

Sample Source Code:

```
1  #include <stdio.h>
2
3  typedef struct student{
4      char studentName[50];
5      double exam1;
6      double exam2;
7      double exam3;
8  } student;
9
10 double avg(double num1, double num2, double num3);
11
12 int main(){
13     FILE* inFile = NULL;
14     inFile = fopen("student_data.txt","w");
15     student s1,s2,s3,s4;
16     //student values when scanned
17     student fileStudents[4];
18     printf("Enter student1 name and three exam score: ");
19     scanf("%s %lf %lf %lf",s1.studentName,&s1.examl,&s1.exam2,&s1.exam3);
20     printf("Enter student2 name and three exam score: ");
21     scanf("%s %lf %lf %lf",s2.studentName,&s2.examl,&s2.exam2,&s2.exam3);
22     printf("Enter student3 name and three exam score: ");
23     scanf("%s %lf %lf %lf",s3.studentName,&s3.examl,&s3.exam2,&s3.exam3);
24     printf("Enter student4 name and three exam score: ");
25     scanf("%s %lf %lf %lf",s4.studentName,&s4.examl,&s4.exam2,&s4.exam3);
26
27     fprintf(inFile,"%s %lf %lf %lf\n",s1.studentName,s1.examl,s1.exam2,s1.exam3);
28     fprintf(inFile,"%s %lf %lf %lf\n",s2.studentName,s2.examl,s2.exam2,s2.exam3);
29     fprintf(inFile,"%s %lf %lf %lf\n",s3.studentName,s3.examl,s3.exam2,s3.exam3);
30     fprintf(inFile,"%s %lf %lf %lf\n",s4.studentName,s4.examl,s4.exam2,s4.exam3);
31     fclose(inFile);
32     inFile = fopen("file.txt","r");
33
34     for(int i = 0;i < 4;i++){
35
36         fscanf(inFile," %s %lf %lf %lf",fileStudents[i].studentName,&fileStudents[i].examl,
37             &fileStudents[i].exam2,&fileStudents[i].exam3);
38         printf("%s exam scores = %.2lf, %.2lf, %.2lf\n",fileStudents[i].studentName,fileStudents[i].examl,
39             fileStudents[i].exam2,fileStudents[i].exam3);
40     }
41     for(int i = 0;i < 4;i++){
42
43         printf("%s exam average = %.2lf\n",fileStudents[i].studentName,avg(fileStudents[i].examl,
44             fileStudents[i].exam2,fileStudents[i].exam3));
45     }
46
47     return 0;
48 }
49 double avg(double num1, double num2, double num3){
50     return (num1 + num2 + num3)/3.0;
51 }
52
```

Sample Input Output:

```
zhong@JJ-Laptop /cygdrive/c/se185/jaden_burke_quiz09
$ ./q1
Enter student1 name and three exam score: Sam 87 95 78.6
Enter student2 name and three exam score: Sara 83.5 88 93.8
Enter student3 name and three exam score: Alex 78.2 82 87
Enter student4 name and three exam score: Robert 65 74.2 77
Sam exam scores = 87.00, 95.00, 78.60
Sara exam scores = 83.50, 88.00, 93.80
Alex exam scores = 78.20, 82.00, 87.00
Robert exam scores = 65.00, 74.20, 77.00
Sam exam average = 86.87
Sara exam average = 88.43
Alex exam average = 82.40
Robert exam average = 72.07
```