CS 1400 Fundamentals of Programming

Programming Project 9: Bowling Team Scores

Objective:

At the completion of this project, you will have created an application that

- gets input from the user and stores it in an array,
- uses arithmetic expressions, assignment, and control structures,
- uses the Split method of the String class to parse user input, and
- formats the output and sends it to the Console to display.

- Optionally, you may write this program so that it uses a Graphical User Interface.

Project:

Knowing that you are a budding programmer, your friends have asked you to create a scoring program for your Saturday bowling league. They want the program to work as follows:

- At the end of each game, the program asks you to record the scores for each team member. You type in their first name and that person's score for the game on a single line.
- Your program uses the Split method to parse the input. The name is stored in an array of strings and the score is stored in an array of integers.
- When there are no more players to input, have the user enter an empty line.
- Your program should now list each bowler and their score.
- It will then calculate the highest score for the game, and display a message showing the high score and who got it.
- The program will calculate the lowest score for the game, and display a message showing the low score and who got it.
- The program will compute the average score and display it.

Design Considerations

You should design and use a class that represents a bowling team. Think carefully about the properties of a bowling team that would be important for this application. For example, you would need an array to hold the first names of the bowlers on your team. What other data members and member methods would you need?

Your program should work for any number of players on a team, up to 10.

You may write this as a Console Application or as a GUI application. In either case, the program should work as outlined and include a class that contains all of the business logic for your program.

Format and document your code in accordance with the course style guidelines. Include a file prologue identifying you as the author. Submit your project using the instructions outlined in the Course Syllabus, Programming Projects section.

File(s) to Submit:

Place your complete project folder into a zip file and name the zip file proj_09_your-initials_V1.0.zip. For example, I would name my file proj_09_RKD_V1.0.zip. Submit this assignment as Project #9 on Canvas.

Hints

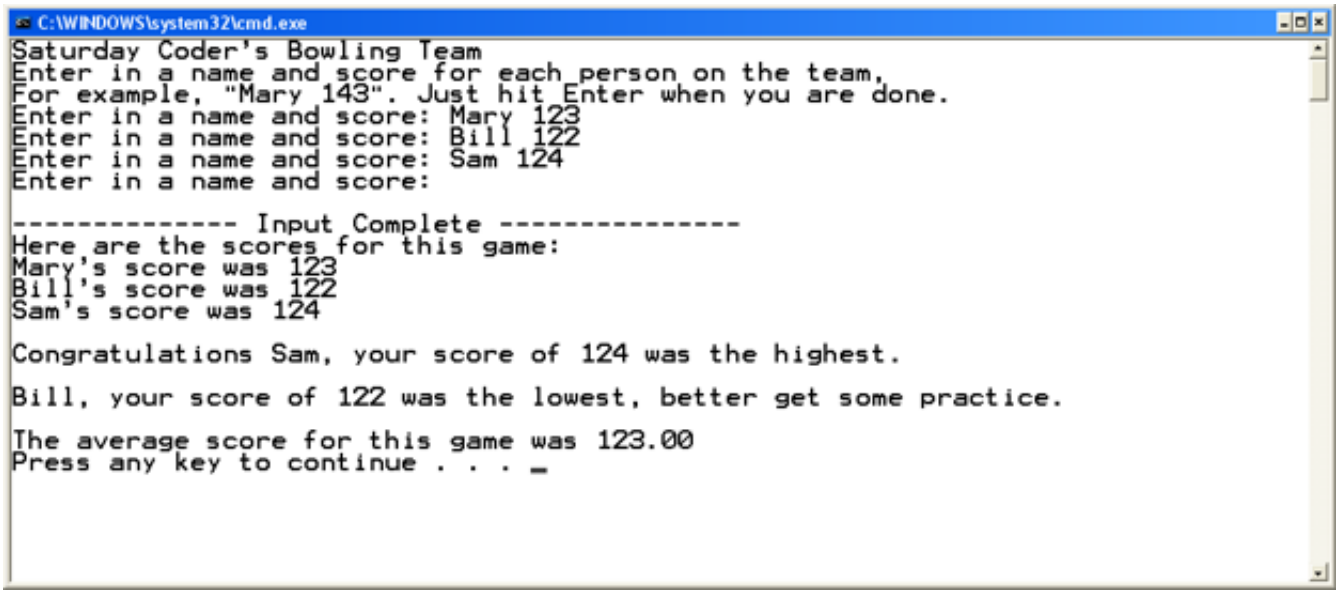
If you need some help writing the code for this project, there are some hints here.

Grading Criteria

Description	Points possible	Your points
Project meets grading guidelines: o Source code files contain a declaration that you did not copy any code o Project has been submitted Canvas o Code meets style guidelines o Code is properly documented	5	
Program reads in a name and bowling score on one line.	5	
The Split method is used to split this line up. The scores are stored in an array of integers. The names are stored in an array of strings. Input continues until an empty line is entered. The program only needs to handle up to ten names and scores.	5	
The program lists each bowler and his/her score.	5	

The program displays the highest score and who bowled that score, and the lowest score and who bowled that score.	5	
Program displays the average score	5	
The data and methods needed to represent a bowling team are all encapsulated in a class of your design.	5	
Early Bonus (+5 pts) or late penalty (-20% per day)		
Total	35	

Sample Output:



You can get a Console executable that runs correctly here!

You can get a GUI executable that runs correctly here!