#include <stdio.h>

#include <string.h>

#define SIZE 5

#include "fun\_proto.h"

#include "fun\_def.h"

int main(){

Student std[10];

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

printf("Enter the registration number and name of student: ");

scanf("%d %s",&std[i].regno,std[i].name);

printf("Enter the marks: ");

for(int j=0;j<5;j++)

scanf("%d", &std[i].marks[j]);

}

int size=SIZE;

printf("OPERATIONS\n1.Insert at front\n2.Insert at end\n3.Insert after Register number\n4.Search\n5.Display All\n6.Delete\n7.Display previous ans next record\n");

int again=1;

do{

Student data;

char Name[20];

int choice,id,ind;

printf("\nEnter your choice: ");

scanf("%d", &choice);

switch (choice){

case 1: printf("Enter the registration number and name of student: ");

scanf("%d %s",&data.regno,data.name);

printf("Enter the marks: ");

for(int j=0;j<5;j++)

scanf("%d", &data.marks[j]);

insert\_first(std,size,data);

size = size + 1;

break;

case 2: printf("Enter the registration number and name of student: ");

scanf("%d %s",&data.regno,data.name);

printf("Enter the marks: ");

for(int j=0;j<5;j++)

scanf("%d", &data.marks[j]);

insert\_last(std,size,data);

size = size +1;

break;

case 3: printf("Enter the register number after which you want to insert a new record: ");

scanf("%d",&id);

printf("Enter the registration number and name of student: ");

scanf("%d %s",&data.regno,data.name);

printf("Enter the marks: ");

for(int j=0;j<5;j++)

scanf("%d", &data.marks[j]);

insert(std,id,size,data);

size = size+1;

break;

case 4: printf("Enter the name: ");

scanf("%s",Name);

search\_name(std,size,Name);

break;

case 5: display(std,size);

break;

case 6: printf("Enter the register number: ");

scanf("%d",&id);

delete(std,size,id);

size = size -1;

break;

case 7: printf("Enter the register number: ");

scanf("%d",&id);

displayPN(std,size,id);

break;

default:printf("Enter a valid choice!!");

break;

}

printf("Enter '0' to stop or any other number to continue\n");

scanf("%d",&again);

}while(again!=0);

}

/\* fun\_proto.h

typedef struct{

int regno;

char name[20];

int marks[5];

}Student;

void insert\_first(Student std[],int size,Student data);

void insert\_last(Student std[],int size,Student data);

void insert(Student std[],int id,int size,Student data);

void display(Student std[],int size);

void delete(Student std[],int size,int id);

void displayPN(Student std[],int size,int id);

void search\_name(Student std[],int size,char Name[]);

\*/

/\*fun\_def.h

void display(Student std[],int size){

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

printf("%d\t%s\t", std[i].regno,std[i].name);

for(int j=0;j<5;j++)

printf("%d ", std[i].marks[j]);

printf("\n");

}

}

void insert\_first(Student std[],int size,Student data){

for(int i=size;i>0;i--)

std[i]=std[i-1];

std[0]=data;

}

void insert\_last(Student std[],int size,Student data){

std[size]=data;

}

void insert(Student std[],int id,int size,Student data){

int ind;

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

if(std[i].regno==id){

ind=i;

break;

}

}

for(int i=size;i>ind;i--)

std[i]=std[i-1];

std[ind+1]=data;

}

void search\_name(Student std[],int size,char Name[]){

int ind;

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

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

ind=i;

break;

}

}

printf("%d\t%s\t", std[ind].regno,std[ind].name);

for(int j=0;j<5;j++)

printf("%d ", std[ind].marks[j]);

printf("\n");

}

void displayPN(Student std[],int size,int id){

int ind;

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

if(std[i].regno==id){

ind=i;

break;

}

}

for(int i=ind-1;i<ind+2;i+=2){

printf("%d\t%s\t", std[i].regno,std[i].name);

for(int j=0;j<5;j++)

printf("%d ", std[i].marks[i]);

printf("\n");

}

}

void delete(Student std[],int size,int id){

int ind;

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

if(std[i].regno==id){

ind=i;

break;

}

}

for(int i=ind;i<size-1;i++)

std[i]=std[i+1];

}

\*/

/\*OUTPUT

Enter the registration number and name of student: 28 Peter

Enter the marks: 1 1 1 1 1

Enter the registration number and name of student: 31 John

Enter the marks: 2 2 2 2 2

Enter the registration number and name of student: 40 Tyler

Enter the marks: 3 3 3 3 3

Enter the registration number and name of student: 30 Coby

Enter the marks: 4 4 4 4 4

Enter the registration number and name of student: 1 Marques

Enter the marks: 5 5 5 5 5

OPERATIONS

1.Insert at front

2.Insert at end

3.Insert after Register number

4.Search

5.Display All

6.Delete

7.Display previous and next record

Enter your choice: 1

Enter the registration number and name of student: 21 Henry

Enter the marks: 6 6 6 6 6

Enter '0' to stop or any other number to continue

7

Enter your choice: 5

21 Henry 6 6 6 6 6

28 Peter 1 1 1 1 1

31 John 2 2 2 2 2

40 Tyler 3 3 3 3 3

30 Coby 4 4 4 4 4

1 Marques 5 5 5 5 5

Enter '0' to stop or any other number to continue

9

Enter your choice: 2

Enter the registration number and name of student: 881 David

Enter the marks: 7 7 7 7 7

Enter '0' to stop or any other number to continue

8

Enter your choice: 5

21 Henry 6 6 6 6 6

28 Peter 1 1 1 1 1

31 John 2 2 2 2 2

40 Tyler 3 3 3 3 3

30 Coby 4 4 4 4 4

1 Marques 5 5 5 5 5

881 David 7 7 7 7 7

Enter '0' to stop or any other number to continue

9

Enter your choice: 3

Enter the register number after which you want to insert a new record: 40

Enter the registration number and name of student: 27 Matt

Enter the marks: 8 8 8 8 8

Enter '0' to stop or any other number to continue

9

Enter your choice: 5

21 Henry 6 6 6 6 6

28 Peter 1 1 1 1 1

31 John 2 2 2 2 2

40 Tyler 3 3 3 3 3

27 Matt 8 8 8 8 8

30 Coby 4 4 4 4 4

1 Marques 5 5 5 5 5

881 David 7 7 7 7 7

Enter '0' to stop or any other number to continue

9

Enter your choice: 4

Enter the name: Tyler

3 Tyler 3 3 3 3 3

Enter '0' to stop or any other number to continue

9

Enter your choice: 6

Enter the register number: 40

Enter '0' to stop or any other number to continue

9

Enter your choice: 5

21 Henry 6 6 6 6 6

28 Peter 1 1 1 1 1

31 John 2 2 2 2 2

27 Matt 8 8 8 8 8

30 Coby 4 4 4 4 4

1 Marques 5 5 5 5 5

881 David 7 7 7 7 7

Enter '0' to stop or any other number to continue

9

Enter your choice: 7

Enter the register number: 30

27 Matt 8 8 8 8 8

1 Marques 881 881 881 881 881

Enter '0' to stop or any other number to continue

0

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