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Classes and Objects ☆

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Problem Submissions Leaderboard

A class defines a blueprint for an object. We use the same syntax to declare objects of a class as we use to declare variables of other basic types. For example:

Box box1; // Declares variable box1 of type Box
Box box2; // Declare variable box2 of type Box

Kristen is a contender for valedictorian of her high school. She wants to know how many students (if any) have scored higher than her in the $\mathbf{5}$ exams given during this semester.

Create a class named *Student* with the following specifications:

- An instance variable named *scores* to hold a student's **5** exam scores.
- A void input() function that reads **5** integers and saves them to *scores*.
- An int calculateTotalScore() function that returns the sum of the student's scores.

Input Format

Most of the input is handled for you by the locked code in the editor.

In the void Student::input() function, you must read 5 scores from stdin and save them to your *scores* instance variable.

Constraints

 $1 \le n \le 100$

 $0 \le examscore \le 50$

Output Format

In the int Student::calculateTotalScore() function, you must return the student's total grade (the sum of the values in **scores**).

The locked code in the editor will determine how many scores are larger than Kristen's and print that number to the console.

Sample Input

The first line contains n, the number of students in Kristen's class. The n subsequent lines contain each student's n exam grades for this semester.

```
3
30 40 45 10 10
40 40 40 10 10
50 20 30 10 10

Sample Output

1

Explanation

Kristen's grades are on the first line of grades. Only 1 student scored higher than her.
```

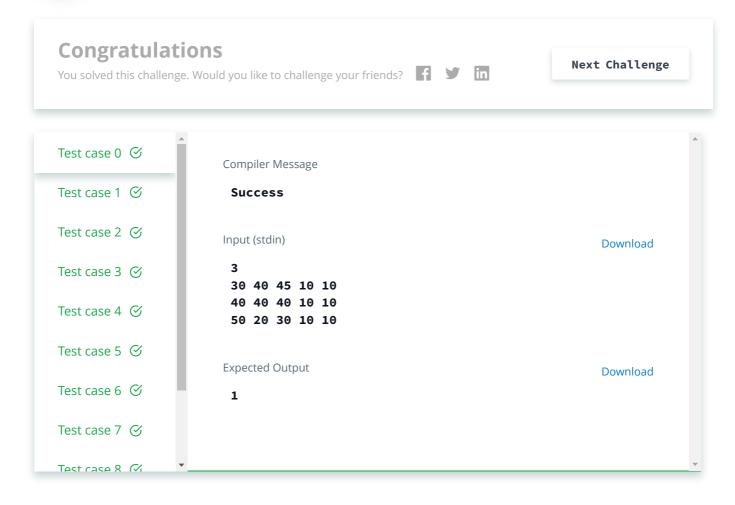
```
K N C
                                                                     C++
 17
               scores = 0;
 18
               int val;
 19
               for(int i=0;i<5;i++)</pre>
 20
 21
                   cin >> val;
 22
                   scores += val;
 23
               }
 24
          }
 25
 26
          int calculateTotalScore()
 27
           {
 28
               return scores;
 29
          }
      };
 30
 31
 32
      int main() {
 33
          int n; // number of students
 34
          cin >> n;
          Student *s = new Student[n]; // an array of n students
 35
 36
          for(int i = 0; i < n; i++){
 37
 38
               s[i].input();
 39
 40
 41
          // calculate kristen's score
          int kristen_score = s[0].calculateTotalScore();
 42
 43
          // determine how many students scored higher than kristen
 44
 45
          int count = 0;
           for(int i = 1; i < n; i++){
 46
 47
               int total = s[i].calculateTotalScore();
                                                                                       Line: 31 Col: 1
1 Upload Code as File
                   ■ Test against custom input
                                                                                       Submit Code
                                                                         Run Code
```

You have earned 20.00 points!

You are now 25 points away from the 4th star for your c++ badge.

69% 125/150





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