A7-Q1

Due on 2019-09-21, 23:59 IST

Create a database of students using structures, where in each entry of the database will have the following fields:

1. a name, which is a string with at most 128 characters
2. their marks in physics which is an int between 0 and 100
3. their marks in chemistry which is an int number between 0 and 100
4. their marks in mathematics which is an int number between 0 and 100

You have to output a list of students in the following order.

1. if a student 'A' has lower marks in physics than a student 'B', then A's data is listed before B.
2. If A and B have the same physics marks and A has lower chemistry marks than B, then A is listed before B.
3. If A and B have the same marks in physics and chemistry, and A has lower marks in mathematics than B, then A is listed before B.
4. If all marks are equal and A's name precedes B's name in the dictionary order, then A is listed before B.

Input Format:
First line contains the number of students n, where 1<=n<=100.
In following n lines each line contains(space separated) a name and their respective marks in physics, chemistry, maths, where 0<=marks<=100.

Output Format:
Sorted database of n lines.

Sample Test Cases

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Assignment 4
Recursion
Assignment 5
Multidimensional Arrays and File Handling in C
Assignment 6
Structures and Linked Lists
Assignment 7
- A7-Q1
  (/noc19_cs42/progassignment?name=132)
- A7-Q2
  (/noc19_cs42/progassignment?name=133)
  Assignment 7 Solution (unit?unit=131&lesson=155)

Assignment 8
Extra Topics
Assignment 8
Text Transcripts
Live Session
Weekly Feedback

Sep 25 programming Test - Test Slot 1
Sep 25 programming Test - Test Slot 2

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.
Sample solutions (Provided by instructor)

```c
#include<stdio.h>
#include<stdlib.h>

struct student{
    char name[20];
    int phy,che,math;
};

typedef struct student student;

void print(student *s, int n){
    int i;
    for(i=0;i<n;i++){
        printf("%s-",s[i].name);
        printf("%d-,",s[i].phy);
        printf("%d-",s[i].che);
        printf("%d\n",s[i].math);
    }
}

int comparator(const void *p, const void *q){
    float l = ((student *)p)->phy;
    float r = ((student *)q)->phy;
    if((l-r)!=0) return (l-r);
    else{
        l = ((student *)p)->che;
        r = ((student *)q)->che;
        if((l-r)!=0) return (l-r);
        else{
            l = ((student *)p)->math;
            r = ((student *)q)->math;
            return (l-r);
        }
    }
}

int main(){
    int i,n;
    scanf("%d",&n);
    student *student_info= (student *)malloc(sizeof(student)*n);
    for(i=0;i<n;i++){
```
```c
scanf("%s", student_info[i].name);
scanf("%d", &student_info[i].phy);
scanf("%d", &student_info[i].che);
scanf("%d", &student_info[i].math);
}
qsort((void *)student_info, n, sizeof(student), comparator);
print(student_info, n);
return 0;
}```