1. A record contains name of cricketer, his age, number of test

matches that he has played and the average runs that he has

scored in each test match. Create an array of structure to hold

records of 20 such cricketer and then write a program to read

these records and arrange them in ascending order by average

runs

#include <stdio.h>

#include <string.h>

#include <stdlib.h>

struct cricketer

{

int run;

char name[100];

int age;

int match;

};

struct cricketer member[4]={

87,"Lily",20,4,

85,"Frank",25,5,

81,"Raynor",21,3,

94,"Claire",18,7,

};

int compare(const void \*a, const void \*b)

{

return (\*(int\*)a - \*(int\*)b);

}

int main()

{

int i;

qsort(member,4,sizeof(struct cricketer),compare);

for(i=0;i<4;i++)

printf("name=%s,average run=%d\n",member[i].name,member[i].run);

return 0;

}

Output:

**name=Raynor,average run=81**

**name=Frank,average run=85**

**name=Lily,average run=87**

**name=Claire,average run=94**

(Note:I’ve tried to write it my self but unable to figure out how to sort run and keep name modified with it. Thus I refer the answer in the internet.)

1. C programs to add two complex numbers by passing structure to a function.

#include <stdio.h>

typedef struct complex

{

float real;

float imagine;

}comnum;

comnum c1,c2;

comnum add(comnum a,comnum b)

{

comnum temp;

temp.real=a.real+b.real;

temp.imagine=a.imagine+b.imagine;

return temp;

}

int main()

{

comnum sum;

printf("Please enter real part of complex1:");

scanf("%f",&c1.real);

printf("Please enter imagine part of complex1:");

scanf("%f",&c1.imagine);

printf("Please enter real part of complex2:");

scanf("%f",&c2.real);

printf("Please enter imagine part of complex12:");

scanf("%f",&c2.imagine);

sum=add(c1,c2);

printf("The sum of complex number is:%.2f+%.2fi\n",sum.real,sum.imagine);

return 0;

}

Output:

**Please enter real part of complex1:**43

**Please enter imagine part of complex1:**235.2

**Please enter real part of complex2:**32.5

**Please enter imagine part of complex12:**23.4

**The sum of complex number is:75.50+258.60i**

1. Write a program that compares two given dates. To store date

use structure say **date** that contains three members namely

date, month and year. If the dates are equal then display

message as "Equal" otherwise "Unequal".

#include <stdio.h>

struct day

{

int date;

int month;

int year;

}day1,day2;

struct day day1={16,9,1988};

int main()

{

printf("Please enter the date:\n");

scanf("%d",&day2.date);

printf("Please enter the month:\n");

scanf("%d",&day2.month);

printf("Please enter the year:\n");

scanf("%d",&day2.year);

if((day1.date==day2.date)&&(day1.month==day2.month)&&(day1.year==day2.year))

printf("Equal");

else

printf("Unequal");

return 0;

}

output:

**Please enter the date:**

16

**Please enter the month:**

9

**Please enter the year:**

1988

**Equal**

**Please enter the date:**

16

**Please enter the month:**

9

**Please enter the year:**

1987

**Unequal**

1. There is a structure called **employee** that holds information

like employee code, name, date of joining. Write a program to

create an array of the structure and enter some data into it.

Then ask the user to enter current date. Display the names of

those employees whose tenure is 3 or more than 3 years

according to the given current date.

#include <stdio.h>

#include <string.h>

struct employee

{

int code;

char name[20];

int year;

int month;

int date;

};

struct employee epl[20]={

1,"lily",2011,7,1,

2,"Raynor",2012,3,5,

3,"Aaron",2014,4,9,

4,"Donnie",2017,1,1,

5,"Frank",2017,7,1,

};

int date[3];

char tenure3epl[20][20];

int main()

{

printf("Please enter the year:\n");

scanf("%d",&date[0]);

printf("Please enter the month:\n");

scanf("%d",&date[1]);

printf("Please enter the date:\n");

scanf("%d",&date[2]);

for(int i=0;i<20;i++)

{

if((date[0]-epl[i].year)>3)

{

strcpy(tenure3epl[i],epl[i].name);

continue;

}

else if((date[0]-epl[i].year)==3)

{

if((date[1]-epl[i].month)>3)

{

strcpy(tenure3epl[i],epl[i].name);

continue;

}

else if((date[1]-epl[i].month)==3)

{

if(date[0]>=epl[i].date)

{

strcpy(tenure3epl[i],epl[i].name);

continue;

}

}

}

}

for(int j=0;j<20;j++)

{

if(strlen(tenure3epl[j])>0)

printf("%s\n",tenure3epl[j]);

}

return 0;

}

output:

**Please enter the year:**

2017

**Please enter the month:**

7

**Please enter the date:**

31

**lily**

**Raynor**

**Aaron**

**Please enter the year:**

2017

**Please enter the month:**

1

**Please enter the date:**

1

**lily**

**Raynor**

1. Read <https://en.wikipedia.org/wiki/Data_structure_alignment>