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| Assignment Code | : | C.S.P0047 |
| Assignment Name | : | Array and string manipulations |
| Student Name | : | Le Thi Thanh Nhan |
| Time/Date | : | 15h00,8/11/2019 |

Approach

Create a student struct to store student information include name, n is number of students.

Add(): if n>100, the list is full, can’t add student, else input student name and plus 1 to n;

Removestd(): input name to remove. Compare it with all name in list until find the same name and remove that name out of list.

Search(): input name to search. Compare it with all name in list until find the same name and print out position of it. Print out “ not found” if that name is not in list.

Sort(): sort list by name in ascending order.

Source code

#include <stdio.h>

#include <conio.h>

#include <string.h>

#include <stdlib.h>

struct student

{

    char name[21];

};

struct student list[100];

int n = 0;

int add()

{

    if (n >= 100)

        printf("The list has full. It cannot add a new student.");

    else

    {

        fflush(stdin);

        printf("\nEnter new student name: ");

        gets(list[n].name);

        n++;

        printf("Stundent has been added to list successfully!");

    }

}

int removestd()

{

    char rname[21];

    printf("\nEnter student name to remove: ");

    fflush(stdin);

    gets(rname);

    int i = 0, pos;

    for (i = 0; i < n; i++)

        if (strcmp(rname, list[i].name) == 0)

            pos = i;

    for (i = pos; i < n - 1; i++)

        list[i] = list[i + 1];

    n--;

    printf("Student name has been removed successfully!");

}

int search()

{

    int i = 0, k = 0;

    char sname[21];

    fflush(stdin);

    printf("\nEnter student name to search: ");

    gets(sname);

    for (i = 0; i < n; i++)

        if (strcmp(sname, list[i].name) == 0)

        {

            printf("The position of student name in list is %d", i + 1);

            k++;

        }

    if (k == 0)

        printf("Not found");

}

int sort()

{

    int i, j;

    struct student temp;

    for (i = 0; i < n - 1; i++)

        for (j = n - 1; j > i; j--)

        {

            if (strcmp(list[j].name, list[j - 1].name) == -1)

            {

                temp = list[j];

                list[j] = list[j - 1];

                list[j - 1] = temp;

            }

        }

}

int print()

{

    printf("\nTotal student: %d", n);

    for (int i = 0; i < n; i++)

        printf("\n%d. %-20s ", i + 1, list[i].name);

}

int main()

{

    int op;

    printf("\n1- Add a student");

    printf("\n2- Remove a student");

    printf("\n3- Search a student");

    printf("\n4- Print the list in ascending folder");

    printf("\n5- Exit");

    do

    {

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

        printf("\nEnter your choice: ");

        scanf("%d", &op);

        switch (op)

        {

        case 1:

            add();

            break;

        case 2:

            removestd();

            break;

        case 3:

            search();

            break;

        case 4:

            sort();

            print();

            break;

        default:

            break;

        }

    } while (op != 5);

    getch();

    return 0;

}

Result

