#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#include <stdbool.h>

typedef struct{

char nume[10];

char prenume[10];

struct {

int mate, rom, eng;

} nota;

} info;

void citireFile(info \*pt, int n, FILE \*fin);

void afisare(info \*pt, int n);

void afisareFile(info \* pt, int n, FILE \*fout);

void add(info \*pt, int n, FILE \*fout);

void modificare(info \* pt, int n);

void bublleChar(info \* pt, int n);

int main()

{

int n;

printf("n="); scanf("%d", &n);

info \* pt;

pt = (info \*) malloc (n\*sizeof(info));

FILE \*fin, \*fout;

fin = fopen("input.txt", "r");

if (!fin) return 1;

citireFile(pt, n, fin);

printf("----------------Date citite din fisier------------\n");

afisare(pt, n);

fclose(fin);

afisareFile(pt, n, fout);

fout = fopen("output.txt","a");

if(!fout) return 1;

n++;

pt = (info \*)realloc(pt, sizeof(info)\*n);

add(pt, n, fout);

fclose(fout);

// modificare date a structurii

modificare(pt, n);

afisareFile(pt, n, fout);

// sortarea structurii dupa un camp char[]

bublleChar(pt, n);

afisareFile(pt, n, fout);

free(pt);

return 0;

}

void citireFile(info \*pt, int n, FILE \*fin){

int i = 0;

while (!feof(fin)){

fscanf(fin, "%s\n%s\n%d\n%d\n%d\n", (pt+i)->nume, (pt+i)->prenume, &(pt+i)->nota.mate, &(pt+i)->nota.rom, &(pt+i)->nota.eng);

++i;

}

}

void afisare(info \*pt, int n){

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

printf("%s\n%s\n%d\n%d\n%d\n", (pt+i)->nume, (pt+i)->prenume, (pt+i)->nota.mate, (pt+i)->nota.rom, (pt+i)->nota.eng);

}

}

void afisareFile(info \* pt, int n, FILE \*fout){

fout = fopen("output.txt","w");

if(!fout) exit(1);

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

fprintf(fout, "%10s%10s%3d%3d%3d\n", (pt+i)->nume, (pt+i)->prenume, (pt+i)->nota.mate, (pt+i)->nota.rom, (pt+i)->nota.eng);

}

fclose(fout);

}

void add(info \*pt, int n, FILE \*fout){

scanf("%s\n%s\n%d\n%d\n%d", (pt+n-1)->nume, (pt+n-1)->prenume, &(pt+n-1)->nota.mate, &(pt+n-1)->nota.rom, &(pt+n-1)->nota.eng);

fseek(fout, sizeof(info)\*(n-1), 2);

fprintf(fout, "%10s%10s%3d%3d%3d\n", (pt+n-1)->nume, (pt+n-1)->prenume, (pt+n-1)->nota.mate, (pt+n-1)->nota.rom, (pt+n-1)->nota.eng);

}

void modificare(info \* pt, int n){

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

if ((pt+i)->nota.mate < 5) (pt+i)->nota.mate = 5;

}

}

void bublleChar(info \* pt, int n){

for(int k=0; k<n-1; k++){

bool sortat = false;

for(int i = 0; i<n-1-k; i++){

if (strcmp((pt+i)->nume, (pt+i+1)->nume)>0){

info aux = \*(pt+i);

\*(pt+i) = \*(pt+i+1);

\*(pt+i+1) = aux;

sortat = true;

}

}

if (sortat==false) break;

}

}