0);

default:break;

}

}

}