#include<stdio.h>

#include<stdlib.h>

#include<conio.h>

struct Student{

int IDs;

char name[50];

float math,chemistry,physics;

float avg;

};

typedef Student ST;

void InputStudent(ST &st);

void OutputStudent(ST st);

void InputStudentList(ST a[], int &n);

void OutputStudentList(ST a[], int n);

void SortStudent(ST a[], int n);

int main(){

int n;

do{

printf("\n Enter the number of student: \n");

scanf("%d", &n);

}while (n<=0);

ST a[n];

while (true){

printf("\n ---STUDENT MANAGEMENT PROGRAM--- \n");

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

printf("| 1.Input Student List |\n");

printf("| 2.Output Sudent List |\n");

printf("| 3.Sort of student by average scores |\n");

printf("| 0.Exit program |\n");

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

printf("\n ---ENTER YOUR SELECTION--- \n");

int op;

scanf("%d", &op);

switch(op){

case 1:

printf("\n You have selected: Input Student List \n");

InputStudentList(a, n);

printf("\n Press any key to continue \n");

getch();

break;

case 2:

printf("\n You have selected: Output Student List \n");

OutputStudentList(a, n);

printf("\n Press any key to continue \n");

getch();

break;

case 3:

printf("\n You have selected: Sort of student by average scores \n");

SortStudent(a,n);

printf("\n Press any key to continue \n");

getch();

break;

case 0:

printf("\n You have selected: Exit program \n");

exit(0);

break;

default:

break;

}

}

return 0;

}

// p = &st

// \*p = st

void InputStudent(ST &st){

printf("\nIDs:");

scanf("%d", &st.IDs);

printf("\nName:");

fflush(stdin);

gets(st.name);

do{

printf("\n Math scores = \n");

scanf("%f", &st.math);

printf("\n Chemistry scores = \n");

scanf("%f", &st.chemistry);

printf("\n Physics scores = \n");

scanf("%f", &st.physics);

}while(st.math < 0 || st.chemistry < 0 || st.physics < 0 || st.math > 10 || st.chemistry >10 || st.physics >10);

st.avg= ( st.math + st.chemistry + st.physics ) / 3;

printf("\n Avg = %.2f", st.avg);

}

void OutputStudent(ST st){

printf("\n IDs: %d", st.IDs);

printf("\n Name: %s", st.name);

printf("\n Math scores = %.2f", st.math);

printf("\n Chemistry scores = %.2f", st.chemistry);

printf("\n Physics scores = %.2f", st.physics);

printf("\n Avg = %.2f", st.avg);

}

void InputStudentList(ST a[], int &n){

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

for(int i=0; i<n ; i++){

printf("\n Input student %d: ", i+1);

InputStudent(a[i]);

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

}

}

void OutputStudentList(ST a[], int n){

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

for(int i=0; i<n ; i++){

printf("\n Student information %d ", i+1);

OutputStudent(a[i]);

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

}

}

void SortStudent(ST a[], int n){

Student st;

int i,j;

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

for (j=0; j<n; j++)

if (a[i].avg > a[j].avg){

st=a[i];

a[i]=a[j];

a[j]=st;

}

OutputStudentList(a,n);

}